

Southern Illinois University Carbondale

OpenSIUC

---

Theses

Theses and Dissertations

---

1-1-2009

## Generating Sustainable Weight Loss: Investigating the Efficacy of a Behavioral Based Weight Loss Intervention

Michael James Bordieri

*Southern Illinois University Carbondale*, [mike.bordieri@gmail.com](mailto:mike.bordieri@gmail.com)

Follow this and additional works at: <https://opensiuc.lib.siu.edu/theses>

---

### Recommended Citation

Bordieri, Michael James, "Generating Sustainable Weight Loss: Investigating the Efficacy of a Behavioral Based Weight Loss Intervention" (2009). *Theses*. 42.

<https://opensiuc.lib.siu.edu/theses/42>

This Open Access Thesis is brought to you for free and open access by the Theses and Dissertations at OpenSIUC. It has been accepted for inclusion in Theses by an authorized administrator of OpenSIUC. For more information, please contact [opensiuc@lib.siu.edu](mailto:opensiuc@lib.siu.edu).

GENERATING SUSTAINABLE WEIGHT LOSS: INVESTIGATING THE  
EFFICACY OF A BEHAVIORAL BASED WEIGHT LOSS INTERVENTION

by

Michael J. Bordieri

B.S., University of Illinois Urbana-Champaign, 2005

A Thesis

Submitted in Partial Fulfillment of the Requirements for the  
Master of Science in Behavior Analysis and Therapy

Rehabilitation Institute  
in the Graduate School  
Southern Illinois University Carbondale  
August 2009

THESIS APPROVAL

GENERATING SUSTAINABLE WEIGHT LOSS: INVESTIGATING THE  
EFFICACY OF A BEHAVIORAL BASED WEIGHT LOSS INTERVENTION

by

Michael J. Bordieri

A Thesis Submitted in Partial  
Fulfillment of the Requirements  
for the Degree of  
Master of Science  
in the field of Behavior Analysis and Therapy

Approved by:

Dr. Mark R. Dixon, Chair

Dr. Nicole Heal

Dr. Reza Habib

Graduate School  
Southern Illinois University Carbondale  
July 7, 2009

## AN ABSTRACT OF THE THESIS OF

Michael J. Bordieri, for the Master of Science degree in Behavior Analysis and Therapy, presented on JULY 7, 2009, at Southern Illinois University Carbondale.

TITLE: GENERATING SUSTAINABLE WEIGHT LOSS: INVESTIGATING THE EFFICACY OF A BEHAVIORAL BASED WEIGHT LOSS INTERVENTION

MAJOR PROFESSOR: Dr. Mark R. Dixon

Two thirds of Americans are overweight or obese. Traditional obesity interventions (e.g. drug therapy, diets, behavior therapy) generate moderate short-term weight loss but have little evidence of long-term weight maintenance. The cultural phenomenon of "yo-yo dieting" mirrors empirical findings which suggest that weight loss, albeit demanding, is a far easier process to target than weight maintenance. The present study sought to evaluate the efficacy of an acceptance based behavioral intervention designed to generate improvements in psychological health and quality of life in obese and overweight adults as well as encourage gradual and sustainable weight loss. The therapy package combined the traditional behavioral interventions of self-monitoring and goal setting with an Acceptance and Commitment Therapy (ACT) protocol across eight weekly individual therapy sessions. While no significant immediate weight loss was observed following the intervention, significant improvements in general psychological health, reductions in anxiety and escape maintained eating, and increases in weight related acceptance and action were found in the treatment group (n = 9) compared to a wait list control group (n = 10). These findings suggest that an acceptance based intervention targeting wide band outcomes might serve as a viable alternative to traditional approaches targeting only immediate weight loss.

## DEDICATION

I would like to dedicate this thesis to my parents. To my father, who instilled in me the belief that, “if it is to be it is up to me.” And to my mother, who’s patience, caring, and support has been unending. Thank you both for everything, but especially for believing in me.

## ACKNOWLEDGMENTS

This project would not have been possible without the considerable support and contributions from the members of the Project HEALTH research and treatment lab at SIUC. I would like to thank all the past and current lab members who helped with this project: Adam Hahs, Alyssa Wilson, Autumn Mckeel, Becky Nastally, Brooke Walker, Christine Stowell, Lindsay Vick, Madelynne Carr, Mandy Fleming, Mary Ellen Everett, Mitchell Mast, and Nicholas Mui. I would also specially recognize Becky Nastally and Nick Mui who served as therapists on the project. Finally, I would like to thank Dr. Mark Dixon for his guidance during this project and throughout my graduate education.

## TABLE OF CONTENTS

| <u>CHAPTER</u>  | <u>PAGE</u> |
|---|-------------|
| ABSTRACT .....  | i           |
| DEDICATION .....  | ii          |
| ACKNOWLEDGMENTS .....                                     | iii         |
| LIST OF TABLES .....                                      | v           |
| LIST OF FIGURES .....                                     | vi          |
| CHAPTERS  |             |
| CHAPTER 1 – Introduction .....                            | 1           |
| CHAPTER 2 – Method .....                                  | 16          |
| CHAPTER 3 – Results .....                                 | 30          |
| CHAPTER 4 – Discussion .....                              | 36          |
| REFERENCES .....  | 57          |
| APPENDICES  |             |
| Appendix A – Treatment Protocol .....                     | 71          |
| Appendix B – Self-Monitoring and Goal Tracker Forms ..... | 111         |
| Appendix C – Eating Functional Assessment .....           | 113         |
| Appendix D – Treatment Satisfaction Survey .....          | 117         |
| VITA .....  | 119         |

## LIST OF TABLES

| <u>TABLE</u>  | <u>PAGE</u> |
|---|-------------|
| Table 1. Therapeutic Metaphors and Exercises Organized by Core ACT Processes.....   | 45          |
| Table 2. Demographic Information Across Groups .....  | 46          |
| Table 3. Baseline Scores for Study Measures and Between Group Baseline Comparisons .....  | 47          |
| Table 4. Between Group ANCOVAs at Post Assessment.....  | 48          |
| Table 5. ACT Group Pre and Post Treatment Scores and Within Group Comparisons .....   | 50          |
| Table 6. Wait-List Control Group Pre and Post Assessment Scores and Within Group Comparisons .....                                | 51          |
| Table 7. Means, Standard Deviations, and Within and Between Group Effect Sizes Linked to Those Values for all Study Measures..... | 52          |
| Table 8. Item Scores on the Treatment Satisfaction Survey .....   | 55          |



LIST OF FIGURES

| <u>FIGURE</u>                           | <u>PAGE</u> |
|---|-------------|
| Figure 1. Participant Flow Diagram..... | 56          |

## CHAPTER 1

### INTRODUCTION

Two-thirds of Americans are overweight or obese (Ogden et al., 2006). Worldwide, 1.6 billion adults were overweight in 2005 and the World Health Organization (WHO) projects that by 2015 there will be approximately 2.3 billion overweight adults with more than 700 million classified as obese (World Health Organization, 2006). Between 1991 and 2001 the prevalence of obesity in the United States rose by 74% and notable increases were observed across all 50 states (Mokdad et al., 2003). Data obtained from the most recent Behavioral Risk Factor Surveillance System (BRFSS) survey found that the prevalence of obesity continued to rise in the United States with a 24% increase from 2000 (Strum, 2007). Even more alarming, was the finding that the prevalence rates of morbid and extreme obesity were increasing at over double the rate of obesity with a 50% increase in prevalence in the same time period.

Obesity has been identified as predominantly a social and environmental disease (World Health Organization, 2008), yet the rapid increase in the prevalence and international impact of obesity resembles the spread of a communicable disease. WHO labeled obesity, “the biggest unrecognized public health problem” (James et al., 2001, p. 5), as it is a major risk factor for many health concerns. Medical disorders linked to obesity include insulin resistance, type 2 diabetes, hypertension, gallbladder diseases, and some forms of cancer (Pi-Sunyer, 2002). There is also a documented relationship between excessive

body weight and mortality with death due to any cause shown to increase as body weight increases (Lew & Garfunkel, 1979; Manson et al., 1995). People with morbid obesity are in even greater risk with sudden unexplained death 13 times more likely in women who are morbidly obese compared to normal weight women (Kral, 1985). Allison and colleagues (1999) determined the relative hazard ratios for deaths due to obesity and estimated that approximately 280,000 deaths in the United States are caused by obesity each year. There is also a large economic toll associated with obesity with an estimated \$99.2 billion spent on obesity in 1995 (Wolf & Colditz, 1998). This amount accounted for almost six percent of the national health expenditure in the United States for that year. The costs and deaths associated with obesity have likely increased concomitantly with the rise in prevalence of obesity since these estimates were calculated.

In addition to the medical and economic costs associated with obesity there is a psychological impact of the disorder. Obese individuals are subjected to discrimination and stigma at an alarming level. A recent review of the literature by Puhl and Brownell (2001) found evidence of discrimination in hiring, wage equity, insurance coverage, and college admissions as well as evidence of prejudiced attitudes towards the obese by medical professionals trained to treat obesity. Such prejudices have been found across race, socioeconomic status, gender, and age (Wadden & Stunkard, 1985). Stigmatizing attitudes towards obese individuals have been documented in children as young as three years old (Cramer & Steinwert, 1998) and a study of overweight girls found that 97% of

them had some form of stigmatizing experience due to their weight (Neumark-Sztainer, Story, & Faibisch, 1998).

It is not surprising that individuals with obesity experience a higher degree of psychological distress than normal weight and less obese persons. Initial research exploring the link between depression and obesity found mixed results with some studies discovering a connection, others finding an inverse relationship, and still others finding no connection at all (Friedman & Brownell, 1995). However, Friedman and Brownell attribute the mixed findings to limitations in research methodology; specifically, to the treatment of obese people as a monolithic group. They proposed studying moderators and mediators of obesity related psychological distress to better account for the phenomenon. One such model, developed by Stunkard, Faith, and Allison (2003) posits severity of obesity and gender as two key moderators which influence the presence and severity of depression found in individuals with obesity. Obese women were found to have a higher rate of depression than men (Dixon, Dixon, & O'Brien, 2003), and individuals with more severe obesity were at a greater risk for depression than individuals who were less overweight (Onyike et al., 2003).

The costs of obesity are high on both a societal and individual level and the crisis continues to grow. Perhaps the most telling indicator of the psychological toll the disorder places on the individual was found by Rand and Macgregor (1991). They asked 47 severely overweight individuals who had undergone a successful surgical weight loss procedure to choose between

returning to their pre-surgery condition or having a series of hypothetical disabilities. All 47 participants responded that they would rather be deaf, dyslexic, or diabetic than be severely obese again.

### Treatment of Obesity

Even more alarming than the growing obesity epidemic is the lack of effective long-term treatments for obesity. The grim state of affairs was expressed by the editors of the *New England Journal of Medicine* who wrote in 1998:

. . . [T]here is a dark side to this national preoccupation [with weight loss]. Since many people cannot lose much weight no matter how hard they try, and promptly regain whatever they do lose, the vast amounts of money spent on diet clubs, special foods, and over-the-counter remedies, estimated to be on the order of \$30 billion to \$50 billion yearly, is wasted. More important, failed attempts to lose weight often bring with them guilt and self-hatred. After all, even overweight people are likely to share common prejudices about themselves as lazy, undisciplined, and self-indulgent. To add insult to injury, the latest magical cures are neither magical nor harmless. (Kassirer & Angell, 1998, p. 52)

There is minimal to no evidence of long-term effectiveness for the majority of weight-loss treatments (Wooley & Garner, 1991). The state of the evidence of pharmacological treatments, diets, surgical interventions, and behavioral treatments will be briefly explored.

Pharmacological treatments for obesity at best provides modest rates of weight loss in controlled clinical trials. A meta review of long term (i.e. greater than nine months) studies found an average of 8.1% weight loss with phentermine resin, 5.0% weight loss with sibutramine hydrochloride, and 3.4% weight loss with orlistat (Glazer, 2001). However, undocumented side effects of diet drugs, most notably the recall of Fen-Phen in 1997 following reports of cardiac valvulopathy, raises serious concerns regarding the safety of drug treatments for obesity. A study by Blanck and colleagues (2004) following the recall of the drug from the market found that one third of Fen-Phen users surveyed continued to use the drug after the market recall and that only one quarter of users sought out the medically recommended echocardiogram. Even when free from life threatening side effects, there is little support for long-term effectiveness of diet drugs (Berg, 1999; Wilding, 2007).

Restricting caloric intake (i.e. dieting) is one of the most common methods used for weight loss. Meta-analyses of diet effectiveness have all yielded two consistent conclusions; dieting results in short term weight loss (typically 5-10% of body weight) and these losses do not maintain (Mann et al., 2007; Perri & Fuller, 1995; Tsai & Wadden, 2005; Wooley & Garner, 1991). Even the short term weight-loss may be a best case scenario as many studies evaluating diet effectiveness rely on self-reports of weight, do not control for attrition, and do not isolate the effect of caloric restriction from the effect of exercise (Mann et al., 2007; Tsai & Wadden, 2005). Weight regain following the termination of the diet is the rule and not the exception with Garner and Wooley concluding, "It is only

the rate of weight regain, not the fact of weight regain, that appears open to debate” (1991, p. 740). Not only are most diets ineffective, they often result in rapid weight cycling (i.e. losing and then regaining weight repeatedly) which has been linked to significant health risks including cardiovascular disease (Hamm, Shekelle, & Stamler, 1989), psychological distress caused by repeated failures (Wooley & Garner, 1991), and the development of eating disorders (Garnder & Garfinkel, 1980).

There is substantial empirical support for surgical weight loss procedures for individuals with severe obesity. While preliminary forms of the surgery had suboptimal success rates, 17% for gastrogastrostomy and 48% for vertical gastroplasty, the Roux-en-Y gastric bypass procedure has a high success rate with 67% of patients losing more than half of their excess weight at a three year follow up (Hall et al., 1990). A more recent study of the Roux-en-Y gastric bypass in 275 patients found a mean reduction in body mass index from 48.02 (severely obese) at time of surgery to a mean of 27.9 (overweight though approaching the normal weight category) at a two year follow up with 95% of patients reporting improvements in quality of life (Schauer, Ikramuddin, Gourash, Ramanathan, & Luketich, 2000). However, the procedure is not without complications. Forty-seven percent of patients in the previous study experienced some form of complication or side effect with nutritional deficiencies and prolonged nausea being the most common. One patient died as a result of the procedure and 27 patients (9.8%) required additional surgical procedures following the initial operation to address complications. Given the risks

associated with the procedure it is only recommended for individuals who have tried other weight loss methods and are severely obese (National Institutes of Health, 2009).

Behavior therapy has contributed to the treatment of obesity since the early 1960's with early work done by Ferster, Nurnberger, and Levitt (1962). Behaviorists were attracted to the obesity problem because weight offered a publicly observable outcome variable well suited to test the efficacy of early behavioral interventions (Anderson, Shapiro, & Lundgren, 2001). Obesity was originally conceptualized in a self-control paradigm, "in which overweight individuals focus on the immediate reinforcing consequences of eating (e.g. taste of food) as opposed to the ultimate aversive consequences of overeating (e.g. increased weight and body fat)" (Anderson, Shapiro, & Lundgren, 2001, p. 133). While a variety of behavioral interventions were explored during the late 1960's and early 1970's, the most efficacious interventions included self-monitoring (Bellack, 1976), contingency contracting (Mann, 1972), and environmental manipulations (Loro, Fisher, & Levenkron, 1979; Stuart, 1967).

Short term effects of these interventions were quite good. On average, most participants in behavioral interventions lost between 10% and 15% of their initial body weight (Wadden & Sarwer, 1999). These treatments offered evidence of excellent experimental control. For example, in Mann's (1972) use of a reversal design with contingency contracting all seven participants lost weight when the intervention was in place. When immediate contingencies were removed in a reversal condition, all participants began to regain weight. While



such results bolster the internal validity of the treatment, they also demonstrate the lack of generalization and maintenance of the intervention. Not surprisingly, there is little evidence for the maintenance of weight lost by behavioral interventions. Many behavioral studies did not report long term outcomes and those that did reported significant weight regains (Wadden & Sarwer, 1999).

Overall, behavior therapies for obesity perform on par with other traditional obesity treatments (e.g. diets, pharmacology) in that they produce immediate but not sustainable weight reductions. While exercise interventions for obesity were not included in this review, a recent literature review by Votruba, Horvitz, and Schoeller (2000) suggests that moderate exercise (i.e. 3-5 hours per week) generates at best only minimal weight loss. With the exception of the risky and costly treatment of bariatric surgery, existing obesity treatments show short term reductions in weight by, on average, approximately ten percent, followed by a weight regain. One potential reason for this lack of sustainability is the persistent focus on immediate and significant weight reduction. Mann noted in 1972 that weight itself was problematic as a dependent variable as it was the product of other behaviors and not subject to direct control. Weight loss and subsequent maintenance has been identified as a multifaceted phenomenon with contributions and interactions between physiological, behavioral, cognitive, and environmental factors all influencing weight (Anderson, Simmons, & Milnes, 2005). Cooper and Fairburn (2001) recently published a cognitive behavioral treatment of obesity designed to address the weight maintenance problem. Their model, which emphasizes weight control over weight loss and primary goals

outside of just weight loss (i.e. better appearance, positive health outcomes), is a step towards a more comprehensive behavioral approach for obesity treatment. Given the consistent failure of traditional obesity treatments to produce safe and sustainable change, additional explorations of alternative approaches are not only appropriate, but also necessary.

### Acceptance and Commitment Therapy

Acceptance and Commitment Therapy (ACT, pronounced as one word) has emerged as a viable psychotherapy based on the scientific philosophy of functional contextualism. From its early roots as comprehensive distancing (Zettle, 2005), ACT has developed into a full fledged clinical intervention grounded in behavior analytic principals (Hayes, Strosahl, & Wilson, 1999). Specifically, ACT relies on relational frame theory, which provides a basic account of human language and cognition (Hayes, Barnes-Homes, & Roche, 2001), to offer an alternative account of human psychopathology. ACT does not subscribe to the mainstream syndromal model of mental illness, and consequently, does not hold symptom reduction or mitigation as its primary treatment target (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Instead, ACT posits that natural language and cognitive processes are inherently destructive and that the complete elimination of psychological suffering is a fruitless endeavor. Psychopathology in the ACT model is defined not by the presence of naturally occurring psychological discomfort, but by engagement in behaviors designed to reduce or eliminate unwelcome internal experiences. ACT works by

encouraging clients to recognize when they are engaging in experiential avoidance (the term for such behaviors) and then chose alternative patterns of responding. Thus the core target of the ACT model is an increase in psychological flexibility as an alternative to rigid and unworkable patterns of behavior. The ACT model identifies six interdependent processes, which act to increase psychological flexibility: acceptance, defusion, contact with the present moment, self as context, values, and committed action (Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

The ACT model subscribes to a different developmental trajectory than mainstream clinical psychology. Researchers have eschewed highly scripted treatment manuals and large randomized control trials and instead have focused on smaller studies across a variety of populations and disorders with the goal of demonstrating wideband outcomes (i.e. improvements in quality of life) rather than disorder specific symptom reduction (Hayes, Levin, Plumb, Boulanger, & Pistorello, under review). This approach has not been universally embraced, with some researchers in the cognitive behavioral tradition criticizing the ACT literature for its lack of emphasis on diagnostic reliability and its use of non-standardized outcome measures (Öst, 2008). Others researchers have recognized the inherent philosophical differences between the ACT model and traditional cognitive behavioral therapy and argued that the techniques are compatible despite different approaches toward treatment (Hofmann & Asmundson, 2008). The ACT community has also been criticized for “getting ahead of the data” (Corrigan, 2001). ACT is still a relatively new form of

psychotherapy and the level of empirical support for the model reflects its emerging status (Hayes, Masuda, Bissett, Luoma, & Guerrero, 2004). However, claims of “getting ahead of the data” are easily rebutted by the growing body of empirical support for ACT.

Evidence for ACT’s efficacy has been demonstrated in clinical populations in the treatment of depression (Zettle & Rains, 1989), severe mental illness (Bach & Hayes, 2002; Gaudiano & Herbert, 2006), trichotillomania (Twohig & Woods, 2004) anxiety (Forman, Herbert, Moitra, Yeomans, & Heller, 2007), substance abuse (Hayes & Wilson et al., 2004) and obsessive compulsive disorder (Twohig, Hayes, & Masuda, 2006). ACT also has demonstrated efficacy in non-clinical populations and has been used to reduce math anxiety (Zettle, 2003), reduce stigma and burnout among substance abuse counselors (Hayes & Bissett et al., 2004) help parents of children with Autism (Blackledge & Hayes, 2006), and reduce stress and increase productivity in the workplace (Bond, Hayes, & Barnes-Holmes, 2006). Additionally, ACT has been employed as a health intervention to reduce seizure frequency in epilepsy (Lundgren, Dahl, Melin, & Kies, 2004), help patients cope with chronic pain (Dahl, Wilson, & Nilsson, 2004), aid in smoking cessation (Gifford et al., 2004), and improve diabetes management (Gregg, Callaghan, Hayes, & Glen-Lawson, 2007). While still a relatively new form of psychotherapy, ACT enjoys empirical support across diverse populations and disorders with a recent meta review finding a medium average effect size (mean Coehn’s  $d = .66$ ) on follow up assessments of primary outcome measures (Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

## ACT as an Obesity Intervention

Several recent contributions to the literature provide evidence for the use of ACT for the treatment of obesity. Forman and colleagues (2007) compared the use of acceptance and control based strategies for coping with food cravings in undergraduate students. Ninety-seven students who reported enjoying chocolate were randomly assigned to the acceptance, control, or no intervention condition, and were then asked to carry a transparent box of chocolates for 48 hours without eating them. Participants in the control condition were told to refocus their attention away from any chocolate cravings using strategies such as positive imagery, behavioral redirection, and thought confrontation. In the acceptance condition, participants were told that attempts to suppress cravings increase the intensity of cravings and were instructed to step back from cravings and experience them without trying to change them. Results showed that the effectiveness of the intervention depended on the participants' susceptibility to food cravings. The control based intervention was more effective for participants with low susceptibility to food cravings while the acceptance based intervention was more effective for participants with high susceptibility to food cravings. Given the high susceptibility of persons with obesity to food cravings (Lowe, 2003), this finding suggests that interventions incorporating acceptance based strategies are best suited for the treatment of obesity.

A preliminary test of an ACT treatment model for obesity was published by Lillis, Hayes, Bunting, and Masuda in 2009. They targeted obesity related stigma instead of weight loss and delivered treatment using a six hour ACT workshop.

Eighty-seven overweight and obese participants who had completed at least six months of a weight loss program in the past two years were randomly assigned to receive the ACT workshop or placed on a wait-list. Results at a three month follow up showed that the ACT group reported significantly less psychological distress, higher quality of life, and lower levels of weight-related stigma compared to the wait list-control. The ACT workshop also augmented weight loss efforts. The ACT group lost significantly more weight than the control group with an average of a 1.5% reduction in body weight. The study also provided evidence of a mechanism of therapeutic change as a mediational analysis revealed that the primary process measure, the Acceptance and Action Questionnaire Weight (Hayes & Lillis, 2008), mediated all outcomes.

Two additional preliminary investigations into the efficacy of ACT as a weight loss intervention have been conducted. An open trial of acceptance based behavioral treatment was conducted by Forman, Butryn, Hoffman, and Herbert (2009). In this uncontrolled study, 29 overweight and obese women were offered 12 weekly one hour workshops targeting both ACT processes (e.g. willingness, workability) and behavioral skills (e.g. portion control, self-monitoring). Results showed that treatment completers lost an average of 6.6% of their baseline weight at the end of treatment and continued to lose weight after treatment with an average loss of 9.6% at a six month follow up. This study also found a significant relationship between therapeutic dose (i.e. number of sessions attended, number of homework exercises completed) and treatment outcomes, suggesting that the active components of the treatment were at least

partially responsible for the outcomes. Another recent empirical test of ACT for obesity was conducted with 62 British women randomly assigned to an ACT or wait-list condition (Tapper et al, 2009). Women in the ACT condition were given the opportunity to attend 4 two hour ACT workshops consisting of explanations of key ACT processes, metaphors, and exercises. Both the ACT group and control group were assessed at baseline, four and six months on body mass index, self-reports of physical activity, and mental health as measured by the General Health Questionnaire (Goldberg & Blackwell, 1970). An intention to treat analysis using mean change predictions for missing data found change score differences trending towards significance with a post hoc analysis revealing a significant effect of the intervention on self reports of physical activity. A subsequent efficacy analysis excluding participants who reported never applying workshop principles at six months found significantly higher rates of self-reported physical activity and significantly greater reduction in body mass index as compared to control participants.

### Purpose and Study Questions

The present investigation was designed to replicate and extend the findings of previous research on the use of ACT as a treatment for obesity. Unlike previous studies which used workshops for treatment delivery, the current investigation utilized an individual eight week ACT therapy protocol developed specifically for this analysis. The purpose of this study was to investigate the efficacy of an eight week individual ACT and behavioral therapy treatment for

obesity with a focus on generating improvements in psychological health and overall quality of life. Specific questions addressed by this study included:

1. Prior to treatment will study participants present with elevated levels of psychological distress as assessed by cut off scores on measures of general psychological health, anxiety, and depression?
2. Will participants receiving the treatment package display greater weight loss than participants in the wait-list control group?
3. Will participants receiving the treatment package self-report greater positive changes on measures of psychological health and quality of life as compared to the wait-list control group?
4. Will participants receiving the treatment package self-report greater increases in psychological flexibility as compared to the wait-list control group?



## CHAPTER 2

### METHOD

#### Participants

Participants were recruited through press releases, newspaper articles, posters, and word of mouth announcing the availability of treatment services for adults interested in losing weight and living a healthier life. In order to be included in the study, participants must have presented with a body mass index (BMI) of 25 or above. A BMI of 25 was chosen for inclusion as it is the cut-off point for the normal weight range with BMIs over 25 considered either overweight (25-29.9) or obese (>30) (Flegal, Carroll, Kuczmarski, & Johnson, 1998). In addition, participants were excluded if a ten percent reduction in their presenting body weight resulted in a BMI less than 18.5. This inclusion criterion was incorporated as a safeguard to ensure that participation in the research study would not place a participant at risk for becoming underweight. Participants were also required to be willing to be randomly assigned in order to be considered eligible for treatment. Participants were excluded from treatment if they were under the age of 18 or presented with comorbid psychological conditions that were beyond the boundaries of competency of the student clinicians.

#### Design

This study utilized a randomized controlled trial to test the research hypotheses. Prior to randomized assignment, all participants attended an intake

session where they gave informed consent and completed baseline assessments on all study measures. Participants were then randomly assigned to one of two groups: An ACT group and a wait-list control group. Participants in the ACT group were contacted immediately following assignment and scheduled for eight weekly treatment sessions. Participants in the wait-list control group were notified of their assignment and were not given any intervention. Participants were then assessed again on study measures at eight weeks. Wait-list participants were then given the option of receiving the eight week intervention.

### Treatment Protocol

The treatment package consisted of an eight week Acceptance and Commitment Therapy Protocol along with daily self-monitoring and weekly goal setting. The package was designed by the primary investigator with substantial contributions from members of the Project HEALTH research laboratory and supervision from Dr. Mark Dixon. An initial working draft of the eight week treatment protocol was based on the obesity stigma and weight management ACT treatment manual developed by Lillis, Hayes, and Bunting (unpublished) with additional material incorporated from relevant ACT literature (Eifert & Forsyth, 2005; Hayes & Smith, 2005; Hayes & Strosahl, 2004; Twohig, 2004; Hayes, Strosahl, & Wilson, 1999).

Following feedback and revisions, a scripted eight week protocol was developed which covered all six ACT processes in a detailed and sequential fashion: acceptance, defusion, self as context, values, and committed action

with contact with the present moment equally covered across all sessions. The primary investigator, along with two trained Ph.D. students in behavior analysis and therapy, piloted the protocol on a small non-controlled sample (n= 6) recruited from the campus community.

While data from the pilot study was promising, there was general agreement among the research therapists that the protocol was too rigid and not suitable for use with a diverse population. Once again, the primary investigator consulted with Dr. Dixon and lab members to construct a second version of the treatment protocol. The revised protocol was designed to be dynamically implemented; it organized exercises and metaphors by ACT processes and not by week of treatment. The resulting protocol began with a relatively scripted first session which laid out the treatment strategy, but then opened up the session agendas to allow therapists to tailor treatment to client needs. While the order of presentation of treatment components was flexible, the protocol still required the therapists to incorporate all elements across the eight weekly sessions. The complete treatment protocol used in this study is presented in Appendix A.

In addition to the ACT treatment protocol, study participants were exposed to daily self-monitoring and goal setting procedures (see Appendix B for the materials given to participants). These elements were integrated into the ACT treatment protocol and were presented across all eight weekly sessions. Participants were asked to self-monitor their daily eating and exercise behavior and asked to rate the intensity, believability, and struggle with their thoughts related to eating and weight loss. They were also asked to assess daily the

amount of control they felt they had over their eating and weight loss behavior and the degree to which they felt they were living a vital complete life. For goal setting, participants were also asked to declare a valued direction for each week of treatment and set small goals which would help them assess their progress. The data from these measures were discussed in individual treatment sessions but were considered part of the independent variable and thus not used for data analysis.

### Measures

*Objective.* Body weight was measured using a Healthometer™ 402KL physician's scale which had a capacity of 350 pounds and resolution of .25 pounds. Height was measured in inches using an apparatus attached to the scale. Body Mass Index was calculated to provide an estimate of body fat taking into account both height and weight. An imperial version of Quetelet's  $\text{weight/height}^2$  was used to calculate BMI (Quetelet, 1869).

*General Health Questionnaire (GHQ).* Developed by Goldberg in the late 1960's, this instrument originally consisted of 60 items designed to measure psychiatric morbidity in a general practice setting (Goldberg & Blackwell, 1970). A 12 item short form of the instrument has been used extensively in both research studies and clinical practice and is the most popular form of the instrument. An international 15 site assessment of the validity of the GHQ-12 found a mean area under the receiver operating characteristic (ROC) curve of .88 (sensitivity 83.4%, specificity 76.3%) using ICD-10 and DSM-IV diagnoses as the gold standard, suggesting that the GHQ-12 has great utility and

reasonable precision as a case detector (Goldberg et al., 1997). While single factor, two factor, and three factor solutions have been found for the measure, there is extensive factor variance between samples (Kalliath, O'Driscoll, & Brough, 2004). However, two studies have identified the two factor model (anxiety and depression, and social dysfunction) as the best fit (Kalliath, O'Driscoll, & Brough, 2004; Werneke et al., 2000). A score of greater than nine on the GHQ-12 has been identified as the cut-off point, indicating the need for more in-depth assessment of potential psychiatric illness (Wright & Perini, 1987).

*Obesity Related Health and Wellbeing Questionnaire (ORWELL)*. The ORWELL 97 is an 18 item questionnaire which assesses overall life satisfaction in individuals who are obese (Mannucci et al, 1999). The measure includes five items which address symptoms (i.e. somatic symptoms and physical functioning), seven items which address discomfort (i.e. emotional status and worries), and six items which address the impact of obesity in everyday life (i.e. family and social relationships). For each item, the participant rates the occurrence and relevance of the item on separate 4 point Likert scales. The product of the two ratings (occurrence X relevance) is then calculated for each item with the total score of the instrument being the sum of each item's product. This scoring procedure ensures that the presence of obesity related distress in a specific domain (e.g. job performance) is only considered in overall quality of life when that domain is rated as relevant. The instrument has displayed good convergent validity with established measures of depression, binge eating, and symptoms of eating disorders. The ORWELL 97 also has good reliability with an internal consistency

of  $\alpha = .83$  and a one week test re-test correlation of  $r = .92$  (Mannucci et al, 1999).

*Weight Stigma Questionnaire (WSQ)*. This 22 item self-report measure was designed to measure both the severity and influence of weight related stigma (Lillis, 2007). Statements are presented on a 5 point Likert scale with higher scores indicating both a greater presence and relevance of stigma related to weight and body image. An initial psychometric assessment of the measure reveal high internal consistency ( $\alpha = .91$ ) as well as evidence of construct validity with a moderate positive correlation between WSQ scores and both body weight and psychological distress as measured by the General Health Questionnaire (Lillis, 2007).

*Valued Living Questionnaire (VLQ)*. Originally developed as a clinical evaluation and interviewing tool, the VLQ is designed to address the core ACT process of values (Wilson, under review). Specifically, the self-report instrument measures both the perceived importance of 10 domains of living (e.g. friendships, spirituality) as well as the consistency to which an individual behaved in accordance with the values in each domain during the past week. Each domain is scored on a 10 point Likert scale for both importance and consistency. An overall valued living composite is obtained by first calculating the product of the importance and consistency rating in each domain. The mean of the obtained products is the valued living composite. The instrument has adequate internal consistency ( $\alpha = .77$ ) and test re-test reliability (interclass correlation coefficient = .75,  $p < .001$ ) and also has preliminary evidence of validity, with

modest correlations with measures of experiential avoidance and psychological distress (Wilson, under review).

*Beck Depression Inventory (BDI-II)*. The BDI-II (Beck, Steer, & Brown, 1996) is a 21 item self-report measure of depressive attitudes and symptoms with each item rated on a 4 point Likert scale. The scale has excellent internal consistency,  $\alpha = .91$  (Beck, Steer, Ball, & Ranieri, 1996), as well as test re-test reliability,  $r = .93$  (Beck, Steer, & Brown, 1996). Originally developed in the 1960's (Beck et al., 1961), the BDI enjoys well documented convergent and discriminate validity (Beck, Steer, & Garbin, 1988). Scores on the instrument are interpreted as follows: less than 10 is none or minimal depression; 10-18 is mild to moderate depression; 19-29 is moderate to severe depression; and greater than 29 is severe depression (Beck, Steer, & Garbin, 1988).

*Beck Anxiety Inventory (BAI)*. The BAI is a 21 item self-report measure of anxiety symptoms (Beck, Brown, Epstein, & Steer, 1988). Each item is rated on a 4 point Likert scale, with higher overall scores indicating increased severity of anxiety related symptoms. The BAI has established reliability with an internal consistency of  $\alpha = .92$  and a test re-test reliability coefficient of  $r = .75$  (Beck, Brown, Epstein, & Steer, 1988). While the BAI has displayed the greatest utility in assessing panic disorder related symptoms (Leyfer, Ruberg, & Wodruff-Borden, 2006), it also has demonstrated discriminate validity for identifying anxious diagnostic groups and is often used to screen anxiety related disorders with a commonly set cut-off score of greater than 8 (Leyfer, Ruberg, & Wodruff-Borden, 2006; Beck, Brown, Epstein, & Steer, 1988).

*Eating Functional Assessment (EFA)*. Developed concurrently with this study, the EFA is a 36 item self-report measure designed to identify the maintaining variables of obesity (Dixon et al., in preparation). The EFA contains 12 questions pertaining to each of the following consequences hypothesized to maintain eating behavior: attention, escape, and sensory (see appendix C for the complete instrument). Each item is rated on a six point Likert scale with higher scores indicating greater influence of the relevant function. The instrument is based on behavior assessments such as the Motivational Assessment Scale (Durand & Crimmins, 1988) and Questions About Behavioral Functions (Paclawsky, Matson, Rush, Smalls, & Vollmer, 2000). In addition to an overall score (EFA), subscores are calculated for the escape (EFA-E), attention (EFA-A), and sensory (EFA-S) domains. Additionally, respondents are asked to endorse up to 21 triggers (antecedents and establishing operations) which lead to unhealthy food choices in a triggers subscale (EFA-T). The instrument displays excellent internal consistency ( $\alpha = .91$ ) and initial factor analysis supports a two factor solution with an escape and attention/sensory factor (Dixon et al., in preparation). Initial assessments of the construct validity of the instrument appear promising with scores on both the overall instrument and the escape function subscale mildly correlated with measures of both general and weight specific psychological flexibility.

*Diet and Exercise Scale (DES)*. The Diet and Exercise scale is a seven item self report measure which assesses various behaviors related to eating and physical activity (Lillis, 2007). Each item measures a single behavior and is



scored individually with the respondent asked to select the average number of days per week they engaged in the behavior during the past three weeks. The seven behaviors assessed are: physical activity, physical activity greater than 30 minutes, monitored any food intake, monitored food intake at all meals, had an eating “binge,” ate out and chose a healthy meal, and ate out and chose an unhealthy meal.

*Acceptance and Action Questionnaire II (AAQ-II)*. The AAQ-II is a ten item self report questionnaire that measures the core ACT construct of psychological flexibility (Bond et al., under review). Each item is rated on a seven point Likert scale with higher scores indicating greater psychological flexibility and less experiential avoidance. The measure has good internal consistency with a mean  $\alpha = .83$  (range .76 - .87) across seven population samples (Bond et al., under review). Test re-test reliability is also adequate with an  $r = .80$  after three months and an  $r = .78$  after one year. The measure is highly correlated with the original AAQ (Hayes & Strosahl et al., 2004) and has documented concurrent validity with a variety of commonly used psychological assessments as well as predictive validity with objective outcomes such as workplace absence rates (Bond et al., under review).

*Acceptance and Action Questionnaire Weight (AAQ-W)*. The AAQ-W (Hayes & Lillis, 2008) is a 22 item variant of the Acceptance and Action Questionnaire designed to specifically measure weight-related psychological flexibility. The first 10 items of the scale ask respondents to rate the truth of weight related statements and the remaining 12 items ask respondents to rate

the believability of statements. Both truthfulness and believability are rated on a seven point Likert scale with higher scores indicating greater weight related experiential avoidance and less weight related psychological flexibility. The scale has shown good internal consistency ( $\alpha = .88$ ) and principle component analysis reveals a one factor solution with an eigenvalue = 6.3 accounting for 30% of the variance (Hayes & Lillis, 2008). The AAQ-W also has documented construct validity with scores on the instrument correlating with the AAQ as well as with body mass index and subjective measures of quality of life (Hayes & Lillis, 2008).

*Therapy Satisfaction Survey.* This instrument was created for this study to assess the social validity of the treatment package (see appendix D for this instrument). Each of the 11 self-report items are rated on a five point Likert scale and each item is scored independently. This measure was only administered to the ACT group following the last week of treatment and contained items which measured treatment utility (e.g. how useful was this program?), treatment satisfaction (e.g. how satisfied were you with the program?), and other indicators of consumer satisfaction (e.g. how likely are you to refer this program to a friend?).

## Procedures

*Baseline Assessment.* Upon making contact with the primary investigator participants were scheduled for an intake screening and assessment. The active recruitment phase lasted approximately one month with all potential participants scheduled for an intake appointment during a one week period (Baseline

Assessment) which occurred at the end of the recruitment phase. Upon reporting to the intake assessment participants met with the primary investigator or a project therapist and were given a thorough overview of the study and treatment protocol. After gaining informed consent and authorization for treatment, measurements of the participant's height and weight were taken by the therapist and the participant then completed a psychometric packet containing the study measures described above. Once the measurement packet was completed the participant met again with the therapist for a 10-15 minute structured intake interview. During this intake interview the therapist asked a series of open ended questions to screen for potential exclusion criterion and to gain basic background information. The following topics were assessed in the interview: (1) motivation for seeking treatment, (2) history of weight loss efforts, (3) desired outcome of treatment, and (4) inquiries into any present or past conditions which could be grounds for exclusion (e.g. current pregnancy, history of severe mental illness). Therapists noted responses but did not actively engage with participant responses thus ensuring that no active treatment ingredients were delivered during this brief interview. Following the interview, participants were reminded of the random assignment procedures and given the opportunity to ask any questions. At the end of the intake week all eligible and interested participants were randomly assigned to either the ACT group or wait-list control group.

*Treatment.* Participants in the ACT condition were randomly assigned to receive treatment from one of three trained student therapists. The therapists

consisted of the primary investigator along with two Ph.D. students in behavior analysis and therapy, all of whom had attended three full day experiential workshops in ACT and received supervision from Dr. Mark Dixon throughout the study. Therapists contacted their respective clients immediately following the random assignment procedure and scheduled the initial treatment session for the week following the baseline assessments.

Upon reporting to the first treatment session, participants were escorted by their therapist to a treatment room and a measure of their weight was obtained. The first session began with a treatment rationale and informed consent procedure designed to provide an in depth overview of the ACT model and expectations for treatment. Following the overview, an extended look into the participant's history with weight loss was conducted. This move was designed to get the participant in contact with their struggle and to detect patterns of unworkable control strategies employed by the participant. Participants were then asked to identify the costs associated with both their weight and their struggle with their weight as a means of assessing the degree to which it has prevented them from living a valued and meaningful life. Instead of moving directly towards problem solving and developing a plan of action, the therapist then directed the participants' attention towards the need for direct experience and, with the participant's consent, conducted a short awareness exercise. Following the mindfulness exercise, the participant was asked to imagine a world where weight wasn't a problem for them. This question allowed the therapist to identify valued life directions to be addressed in future sessions.

Finally, at the end of the first session, the participant was directed to declare a valued direction to work for during the next week and instructed to set three meaningful and obtainable goals to serve as indicators of progress.

The subsequent seven treatment sessions were structured in a way to ensure procedural integrity yet still allow for flexibility in treatment. As in the first session, the participant was greeted in the waiting area and escorted to a treatment room by their therapist who weighed the client before starting the session. Each session then began with a review of the previous week's self-monitoring and goal tracker. The therapist spent approximately 5 to 10 minutes reviewing the self-monitoring data, analyzing patterns (e.g. "it appears you often snack late at night"), and probing for additional information (e.g. "tell me more about this dinner out on Friday night"). The focus of this review was not on compliance or even the outcome (i.e. number of goals met), rather the emphasis was on the process (i.e. what was encountered while working towards better health, what worked and what did not). Following the weekly review, the therapist led the client in a brief mindfulness exercise to encourage contact with the present moment and to create a context conducive to conducting ACT.

The majority of the rest of the session time was spent moving the core ACT processes through exercises, metaphors, and therapeutic dialogue. A list of the major exercises and metaphors used in the protocol is presented in Table 1. While the order of presentation and the topographical features of the exercises differed across participants, care was taken to ensure that all six of the core ACT processes were covered thoroughly with each participant across the eight weeks

of the protocol. The flexible nature of the protocol also ensured that participants who missed sessions during the eight week treatment window still received the complete treatment protocol albeit it in a more condensed format. Treatment integrity was monitored via weekly supervision of the three student therapists and careful review of case files by the primary investigator. The last five minutes of each treatment session were spent reviewing session content and setting a valued direction and goals for the upcoming week.

*Post Treatment Assessment.* All participants (ACT group and wait-list control group) were reassessed on study measures eight weeks after the initial assessment. This assessment window (post assessment) corresponded to the final week of treatment for the ACT group participants. These participants completed the psychometric packet immediately following their last treatment session. Height and weight measurements obtained during the final treatment session were used for post assessment measures. Wait-list control participants were contacted one week prior to the post treatment assessment week and scheduled for an assessment appointment. They were also given the option to begin the treatment program immediately following their assessment appointment. During this appointment, wait-list control participants completed the psychometric packet and then measures of their height and weight were obtained by the primary investigator or another therapist.

## CHAPTER 3

### RESULTS

#### Attrition and Demographics

A participant flow diagram prepared according to the CONSORT statement guidelines (Moher, Schulz, & Altman, 2001) is presented in Figure 1. Of the 21 participants subjected to random assignment, 19 returned for the eight week assessment with one participant lost to both the ACT and wait-list control group. The participant lost to the ACT condition withdrew following the first treatment session citing personal and professional commitments, while the participant lost to the wait-list group was non-contactable at the time of post assessment. As the current study was designed to evaluate treatment efficacy and not effectiveness, an intention to treat analysis was not conducted and the two dropouts were not included in data analysis.

The study sample consisted of 19 participants with 9 in the ACT group and 10 serving as wait-list controls. The sample was almost exclusively Caucasian, female, and middle aged with the mean age of 50 (SD = 13.36) in the ACT condition and 47.4 (SD = 13.63) in the control condition. A complete account of participant demographics is provided in Table 2.

#### Session Attendance

Only four of the nine ACT group participants (44%) attended all eight treatment sessions. Of the remaining five participants, three attended seven

sessions (33%), and two attended six treatment sessions (22%). The most common reason cited for missed sessions was work or school commitments and vacations. While an effort was made to reschedule missed sessions, many participants were not able or willing to make up the time. As the ACT treatment protocol was flexible in nature, therapists ensured that all six core ACT processes were covered regardless of the number of sessions participants attended. In cases of pre-planned missed sessions, participants were given additional self-monitoring and goal setting materials. However, in some cases, participants missed sessions without prior notice and did not complete self-monitoring or goal setting for the week of the missed session. Unfortunately, due to the small sample size of the treatment group (n=9) an analysis of the moderating effect of session attendance was not feasible.

### Baseline Assessment

In order to determine any differences between groups prior to treatment a between group comparison on all study measures (objective, subjective, and process) was conducted. An alpha level of .05 was used as the significance criterion across all statistical analyses used in the study. Independent sample two-tailed t-tests were performed across all variables and results are presented in Table 3. No significant differences between the ACT group and the wait-list control group were observed.



### Primary Outcome Analysis

An analysis of covariance (ANCOVA) using baseline scores as the covariate was selected as the primary analytic strategy for assessing treatment outcomes. ANCOVAs combine an analysis of variance (ANOVA) with a regression procedure increasing the precision of comparisons in a randomized pre-test post-test trial (Cochran, 1957). ANCOVA is superior to an ANOVA in pre-test post-test designs where scores on the post-test are often highly correlated with scores on the pre-test (Rausch, Maxwell, & Kelly, 2003). The ANCOVA can account for the variance explained by the treatment effect, the covariate (i.e. pre-test score), and residual variance, while an ANOVA only accounts for variance caused by the treatment effect and residual variance (Porter & Raudenbush, 1987). Given the low statistical power of this investigation inherent in the small sample size, the added precision afforded by the ANCOVA was especially appropriate. Figure 4 presents the mean square, f value, p value, and partial eta squared for both baseline score (covariate) and condition (group assignment) across all study measures.

Significant between group effects were observed for the General Health Questionnaire  $F(1, 16) = 6.1, p = .025$ , the Beck Anxiety Inventory  $F(1, 16) = 5.61, p = .031$ , the Eating Functional Assessment Escape Scale  $F(1, 16) = 8.03, p = .012$ , self-reported monitoring of any food intake  $F(1, 16) = 11.55, p = .004$ , self-reported monitoring of all meals  $F(1, 16) = 10.2, p = .006$ , and the Acceptance and Action Questionnaire Weight  $F(1, 16) = 22.23, p = .000$ . Results were also observed to approach significance on self-reports of greater than 30

minutes of physical activity  $F(1, 16) = 4.12, p = .059$  and the Acceptance and Action Questionnaire II  $F(1, 16) = 4.01, p = .062$ . All significant changes and changes approaching significance were in the clinically desired direction.

### Exploratory Analyses

Given the increased risk of a Type II error associated with a small sample size, additional analyses were conducted to explore treatment effects. The exploratory analytic strategy consisted of within group comparisons of both the ACT treatment group and the wait-list control group on all study measures. A series of paired sample t-tests were conducted within each group comparing baseline assessment to the eight week assessment scores. This analysis allowed for the detection of clinically significant changes within the treatment group that otherwise would have gone undetected due to the low power of the primary analysis. The control group was also subjected to the analysis to provide a point of comparison for the observed treatment effects. While this analytic strategy inherently has an elevated risk of threats to internal validity, it was undertaken to compliment the primary analysis and provide a more complete account of the data.

Pre-test and post-test scores and within group comparisons for the ACT treatment group is presented in Table 5. Significant changes from pre to post treatment were not observed for objective measures (i.e. weight and body mass index). However, significant change was observed for 12 of the 18 subjective measures with all 18 subjective variables moving in clinically desired directions.

Both process measures also moved in a therapeutically desired direction with only the Acceptance and Action Questionnaire Weight reaching significance  $t(8) = 3.83, p = .005$ .

Table 6 displays within group comparisons as well as pre-test and post-test scores for the wait-list control group. Only two significant changes were observed across all study measures between pre and post assessment in the control group. One, a significant reduction in the global Eating Functional Assessment score  $t(9) = 2.73, p = .023$ , was in a clinically desired direction while the other significant change, a decrease in psychological flexibility as measured by the Acceptance and Action Questionnaire II  $t(9) = 2.37, p = .042$  was in a counter-therapeutic direction.

### Practical Significance and Summary

Effect sizes (Cohen's  $d$ ) for all between and within group comparisons described above are presented in Table 7 alongside means and standard deviations for both treatment conditions on pre and post assessments across all study measures. Large effect sizes (reported in parentheses) were found for all statistically significant outcomes between groups at the post assessment comparison: General Health Questionnaire (1.1), Beck Anxiety Inventory (.78), Eating Functional Assessment Escape subscale (1.07), self-monitored any food intake (1.62), self-monitored all food intake (1.54), and Acceptance and Action Questionnaire Weight (1.14). Medium and large effect sizes were also observed for all statistically significant within group changes in the ACT group.

### Consumer Satisfaction

Results from the Treatment Satisfaction Survey are presented in Table 8. Overall, the ACT group participants responded very positively on the instrument with a mean rating of four or greater on 9 of 11 items. The highest rated items were overall satisfaction ( $M = 4.88$ ,  $SD = .35$ ) and will recommend to a friend ( $M = 4.88$ ,  $SD = .35$ ) with the lowest and most variable responses found on the items targeted satisfaction with current weight management ( $M = 3.63$ ,  $SD = 1.19$ ) and current valued living ( $M = 3.88$ ,  $SD = .83$ ).

## CHAPTER 4

### DISCUSSION

Given the paucity of obesity interventions with demonstrated long-term efficacy and the continued rise in the prevalence of the disorder, a renewed investigation into innovative treatment approaches is warranted. The findings of this study, along with other recent Acceptance and Commitment Therapy for obesity investigations, suggest that ACT is a promising intervention for the treatment of obesity. Statistically and clinically significant improvements across a wide band of quality of life and disorder specific measures were observed following treatment, and participants receiving the eight week intervention were overwhelmingly satisfied with the treatment indicating that the approach has a high degree of acceptability.

Participants seeking treatment presented with elevated levels of psychological distress with mean baseline scores above the cut-off points on measures of general psychological distress (GHQ), depression (BDI), and anxiety (BAI). Further analysis revealed that 74% (n = 14) of participants exceeded the threshold for general psychological distress, 63% (n = 12) reported mild or moderate levels of depression, and 37% (n = 7) had elevated levels of anxiety. While it would be inappropriate to generalize these levels of distress to all obese individuals, it appears as though individuals who sought out this study's individual weight loss therapy program were experiencing a high degree of psychological distress. This finding is noteworthy, in that it highlights the need

for a more comprehensive treatment approach to obesity that address common forms of psychological distress or at the very least screens for and appropriately refers individuals needing additional psychological treatment.

Upon completing treatment, participants reported significant improvements across a variety of psychological domains. Consistent with other ACT obesity treatments (Lillis, Hayes, Bunting, and Masuda, 2009; Tapper et al, 2009), a marked increase in general psychological wellbeing was observed following treatment. Significant reductions in reports of anxiety were also observed which is not surprising given the documented efficacy of ACT for the treatment of anxiety disorders (Eifert & Forsyth, 2005; Forman, Herbert, Moitra, Yeomans, & Heller, 2007). This finding is encouraging, as anxiety was not the primary focus of treatment. Given that treatment participants reported frequently applying ACT principles in other areas of their life, it is likely that the effects of treatment generalized to other domains. The discovery of a large and significant reduction in escape maintained eating is also quite promising. The reduction in escape eating appears similar to the reduction in emotional eating behavior observed by Forman et al. (2009). This suggest that ACT interventions for obesity are successful in encouraging participants to reduce eating in response to unwelcome emotions or stressful situations, paving the way for more healthy eating behavior.

Results from the exploratory analysis of within-group treatment effects provide further evidence for the intervention's efficacy. Despite the increased exposure to threats to internal validity inherent in such a comparison, this

strategy is not uncommon in preliminary investigations (Forman, Butryn, Hoffman, & Herbert, 2009) and in this case it serves only to supplement the findings of the more robust between group comparison. Following treatment, significant improvements were observed in general psychological health, obesity related quality of life, and self reports of physical activity. Significant reductions were noted in weight related stigma, depression, escape maintained eating, and self-reported number of eating binges. These findings add additional support to the efficacy of the intervention and highlight the wideband nature of the intervention with effects across multiple psychological and behavioral domains.

No significant changes in weight were observed as a result of treatment. However, the average weight loss of participants who received the eight weeks of treatment (2.3 pounds, .4 BMI, and 1.3% of body weight lost) is similar to statistically significant findings from other ACT obesity studies. Three months after attending a six hour ACT workshop participants lost an average of 1.5% of their body weight (Lillis, Hayes, Bunting, & Masuda, 2009) and participants attending and utilizing ACT principles from a series of two hour workshops lost an average of .54 BMI six months after the intervention (Tapper et al, 2009). Thus, while the weight loss observed in the treatment group did not reach significance, possibly due to the lower power of the analysis (observed power = .185), the changes were on par with results obtained in other similar analyses. It should be noted that Forman et al. (2009) obtained much greater weight loss, an average of 6.6% of body weight lost at post-treatment and 9.6% at a six month follow up, by combining ACT principles with other traditional obesity treatment

components (e.g. portion control and nutritional information). This suggests that future ACT interventions for obesity should incorporate more traditional treatment components to encourage greater short term weight loss.

While this study did not include a formal mediational analysis, an evaluation of changes in process measures following treatment suggests that core ACT processes served as active treatment ingredients. There was a significant increase in weight related psychological flexibility following treatment as well as an increase in general psychological flexibility that was approaching significance. These measures have been identified in previous ACT for obesity research as mediators of outcomes (Lillis, Hayes, Bunting, & Masuda, 2009) and the large effect size associated with the gain in the weight specific flexibility in the current study ( $d = 1.14$ ) provides evidence for ACT process change. That is, while it is not possible given the current analysis to conclude that changes in ACT processes led to the observed outcomes, it is appropriate to conclude that core ACT processes were moved during treatment. The significant differences observed between groups post-treatment in self-reported monitoring of any food intake and all food intake also provides evidence of treatment integrity as daily self-monitoring of diet was an active component of the intervention. That is, the large increase in reports of monitoring of food intake in the treatment group is a reflection of the procedural integrity of the treatment rather than a treatment effect as participants were instructed to self-monitor their diet as part of the intervention.



It is of note that these process changes were generated by young and rather inexperienced therapists. While all three study therapists had didactic and experiential training in both ACT and behavioral therapy, they were all still receiving graduate training and had no more than two years of therapy experience prior to the study. This suggests that given proper training and support the core components of ACT can be delivered competently in a treatment setting rather quickly and also provides some evidence as to the effectiveness of the treatment technique. The therapists were all also considerably younger than the clients a factor that did not appear to hinder the development of a therapeutic relationship. It is also of note that two of the three therapists had a body mass index above the normal range, a fact that was readily observable to participants. However, this did not appear to hinder the therapeutic relationship and anecdotal reports suggests that it might have improved some therapeutic interactions. For example, several clients revealed during the final session that they were initially skeptical of their therapist because of the therapist's weight, but felt more comfortable during treatment as they felt that their therapist could better relate to their experience.

It remains an open question as to what drove the numerous clinically meaningful changes observed following treatment. As this investigation combined the traditional behavioral techniques of self-monitoring and goal setting with the ACT intervention it is not possible to parse out which treatment components contributed to the observed outcomes. Self-monitoring alone has been demonstrated to have some, albeit limited, utility as a weight loss

intervention (Bellack, 1976). Likewise, goal setting, usually combined with either self-reinforcement (Bellack, 1976) or experimenter controlled contingencies (Mann, 1972), has also been shown to generate short term weight loss. However, there is no evidence in the literature nor any proposed conceptual framework that would link these behavioral interventions to the widespread reductions in psychological distress found in this investigation. That is, it is unlikely the self-monitoring or goal setting alone led to the observed outcomes. However, it is possible that there was an interaction effect between ACT treatment components and the traditional behavioral interventions. For example, the mindfulness skills taught as part of the ACT treatment might have enhanced the effectiveness of self-monitoring and conversely the daily self-monitoring could have provided repeated opportunities to use and strengthen the mindfulness repertoire. Additionally, at this time it remains unknown which of the six core ACT processes (acceptance, defusion, contact with the present moment, self as context, values, and committed action) contributed to the observed outcomes. Future investigations should employ a component analysis of this intervention package to discover which treatment components and interactions between treatment components generate desired outcomes.

Other parameters of the treatment package remain open for future investigation. The eight hours of contact time used in this study is similar to the treatment intensity employed by other ACT for obesity investigations; Lillis and et al. (2009) employed a six hour workshop, Tapper et al. (2009) had 8 hours of treatment time, and Forman et al. (2009) used 12 one hour workshops.

However, there is no conceptual reason to believe that this level of treatment intensity is required for ACT. Analog studies have demonstrated that even very small doses (i.e. 30 minutes) of an ACT component can lead to clinically significant outcomes (Forman et al., 2007). Future studies should be conducted to explore the effectiveness of brief interventions for obesity. In addition, the length of therapeutic contact also remains open for manipulation. Given the need for an increased emphasis on sustainable weight loss it might be beneficial to increase the duration of the intervention while holding the intensity constant. For example, monthly instead of weekly therapeutic encounters may be more effective in encouraging sustainable outcomes.

There are several limitations to this analysis which limit the conclusions that can be made. Perhaps most restricting is the low power of the statistical analyses which is a direct result of the small sample size employed in this investigation. The inflated risk for a Type II error caused by the lack of sufficient observed power was mitigated by the use of additional exploratory analyses but the threat still remains that important effects went undocumented. The robust treatment effects observed on many outcomes were able to reach significance. However, the analysis of objective outcome measures (i.e. weight and BMI), which in best case treatment scenarios move by a small margin (i.e. 5% to 15%), were woefully underpowered. The small sample size of this investigation was appropriate given the exploratory nature of the work and the state of the literature. However, future studies should incorporate sample sizes capable of detecting small but clinically meaningful changes in objective outcomes.

The absence of an active treatment comparison group is another limitation of this analysis. Future research should incorporate active controls consisting of established treatments for obesity to further establish the effectiveness of ACT in this treatment domain. The lack of documented procedural integrity and the lack of formal account of the mechanisms of therapeutic change also temper the conclusions which can be drawn from this study. Future studies should conduct formal mediational analyses and provide more detailed documentation of active treatment delivery in order to bolster support for the efficacy of this therapeutic model.

Another limitation of this study was the lack of follow up assessments. The exclusion of longitudinal assessments was due partly to external time constraints on the project and also due to the ethical necessity of offering timely treatment to the wait-list control group. The lack of follow up assessment may appear especially troublesome given the this study's stated goal of generating sustainable weight loss. However, the obtained findings still act in service of the stated goal by demonstrating the efficacy of this intervention in fostering wideband improvements in psychological wellbeing and quality of life. While those changes stand alone as solid treatment outcomes, it is hypothesized that such changes will also set the stage for gradual and sustainable weight loss. Of course, the veracity of this hypothesis must be tested in future research.

Despite these limitations, this study provides support for an ACT based approach for the treatment of obesity. Specifically, this investigation demonstrated the efficacy of an eight week individual protocol consisting of ACT

with self-monitoring and goal setting in generating significant improvements in psychological health and overall quality of life. While a large reduction in weight was not observed, this intervention was successful in addressing the psychological impact of obesity. Traditional approaches to obesity treatment target immediate weight loss with the assumption that improvements in overall health and quality of life will follow. This study successfully demonstrated that improvements in these domains can be generated independent of targeted, short-term weight loss. The findings from this study, taken together with other recent investigations of ACT for the treatment of obesity (Forman et al., 2009; Lillis et al., 2009; Tapper et al, 2009), firmly establish the utility of an Acceptance and Commitment Therapy approach to obesity treatment.

Table 1

*Therapeutic Metaphors and Exercises Organized by Core ACT Processes*

| Process          | Exercises  |
|------------------|--|
| Present Moment   | Awareness Exercise<br>Leaves on a Stream<br>Mindful Eating   |
| Acceptance       | Chinese finger trap<br>How old is this problem?<br>Weight loss is easy<br>Don't think of a chocolate cake<br>95% - 5% (Control is the problem)<br>Polygraph Metaphor<br>Acceptance as a solution<br>Serenity Prayer<br>Two Scales Metaphor<br>Passengers on the Bus<br>Joe the Bum |
| Defusion         | The Numbers<br>Little Miss Muffet . . .<br>Complete the sentence<br>I can't stay seated I must stand up<br>Bad Cup Metaphor<br>Two Computers Metaphor<br>Milk, Milk, Milk<br>I'm having the thought that . . .<br>Create your own defusion exercise                                |
| Self as Context  | Chessboard Metaphor<br>Observer Exercise   |
| Values           | Sweet Spot<br>Values vs. Goals<br>Values as a Choice<br>The outcome of the process . . .<br>Tombstone Epitaph<br>VLQ Review  |
| Committed Action | Willingness is like jumping<br>SMART Goals<br>Swamp Metaphor<br>Path up the Mountain<br>Tying it all together  |

Table 2

*Demographic Information Across Groups*

| Variable               | ACT<br>(n=9) |    | Wait List<br>(n=10) |     |
|------------------------|--------------|----|---------------------|-----|
|                        | n            | %  | n                   | %   |
| Gender                 |              |    |                     |     |
| Female                 | 8            | 89 | 10                  | 100 |
| Ethnicity              |              |    |                     |     |
| Caucasian              | 8            | 89 | 9                   | 90  |
| African American       | 0            | 0  | 1                   | 10  |
| Multiracial            | 1            | 11 | 0                   | 0   |
| Education              |              |    |                     |     |
| Some College           | 4            | 44 | 2                   | 20  |
| Associate Degree       | 1            | 11 | 0                   | 0   |
| Bachelor's Degree      | 1            | 11 | 5                   | 50  |
| Master's Degree        | 2            | 22 | 2                   | 20  |
| Doctorate              | 1            | 11 | 1                   | 10  |
| Weight Loss Attempts   |              |    |                     |     |
| 1-4 times              | 2            | 22 | 3                   | 30  |
| 5-9 times              | 0            | 0  | 2                   | 20  |
| 10-14 times            | 3            | 33 | 1                   | 10  |
| 15-19 times            | 3            | 33 | 0                   | 0   |
| 20 or more times       | 1            | 11 | 4                   | 40  |
| Currently in a program | 0            | 0  | 2                   | 20  |
| Currently on a diet    | 2            | 22 | 3                   | 30  |
| Have hit a weight goal | 6            | 67 | 5                   | 50  |
| Cycle weight regularly | 3            | 33 | 5                   | 50  |

Table 3

*Baseline Scores for Study Measures and Between Group Baseline Comparisons*

| Measures                                       | ACT<br>(n=9) |      | Control<br>(n=10) |      | Comparison |      |
|--|--------------|------|-------------------|------|------------|------|
|  | M            | SD   | M                 | SD   | t          | p    |
| <b>Direct</b>                                  |              |      |                   |      |            |      |
| Height (inches)                                | 65.7         | 2.7  | 65                | 3.4  | .541       | .595 |
| Weight (pounds)                                | 216.3        | 37.4 | 209.4             | 33.3 | .423       | .678 |
| Body Mass Index (BMI)                          | 35.1         | 4.6  | 34.9              | 4.6  | .102       | .920 |
| <b>Subjective</b>                              |              |      |                   |      |            |      |
| General Health Questionnaire                   | 12.3         | 5.7  | 13.3              | 2.7  | -.464      | .652 |
| Obesity Related Health and Wellbeing           | 58.1         | 35.1 | 51.6              | 23.6 | .479       | .638 |
| Weight Stigma Questionnaire (WSQ)              | 55.2         | 19.7 | 60.7              | 17.2 | -.648      | .526 |
| Valued Living Questionnaire (VLQ)              | 57.3         | 19.2 | 60.6              | 17.1 | -.400      | .694 |
| Beck Depression Inventory (BDI)                | 13.4         | 8.9  | 11.5              | 5    | .578       | .574 |
| Beck Anxiety Inventory (BAI)                   | 10.2         | 9.5  | 7.1               | 5.8  | .876       | .393 |
| Eating Functional Assessment (EFA)             | 107.1        | 25.9 | 117.3             | 35.4 | -.709      | .488 |
| EFA Escape Subscale (EFA-E)                    | 34           | 17.3 | 39.6              | 16.9 | -.712      | .468 |
| EFA Attention Subscale (EFA-A)                 | 38           | 4.5  | 40.1              | 10.9 | -.539      | .597 |
| EFA Sensory Subscale (EFA-S)                   | 35.1         | 10.9 | 38.2              | 11.8 | -.591      | .562 |
| EFA Tangible Subscale (EFA-T)                  | 9            | 3.9  | 10                | 3.9  | -.561      | .582 |
| <b>Diet and Exercise Scale (days per week)</b> |              |      |                   |      |            |      |
| Any physical activity                          | 2            | 2.4  | 2.3               | 2.5  | -.269      | .791 |
| More than 30 minutes of physical activity      | 1            | 1.1  | 1.7               | 2.2  | -.870      | .396 |
| Monitored any food intake                      | 2.1          | 3.1  | 2.3               | 2.6  | -.146      | .886 |
| Monitored intake at all meals                  | 1.7          | 2.7  | 1.5               | 2.1  | .151       | .882 |
| Had an eating "binge"                          | 2.4          | 2.5  | 1.7               | 1.7  | .775       | .449 |
| Ate out and chose a healthy meal               | 2            | 1.8  | 1.4               | 0.5  | 1.01       | .327 |
| Ate out and chose an unhealthy meal            | 2            | 1.5  | 2.2               | 1.8  | -.266      | .794 |
| <b>Process</b>                                 |              |      |                   |      |            |      |
| Acceptance and Action Questionnaire II         | 52.3         | 10.1 | 55.6              | 5.1  | -.899      | .381 |
| Acceptance and Action Weight (AAQ-W)           | 89.2         | 29.3 | 90.8              | 20   | -.138      | .892 |



Table 4

*Between Group ANCOVAs at Post Assessment*

|   | MS      | f      | p      | $h_p^2$ |
|---|---------|--------|--------|---------|
| Weight (pounds)                                 |         |        |        |         |
| Baseline Score                                  | 20912.4 | 887.85 | .000   | .982    |
| Condition                                       | 29.7    | 1.26   | .278   | .073    |
| Body Mass Index (BMI)                           |         |        |        |         |
| Baseline Score                                  | 393     | 753.85 | .000   | .979    |
| Condition                                       | .586    | 1.12   | .305   | .066    |
| General Health Questionnaire (GHQ)              |         |        |        |         |
| Baseline Score                                  | 81.9    | 5.89   | .027   | .269    |
| Condition                                       | 84.8    | 6.1    | .025*  | .276    |
| Obesity Related Health and Wellbeing (ORWELL)   |         |        |        |         |
| Baseline Score                                  | 10794.2 | 29.60  | .000   | .649    |
| Condition                                       | 839.2   | 2.3    | .149   | .126    |
| Weight Stigma Questionnaire (WSQ)               |         |        |        |         |
| Baseline Score                                  | 3055.3  | 35.29  | .000   | .688    |
| Condition                                       | 189.9   | 2.19   | .158   | .121    |
| Valued Living Questionnaire (VLQ)               |         |        |        |         |
| Baseline Score                                  | 1433.9  | 10.18  | .006   | .404    |
| Condition                                       | 9.75    | .07    | .796   | .005    |
| Beck Depression Inventory (BDI)                 |         |        |        |         |
| Baseline Score                                  | 357.6   | 10     | .006   | .385    |
| Condition                                       | 70.1    | 1.96   | .181   | .109    |
| Beck Anxiety Inventory (BAI)                    |         |        |        |         |
| Baseline Score                                  | 217.3   | 5.83   | .028   | .267    |
| Condition                                       | 209.2   | 5.61   | .031*  | .26     |
| Eating Functional Assessment (EFA)              |         |        |        |         |
| Baseline Score                                  | 7835.5  | 52.25  | .000   | .766    |
| Condition                                       | 500.7   | 3.34   | .086   | .173    |
| EFA Escape Subscale (EFA-E)                     |         |        |        |         |
| Baseline Score                                  | 1606.6  | 28.38  | .000   | .639    |
| Condition                                       | 454.5   | 8.03   | .012*  | .334    |
| EFA Attention Subscale (EFA-A)                  |         |        |        |         |
| Baseline Score                                  | 828.3   | 18.83  | .001   | .541    |
| Condition                                       | 20.7    | .47    | .503   | .029    |
| EFA Sensory Subscale (EFA-S)                    |         |        |        |         |
| Baseline Score                                  | 1222.5  | 51.12  | .000   | .762    |
| Condition                                       | 49.8    | 2.08   | .168   | .115    |
| EFA Tangible Subscale (EFA-T)                   |         |        |        |         |
| Baseline Score                                  | 85.56   | 6.98   | .018   | .304    |
| Condition                                       | 6.9     | .57    | .463   | .034    |
| Any physical activity (DES)                     |         |        |        |         |
| Baseline Score                                  | 14.9    | 9.55   | .007   | .374    |
| Condition                                       | 2.7     | 1.75   | .205   | .099    |
| More than 30 minutes of physical activity (DES) |         |        |        |         |
| Baseline Score                                  | 27.1    | 12.28  | .003   | .434    |
| Condition                                       | 9.1     | 4.12   | .059   | .205    |
| Monitored any food intake (DES)                 |         |        |        |         |
| Baseline Score                                  | .095    | .014   | .906   | .001    |
| Condition                                       | 76.31   | 11.55  | .004** | .419    |
| Monitored intake at all meals (DES)             |         |        |        |         |
| Baseline Score                                  | 1.9     | .26    | .62    | .016    |
| Condition                                       | 77.8    | 10.2   | .006*  | .39     |

|   |        |       |        |      |
|---|--------|-------|--------|------|
| Had an eating "binge" (DES)                     |        |       |        |      |
| Baseline Score                                  | 13.2   | 9.27  | .008   | .367 |
| Condition                                       | 1.9    | 1.35  | .263   | .078 |
| Ate out and chose a healthy meal (DES)          |        |       |        |      |
| Baseline Score                                  | 9.7    | 2.52  | .132   | .136 |
| Condition                                       | 6      | 1.56  | .229   | .089 |
| Ate out and chose an unhealthy meal (DES)       |        |       |        |      |
| Baseline Score                                  | 2.3    | 1.5   | .238   | .086 |
| Condition                                       | 3.9    | 2.57  | .128   | .139 |
| Acceptance and Action Questionnaire II (AAQ-II) |        |       |        |      |
| Baseline Score                                  | 617.1  | 13.94 | .002   | .466 |
| Condition                                       | 117.6  | 4.01  | .062   | .2   |
| Acceptance and Action Weight (AAQ-W)            |        |       |        |      |
| Baseline Score                                  | 4479.2 | 52.83 | .000   | .768 |
| Condition                                       | 1884.3 | 22.23 | .000** | .581 |

---

\* $p < 0.05$  , \*\*  $p < 0.01$

Table 5

*ACT Group Pre and Post Treatment Scores and Within Group Comparisons*

| Measures                                  | Pre-treatment |      | Post-treatment |      | Comparison |        |
|---|---------------|------|----------------|------|------------|--------|
|   | M             | SD   | M              | SD   | t          | p      |
|   | Direct        |      |                |      |            |        |
| Weight (pounds)                           | 216.3         | 37.4 | 213.9          | 36.2 | 1.166      | .277   |
| Body Mass Index (BMI)                     | 35.1          | 4.6  | 34.7           | 5    | 1.057      | .322   |
| Subjective                                |               |      |                |      |            |        |
| General Health Questionnaire              | 12.3          | 5.7  | 7.6            | 4.5  | 3.739      | .005** |
| Obesity Related Health and Wellbeing      | 58.1          | 35.1 | 41.4           | 30.3 | 2.668      | .029*  |
| Weight Stigma Questionnaire (WSQ)         | 55.2          | 19.7 | 47             | 20.5 | 2.903      | .020*  |
| Valued Living Questionnaire (VLQ)         | 53.68         | 17   | 57.7           | 17.5 | -1.24      | .254   |
| Beck Depression Inventory (BDI)           | 13.4          | 8.9  | 7.7            | 7.2  | 3.079      | .015*  |
| Beck Anxiety Inventory (BAI)              | 10.2          | 9.5  | 5.4            | 5    | 1.952      | .087   |
| Eating Functional Assessment (EFA)        | 107.1         | 25.9 | 86.8           | 21.1 | 3.887      | .005** |
| EFA Escape Subscale (EFA-E)               | 34            | 17.3 | 20.8           | 13.1 | 3.408      | .009** |
| EFA Attention Subscale (EFA-A)            | 38            | 4.5  | 36.8           | 8.4  | .667       | .523   |
| EFA Sensory Subscale (EFA-S)              | 35.1          | 10.9 | 29.2           | 11.1 | 3.655      | .006** |
| EFA Tangible Subscale (EFA-T)             | 9             | 3.9  | 8              | 4    | .885       | .402   |
| Diet and Exercise Scale (days per week)   |               |      |                |      |            |        |
| Any physical activity                     | 2             | 2.4  | 3.4            | 1.6  | -2.393     | .044*  |
| More than 30 minutes of physical activity | 1             | 1.1  | 3.1            | 2    | -4.642     | .002** |
| Monitored any food intake                 | 2.1           | 3.1  | 6.1            | 1.8  | -3.266     | .011*  |
| Monitored intake at all meals             | 1.7           | 2.7  | 5.8            | 2.4  | -3.343     | .010*  |
| Had an eating "binge"                     | 2.4           | 2.5  | .67            | 1.7  | 2.874      | .021*  |
| Ate out and chose a healthy meal          | 2             | 1.8  | 3.1            | 2.6  | -1.233     | .223   |
| Ate out and chose an unhealthy meal       | 2             | 1.5  | 1.4            | 1    | .921       | .384   |
| Process                                   |               |      |                |      |            |        |
| Acceptance and Action Questionnaire II    | 52.3          | 10.1 | 54.8           | 10.6 | -1.00      | .347   |
| Acceptance and Action Weight (AAQ-W)      | 89.2          | 29.3 | 67.1           | 18.4 | 3.832      | .005** |

$p < 0.05$  , \*\*  $p < 0.01$

Table 6

*Wait-List Control Group Pre and Post Assessment Scores and Within Group Comparisons*

| Measures                                       | Pre -<br>assessment |      | Post -<br>assessment |      | Comparison |       |
|--|---------------------|------|----------------------|------|------------|-------|
|  | M                   | SD   | M                    | SD   | t          | p     |
| <b>Direct</b>                                  |                     |      |                      |      |            |       |
| Weight (pounds)                                | 209.4               | 33.3 | 209.7                | 34.7 | -.226      | .826  |
| Body Mass Index (BMI)                          | 34.9                | 4.6  | 34.9                 | 4.8  | -.124      | .904  |
| <b>Subjective</b>                              |                     |      |                      |      |            |       |
| General Health Questionnaire                   | 13.3                | 2.7  | 12.3                 | 4    | .696       | .504  |
| Obesity Related Health and Wellbeing           | 51.6                | 23.6 | 49.3                 | 32.1 | .378       | .714  |
| Weight Stigma Questionnaire (WSQ)              | 60.7                | 17.2 | 57.4                 | 10.9 | .892       | .396  |
| Valued Living Questionnaire (VLQ)              | 60.6                | 17.1 | 63.1                 | 12.5 | -.487      | .638  |
| Beck Depression Inventory (BDI)                | 11.5                | 5    | 10.3                 | 7.6  | .551       | .595  |
| Beck Anxiety Inventory (BAI)                   | 7.1                 | 5.8  | 10.8                 | 8.3  | -1.633     | .137  |
| Eating Functional Assessment (EFA)             | 117.3               | 35.4 | 104.2                | 27.3 | 2.731      | .023* |
| EFA Escape Subscale (EFA-E)                    | 39.6                | 16.9 | 33.9                 | 11.3 | 1.974      | .080  |
| EFA Attention Subscale (EFA-A)                 | 40.1                | 10.9 | 36.4                 | 10.4 | 1.57       | .151  |
| EFA Sensory Subscale (EFA-S)                   | 38.2                | 11.8 | 34.8                 | 8.2  | 1.753      | .113  |
| EFA Tangible Subscale (EFA-T)                  | 10                  | 3.9  | 9.8                  | 4.1  | .155       | .880  |
| <b>Diet and Exercise Scale (days per week)</b> |                     |      |                      |      |            |       |
| Any physical activity                          | 2.3                 | 2.5  | 2.8                  | 1.5  | -.785      | .453  |
| More than 30 minutes of physical activity      | 1.7                 | 2.2  | 2.2                  | 1.9  | -.958      | .363  |
| Monitored any food intake                      | 2.3                 | 2.6  | 2.1                  | 3    | .169       | .869  |
| Monitored intake at all meals                  | 1.5                 | 2.1  | 1.7                  | 2.9  | -.205      | .842  |
| Had an eating "binge"                          | 1.7                 | 1.7  | 1                    | 1.2  | 1.481      | .173  |
| Ate out and chose a healthy meal               | 1.4                 | .52  | 1.6                  | 1.4  | -.48       | .642  |
| Ate out and chose an unhealthy meal            | 2.2                 | 1.8  | 2.4                  | 1.4  | -.375      | .716  |
| <b>Process</b>                                 |                     |      |                      |      |            |       |
| Acceptance and Action Questionnaire II         | 55.6                | 5.1  | 51                   | 6.8  | 2.372      | .042* |
| Acceptance and Action Weight (AAQ-W)           | 90.8                | 20   | 88.1                 | 18.6 | 1.776      | .110  |

$p < 0.05$  , \*\*  $p < 0.01$

Table 7

*Means, Standard Deviations, and Within and Between Group Effect Sizes Linked to Those Values for all Study Measures*

| Measures                                  | Pre Assessment <sup>a</sup> |      | Post Assessment <sup>b</sup> |      | Within Group ( <i>d</i> ) <sup>c</sup> |
|---|-----------------------------|------|------------------------------|------|--|
|   | M                           | SD   | M                            | SD   |  |
| <b>Weight (pounds)</b>                    |                             |      |                              |      |  |
| Wait-list (n=10)                          | 209.4                       | 33.3 | 209.7                        | 34.7 | -.01                                   |
| ACT (n=9)                                 | 216.3                       | 37.4 | 213.9                        | 36.2 | .07                                    |
| Between Group ( <i>d</i> )                |                             | -.19 |                              | -.12 |  |
| <b>Body Mass Index (BMI)</b>              |                             |      |                              |      |  |
| Wait-list (n=10)                          | 34.9                        | 4.6  | 34.9                         | 4.8  | 0                                      |
| ACT (n=9)                                 | 35.1                        | 4.6  | 34.7                         | 5    | .08                                    |
| Between Group ( <i>d</i> )                |                             | -.04 |                              | .04  |  |
| <b>General Health Questionnaire (GHQ)</b> |                             |      |                              |      |  |
| Wait-list (n=10)                          | 13.3                        | 2.7  | 12.3                         | 4    | .29                                    |
| ACT (n=9)                                 | 12.3                        | 5.7  | 7.6                          | 4.5  | .92**                                  |
| Between Group ( <i>d</i> )                |                             | .22  |                              | 1.1* |  |
| <b>Quality of Life (ORWELL 97)</b>        |                             |      |                              |      |  |
| Wait-list (n=10)                          | 51.6                        | 23.6 | 49.3                         | 32.1 | .08                                    |
| ACT (n=9)                                 | 58.1                        | 35.1 | 41.4                         | 30.3 | .51*                                   |
| Between Group ( <i>d</i> )                |                             | -.22 |                              | .47  |  |
| <b>Weight Stigma Questionnaire (WSQ)</b>  |                             |      |                              |      |  |
| Wait-list (n=10)                          | 60.7                        | 17.2 | 57.4                         | 10.9 | .23                                    |
| ACT (n=9)                                 | 55.2                        | 19.7 | 47                           | 20.5 | .41*                                   |
| Between Group ( <i>d</i> )                |                             | .30  |                              | .63  |  |
| <b>Valued Living Questionnaire (VLQ)</b>  |                             |      |                              |      |  |
| Wait-list (n=10)                          | 60.6                        | 17.1 | 63.1                         | 12.5 | .17                                    |
| ACT (n=9)                                 | 57.3                        | 19.2 | 57.8                         | 17.5 | .03                                    |
| Between Group ( <i>d</i> )                |                             | -.18 |                              | -.35 |  |
| <b>Beck Depression Inventory (BDI)</b>    |                             |      |                              |      |  |
| Wait-list (n=10)                          | 11.5                        | 5    | 10.3                         | 7.6  | .19                                    |
| ACT (n=9)                                 | 13.4                        | 8.9  | 7.7                          | 7.2  | .70*                                   |
| Between Group ( <i>d</i> )                |                             | -.26 |                              | .35  |  |
| <b>Beck Anxiety Inventory (BAI)</b>       |                             |      |                              |      |  |
| Wait-list (n=10)                          | 7.1                         | 5.8  | 10.8                         | 8.3  | -.52                                   |
| ACT (n=9)                                 | 10.2                        | 9.5  | 5.44                         | 5    | .63                                    |
| Between Group ( <i>d</i> )                |                             | -.39 |                              | .78* |  |
| <b>Eating Functional Assessment (EFA)</b> |                             |      |                              |      |  |
| Wait-list (n=10)                          | 117.3                       | 35.4 | 104.2                        | 27.3 | .41*                                   |
| ACT (n=9)                                 | 107.1                       | 25.9 | 86.8                         | 21   | .86**                                  |
| Between Group ( <i>d</i> )                |                             | .33  |                              | .71  |  |

|  |      |      |      |        |        |
|--|------|------|------|--------|--------|
| EFA Escape (EFA-E)                     |      |      |      |        |        |
| Wait-list (n=10)                       | 39.6 | 16.9 | 33.9 | 11.2   | .40    |
| ACT (n=9)                              | 34   | 17.3 | 20.8 | 13.1   | .86**  |
| Between Groups ( <i>d</i> )            |      | .33  |      | 1.07*  |        |
| EFA Attention (EFA-A)                  |      |      |      |        |        |
| Wait-list (n=10)                       | 40.1 | 10.9 | 36.4 | 10.4   | .25    |
| ACT (n=9)                              | 38   | 4.5  | 36.8 | 8.4    | .18    |
| Between Groups ( <i>d</i> )            |      | .25  |      | -.04   |        |
| EFA Sensory (EFA-S)                    |      |      |      |        |        |
| Wait-list (n=10)                       | 38.2 | 11.8 | 34.8 | 8.2    | .33    |
| ACT (n=9)                              | 35.1 | 10.9 | 29.2 | 11.1   | .54**  |
| Between Groups ( <i>d</i> )            |      | .27  |      | .57    |        |
| EFA Tangible (EFA-T)                   |      |      |      |        |        |
| Wait-list (n=10)                       | 10   | 3.9  | 9.8  | 4.1    | .05    |
| ACT (n=9)                              | 9    | 3.9  | 8    | 4      | .25    |
| Between Groups ( <i>d</i> )            |      | .26  |      | .44    |        |
| Any physical activity (DES)            |      |      |      |        |        |
| Wait-list (n=10)                       | 2.3  | 2.5  | 2.8  | 1.5    | .24    |
| ACT (n=9)                              | 2    | 2.4  | 3.4  | 1.6    | .69*   |
| Between Groups ( <i>d</i> )            |      | -.07 |      | .39    |        |
| More than 30 minutes of activity (DES) |      |      |      |        |        |
| Wait-list (n=10)                       | 1.7  | 2.2  | 2.2  | 1.9    | .24    |
| ACT (n=9)                              | 1    | 1.1  | 3.1  | 2      | 1.30** |
| Between Groups ( <i>d</i> )            |      | -.40 |      | .46    |        |
| Monitored any food intake (DES)        |      |      |      |        |        |
| Wait-list (n=10)                       | 2.3  | 2.6  | 2.1  | 3      | -.07   |
| ACT (n=9)                              | 2.1  | 3.1  | 6.1  | 1.8    | 1.58*  |
| Between Groups ( <i>d</i> )            |      | -.12 |      | 1.62** |        |
| Monitored intake at all meals (DES)    |      |      |      |        |        |
| Wait-list (n=10)                       | 1.5  | 2.1  | 1.7  | 2.9    | .08    |
| ACT (n=9)                              | 1.7  | 2.7  | 5.8  | 2.4    | 1.61*  |
| Between Groups ( <i>d</i> )            |      | .08  |      | 1.54** |        |
| Had an eating "binge" (DES)            |      |      |      |        |        |
| Wait-list (n=10)                       | 1.7  | 1.7  | 1    | 1.2    | .48    |
| ACT (n=9)                              | 2.4  | 2.5  | .67  | 1.7    | .81*   |
| Between Groups ( <i>d</i> )            |      | -.33 |      | .22    |        |
| Ate out and healthy (DES)              |      |      |      |        |        |
| Wait-list (n=10)                       | 1.4  | 0.5  | 1.6  | 1.4    | .19    |
| ACT (n=9)                              | 2    | 1.8  | 3.1  | 2.6    | .49    |
| Between Groups ( <i>d</i> )            |      | .45  |      | .72    |        |
| Ate out and unhealthy (DES)            |      |      |      |        |        |
| Wait-list (n=10)                       | 2.2  | 1.8  | 2.4  | 1.4    | -.12   |
| ACT (n=9)                              | 2    | 1.5  | 1.4  | 1      | .47    |
| Between Groups ( <i>d</i> )            |      | .12  |      | .82    |        |

|                                    |      |      |      |       |       |
|------------------------------------|------|------|------|-------|-------|
| Acceptance and Action II (AAQ-II)  |      |      |      |       |       |
| Wait-list (n=10)                   | 55.6 | 5.1  | 51   | 6.8   | -.77* |
| ACT (n=9)                          | 52.3 | 10.1 | 54.8 | 10.6  | .24   |
| Between Groups ( <i>d</i> )        |      | -.41 |      | .43   |       |
| Acceptance and Action Weight AAQ-W |      |      |      |       |       |
| Wait-list (n=10)                   | 90.8 | 20   | 88.1 | 18.6  | .14   |
| ACT (n=9)                          | 89.2 | 29.3 | 67.1 | 18.4  | .90** |
| Between Groups ( <i>d</i> )        |      | .06  |      | 1.14* |       |

---

Note. Cohen's *d* calculated using pooled standard deviation

<sup>a</sup> Between group comparisons made using independent sample two tailed t-tests (Table 3)

<sup>b</sup> Between group comparisons made using ANCOVAs with pre-test score as covariate (Table 4)

<sup>c</sup> Within group comparisons made using two tailed paired sample t-tests for the ACT Group (Table 5) and for the wait-list control group (Table 6)

\* $p < 0.05$  , \*\* $p < 0.01$

Table 8

*Item Scores on the Treatment Satisfaction Survey*

| Items                                       | M    | SD   |
|---|------|------|
| Overall Satisfaction                        | 4.88 | 0.35 |
| Useful for managing weight                  | 4.63 | 0.52 |
| Useful for living a more healthy life       | 4.63 | 0.52 |
| Useful for changing context of thoughts     | 4.75 | 0.46 |
| Useful for changing thoughts                | 4.50 | 0.76 |
| Often use principles to manage weight       | 4.50 | 0.53 |
| Often use principles in other areas of life | 4.13 | 0.64 |
| Satisfied with current weight management    | 3.63 | 1.19 |
| Close to a valued healthy life              | 3.88 | 0.83 |
| Will be successful in future weight loss    | 4.50 | 0.76 |
| Will recommend program to a friend          | 4.88 | 0.35 |

Note: All questions were scored on a five point Likert scale with higher values indicating greater agreement with the statement.



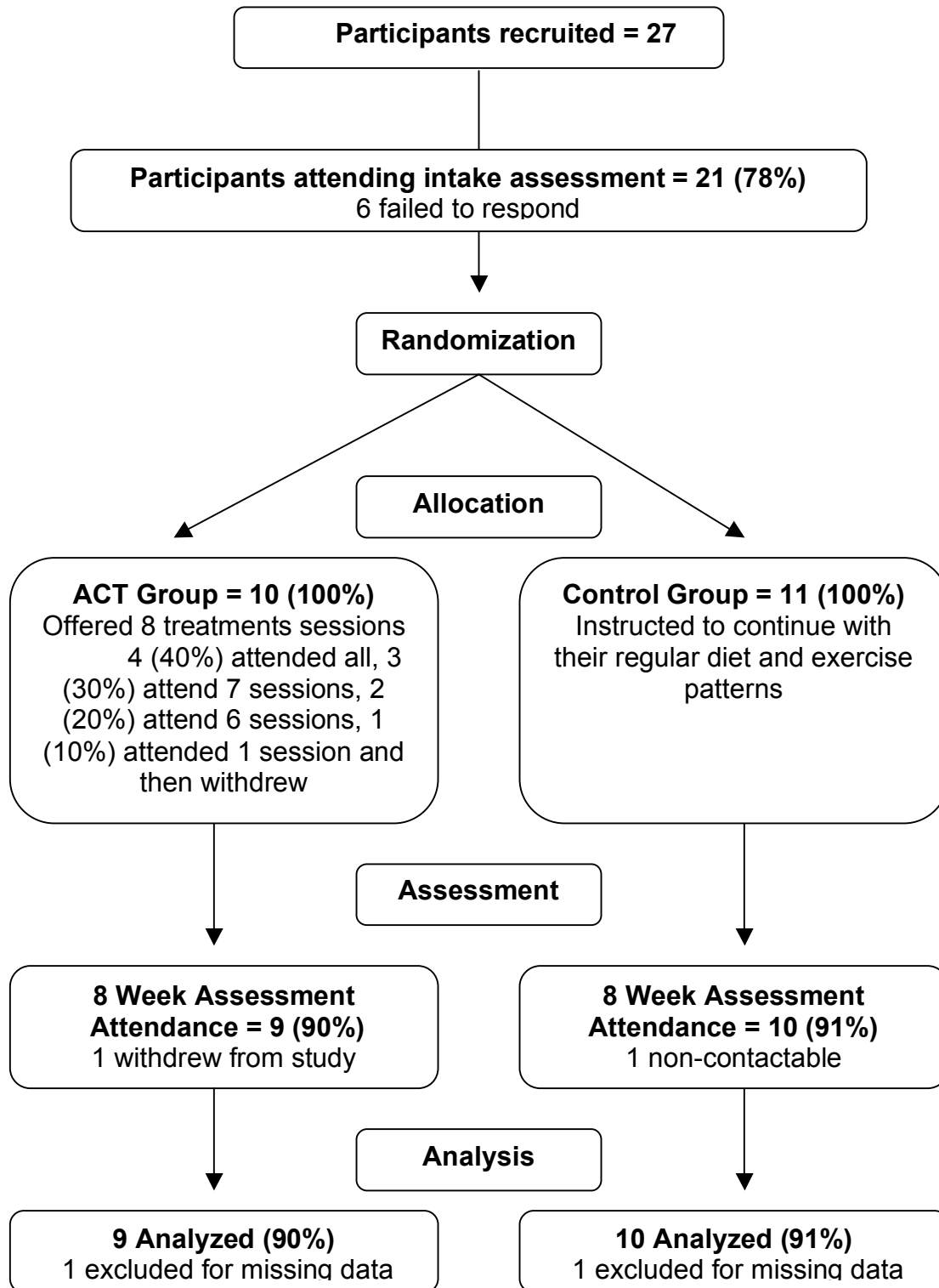


Figure 1. Participant Flow Diagram

## REFERENCES

- Allison, D. B., Fontaine, K. R., Manson, J. E., Stevens, J., & VanItallie, T. B. (1999). Annual death attributable to obesity in the United States. *Journal of the American Medical Association, 282*, 1530-1538.
- Anderson, D. A., Shapiro, J. R., & Lundgren, J. D. (2001). The behavioral treatment of obesity. *The Behavior Analyst Today, 2*, 133-140.
- Anderson, D. A., Simmons, A. M., & Milnes, S. M. (2005). Interventions for weight reduction: Facing the maintenance problem. *International Journal of Behavioral and Consultation Therapy, 1*, 276-284.
- Bach, P., & Hayes, S. C. (2002). The use of acceptance and commitment therapy to prevent the rehospitalization of psychotic patients: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 70*, 1129-1139.
- Beck, A. T., Brown, G., Epstein, N., Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*, 893-897.
- Beck, A. T., Steer, R. A., Ball, R., & Ranieri, W. F. (1996). Comparison of Beck Depression Inventories –IA and –II in psychiatric outpatients. *Journal of Personality Assessment, 67*, 588-597.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.

- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77-100.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*, 561-571.
- Bellack, A. S. (1976). A comparison of self-reinforcement and self-monitoring in a weight reduction program. *Behavior Therapy, 7*, 68-75.
- Berg, F. M. (1999). Health risks associated with weight loss and obesity treatment programs. *Journal of Social Issues, 55*, 277-297.
- Blackledge, J. T., & Hayes, S. C. (2006). Using acceptance and commitment training in the support of parents of children diagnosed with autism. *Child & Family Behavior Therapy, 28*, 1-18.
- Blanck, H. M., Khan, L. K., & Serdula, M. K. (2004). Prescription weight loss pill use among Americans: Patterns of pill use and lessons learned from the Fen-Phen market withdrawal. *Preventive Medicine, 39*, 1243-1248.
- Bond, F.W., Hayes, S.C., Baer, R.A., Carpenter, K.M., Orcutt, H.K., Waltz, T., & Zettle, R.D. (under review). Preliminary psychometric properties of the acceptance and action questionnaire – II: A revised measure of psychological flexibility and acceptance.
- Bond, F. W., Hayes, S. C., & Barnes-Holmes, D. (2006). Psychological flexibility, ACT, and organizational behaviour. *Journal of Organizational Behavior Management, 26*, 25–54.

- Cramer, P., & Steinwert, T. (1998). Thin is good, fat is bad: how early does it begin? *Journal of Applied Developmental Psychology, 19*, 429-451.
- Cochran, W. G. (1957). Analysis of covariance: Its nature and uses. *Biometrics, 3*, 261-281..
- Cooper, Z., & Fairburn, C. G. (2001). A new cognitive behavioural approach to the treatment of obesity. *Behaviour Research and Therapy, 39*, 499-511.
- Corrigan, P. W. (2001). Getting ahead of the data: A Threat to some behavior therapies. *The Behavior Therapist, 24*, 189-193.
- Dahl, J., Wilson, K. G., & Nilsson, A. (2004). Acceptance and commitment therapy and the treatment of persons at risk for long-term disability resulting from stress and pain symptoms: A preliminary randomized trial. *Behavior Therapy, 35*, 785-802.
- Dixon, J. B., Dixon, M. E., & O'Brien, P. E. (2003). Depression in association with severe obesity: Changes with weight loss. *Archives of Internal Medicine, 163*, 2058-2065.
- Dixon, M. R., Bordieri, M. J., Hahs, A., Mui, N. K., Nastally, B. L., & Wilson, A. (in preparation). Identifying the maintaining variables of obesity: The eating functional assessment.
- Durand, M. V., & Crimmins, D. B. (1988). Identifying the variables maintaining self-injurious behavior. *Journal of Autism and Developmental Disorders, 18*, 99-117.

- Eifert, G. H., & Forsyth, J. P. (2005). *Acceptance and commitment therapy for anxiety disorders*. Oakland, California: New Harbinger Publications.
- Ferster, C. B., Numberger, I., & Levitt, E. B. (1962). The control of eating. *Journal of Mathematics*, 1, 87-109.
- Flegal, K. M., Carrol, M. D., Kuczmarski, R. J., & Johnson, C. L. (1998). Overweight and obesity in the United State: Prevalence and trends, 1960-1994. *International Journal of Obesity and Related Metabolic Disorders*, 22, 39-47.
- Forman, E. M., Butryn, M. L., Hoffman, L. K., & Herbert, J. D. (2009). An open trial of an acceptance-based behavioral intervention for weight loss. *Cognitive and Behavioral Practice*, 16, 223-235.
- Forman, E. M., Herbert, J. D., Moitra, E., Yeomans, P. D., & Geller, P. A. (2007). A randomized controlled effectiveness trial of acceptance and commitment therapy and cognitive therapy for anxiety and depression. *Behavior Modification*, 31, 772-799.
- Forman, E. M., Hoffman, K. L., McGrath, K. B., Herbert, J. D., Brandsma, L. L., & Lowe, M. R. (2007). A comparison of acceptance and control-based strategies with food cravings: An analog study. *Behavior Research and Therapy*, 45, 2372-2386.
- Friedman, M. A., & Brownell, K. D. (1995). Psychological correlates of obesity: Moving to the next research generation. *Psychological Bulletin*, 117, 3-20.

- Gaudio, B. A., & Herbert, J. D. (2005). Acute treatment of inpatients with psychotic symptoms using acceptance and commitment therapy: Pilot results. *Behavior Research and Therapy, 44*, 415-437.
- Garner, D. M., & Garfinkel, P. E. (1980). Socio-cultural factors in the development of anorexia nervosa. *Psychological Medicine, 10*, 647-656.
- Gifford, E. V., Kohlenberg, B. S., Hayes, S. C., Antonuccio, D. O., Piasecki, M. M., Rasmussen-Hall, M. L., et al. (2004). Acceptance-based treatment for smoking cessation. *Behavior Therapy, 35*, 689-705.
- Glazer, G. (2001). Long-term pharmacotherapy of obesity 2000: A review of efficacy and safety. *Archives of Internal Medicine, 161*, 1814-1824.
- Goldberg, D. P., & Blackwell, B. (1970). Psychiatric illness in general practice: A detailed study using a new method of case identification. *British Medical Journal, 2*, 439-443.
- Goldberg, D. P., Gater, R., Sartorius, N., Ustun, T. B., Piccinelli, M., Gureje, O., & Rutter, C. (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine, 27*, 191-197.
- Gregg, J. A., Callaghan, G. M., Hayes, S. C., & Glenn-Lawson, J. L. (2007). Improving diabetes self-management through acceptance, mindfulness, and values: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 75*, 336-343.

- Hall, J. C., Watts, J. M., O'Brien, P. E., Dunstan, R. E., Walsh, J. F., Slavotinek, A. H., et al. (1990). Gastric surgery for morbid obesity: The Adelaide study. *Annals of Surgery, 211*, 419-427.
- Hamm, P., Shekelle, R. B., & Stamler, J. (1989). Large fluctuations in body weight during young adulthood and twenty-five year risk of coronary death in men. *American Journal of Epidemiology, 129*, 312-318.
- Hayes, S. C., Barnes-Holmes, D., & Roche, B. (2001). *Relational frame theory: A post-Skinnerian account of human language and cognition*. New York: Kluwer Academic.
- Hayes, S. C., Bissett, R., Roget, N., Padilla, M., Kohlenberg, B. S., Fisher, G., et al. (2004). The impact of acceptance and commitment training and multicultural training on the stigmatizing attitudes and professional burnout of substance abuse counselors. *Behavior Therapy, 35*, 821-835.
- Hayes, S. C., Levin, M., Plumb, J., Boulanger, J., & Pistorello, J. (under review).. Acceptance and commitment therapy and contextual behavioral science: Examining the progress of a distinctive model of behavioral and cognitive therapy.
- Hayes, S. C., & Lillis, J. (2008). Measuring avoidance and inflexibility in weight related problems. *International Journal of Behavior Consultation and Therapy, 4*, 30-40.
- Hayes, S.C, Luoma, J.B., Bond, F.W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes, and outcomes. *Behaviour Research and Therapy, 44*, 1-25.

- Hayes, S. C., Masuda, A., Bissett, R., Luoma, J., & Guerrero, L. F. (2004). DBT, FAP, and ACT: How empirically oriented are the new behavior therapy technologies? *Behavior Therapy, 35*, 35-54.
- Hayes, S. C. & Smith, S. (2005). *Get out of your mind and into your life*. Oakland: New Harbinger Publications.
- Hayes, S., & Strosahl, K. (2004). *A practical guide to acceptance and commitment therapy*. New York: Springer Science + Business Media.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Hayes, S. C., Strosahl, K., Wilson, K. G., Bissett, R., Pistorello, J., Toarmino, E. et al. (2004). Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record, 54*, 553-578.
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Bissett, R., Piasecki, M., Batten, S. V., Byrd, M., & Gregg, J. (2004). A preliminary trial of twelve-step facilitation and acceptance and commitment therapy with polysubstance-abusing methadone-maintained opiate addicts. *Behavior Therapy, 35*, 667-688.
- Hofmann, S. G., & Asmundson, J. G. (2008). Acceptance and mindfulness-based therapy: New wave or old hat? *Clinical Psychology Review, 28*, 1-16.
- James, P. T., Leach, R., Kalamara, E., & Shayaghi, M. (2001). The worldwide obesity epidemic. *Obesity Research, 9*, 228-233.



- Kalliath, T. J., O'Driscoll, M. P., & Brough, P. (2004). A confirmatory factor analysis of the General Health Questionnaire-12. *Stress and Health, 20*, 11-20.
- Kassirer, J. P., & Angell, M. (1998). Losing weight: An ill-fated New Years resolution. *New England Journal of Medicine, 338*, 52-54.
- Kral, J. G. (1985). Morbid obesity and related health risks. *Annals of Internal Medicine, 103*, 1043-1047.
- Lew, E. A., & Garfinkel, L. (1979). Variations in mortality by weight among 750,000 men and women. *Journal of Chronic Diseases, 32*, 563-576.
- Leyfer, O. T., Ruberg, J. L., Woodruff-Borden, J. (2006). Examination of the utility of the Beck Anxiety Inventory and its factors as a screener for anxiety disorders. *Journal of Anxiety Disorders, 20*, 444-458.
- Lillis, J., Hayes, S. C., Bunting, K., & Masuda, A. (2009). Teaching acceptance and mindfulness to improve the lives of the obese: A preliminary test of a theoretical model. *Annals of Behavior Medicine, 37*, 58-69
- Lillis, J. (2007). Acceptance and commitment therapy for the treatment of obesity-related stigma and sustained weight loss. Unpublished doctoral dissertation. University of Nevada, Reno.
- Lillis, J., Hayes, S. C., & Bunting, K. (Unpublished). *Obesity stigma and weight management acceptance and commitment therapy treatment manual*. University of Nevada, Reno.

- Loro, A. D., Fisher, E. B., & Levenkron, J. C. (1979). Comparison of established and innovative weight-reduction treatment procedures. *Journal of Applied Behavior Analysis*, 12, 141-155.
- Lowe, M. R. (2003). Self-regulation of energy intake in the prevention and treatment of obesity: Is it feasible? *Obesity Research*, 11, 445–595.
- Lundgren, T., Dahl, J., Melin, L., & Kies, B. (2004). Evaluation of acceptance and commitment therapy for drug refractory epilepsy: A randomized controlled trial in South Africa: A pilot study. *Epilepsia*, 47, 2173-2179.
- Mann, R. A. (1972). The behavior-therapeutic use of contingency contracting to control an adult behavior problem: Weight control. *Journal of Applied Behavior Analysis*, 5, 99-109.
- Mann, T., Tomiyama, A. J., Westling, E., Lew, A. M., Samuels, B., & Chatman. (2007). Medicare's search for effective obesity treatments: Diets are not the answer. *American Psychologist*, 62, 220-233.
- Mannucci, E., Ricca, V., Barciulli, E., Di Bernardo, M., Travaglini, R., Cabras, P. L., & Rotella, C. M. (1999). Quality of life and overweight: The obesity related well-being (ORWELL 97) questionnaire. *Addictive Behaviors*, 24, 345-357.
- Manson, J. E., Willett, W. C. , Stampfer, M. J., Colditz, G. A., Hunter, D. J., Hankinson, S. E., et al. (1995). Body weight and mortality among women. *New England Journal of Medicine*, 333, 677-685.

- Mokdad, A. H., Ford, E. S., Bowman, B. A., Dietz, W. H., Vinicor, F., Bales, V. S., & Marks, J. S. (2003). Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001. *Journal of the American Medical Association, 289*, 76-79.
- Moher, D., Schulz, K. F., & Altman, D. (2001). The CONSORT statement: Revised recommendations for improving the quality of parallel-group randomized trials. *Journal of the American Medical Association, 285*, 1987-1911.
- National Institutes of Health. (2009). *Weight loss surgery*. Retrieved June 22, 2009, from <http://www.nlm.nih.gov/medlineplus/weightlossurgery.html>
- Neumark-Sztainer, D., Story, M., & Faibisch, L. (1998). Perceived stigmatization among overweight African-American and Caucasian adolescent girls. *Journal of Adolescent Health, 23*, 264-270.
- Ogden, C. L., Carroll, M.D., Curtin, L. R., McDowell, M. A., Tabak, C. J., & Flegal, K. M. (2006). Prevalence of overweight and obesity in the United States, 1999-2004. *Journal of the American Medical Association, 295*, 1549-1555.
- Onyike, C. U., Crum, R. M., Lee, H. B., Lyketsos, C. G., & Eaton, W. W. (2003). Is obesity associated with major depression? Results from the third national health and nutrition examination survey. *American Journal of Epidemiology, 158*, 1139-1147.
- Öst, L. (2008). Efficacy of the third wave of behavioral therapies: A systematic review and meta-analysis. *Behaviour Research and Therapy, 46*, 296-321

- Packawskyj, T. R., Matson, J. L., Rush K. S., Smalls, Y., & Vollmer, T. R. (2000). Questions about behavioral function (QABF): A behavioral checklist for functional assessment of aberrant behavior. *Research in Developmental Disabilities, 21*, 223-229.
- Perri, M. G., & Fuller, P. R. (1995). Success and failure in the treatment of obesity: Where do we go from here? *Medicine, Exercise, Nutrition, and Health, 4*, 255-272.
- Pi-Sunyer, F. X. (2002). The obesity epidemic: Pathophysiology and consequences of obesity. *Obesity Research, 10*, 97-104.
- Porter, A. C. & Raudenbush, S. W. (1987). Analysis of covariance: Its model and use in psychological research. *Journal of Counseling Psychology, 34*, 383-392.
- Puhl, R., & Brownell, K. D. (2001). Bias, Discrimination, and Obesity. *Obesity Research, 9*, 788-805.
- Quetclet, L. A. (1869). *Physique Sociule*, vol. 2. Brussels: C. Muquardt.
- Rand, C. S., & Macgregor, A. M. (1991). Successful weight loss following obesity surgery and the perceived liability of morbid obesity. *International Journal of Obesity, 15*, 577-579
- Rausch, J. R., Maxwell, S. E., & Kelly, K. (2003). Analytic methods for questions pertaining to a randomized pretest, posttest, follow-up design. *Journal of Clinical Child and Adolescent Psychology, 32*, 467-486.

- Schauer, P. R., Ikramuddin, S., Gourash, W., Ramanathan, R., & Luketick, J. (2000). Outcomes after laparoscopic roux-en-Y gastric bypass for morbid obesity. *Annals of Surgery, 232*, 515-529.
- Strum, R. (2007). Increases in morbid obesity in the USA: 2000-2005. *Public Health, 121*, 492-496.
- Stuart, R. B. (1967). Behavioral control of overeating. *Behaviour Research and Therapy, 5*, 357-365.
- Stunkard, A. J., Faith, M. S., & Allison, K. C. (2003). Depression and obesity. *Biological Psychiatry, 54*, 330-337.
- Tapper, K. Shaw, C., Ilesley, J., Hill, A. J., Bond, F. W., & Moore, L. (2009). Exploratory randomised controlled trial of a mindfulness-based weight loss intervention for women. *Appetite: Multidisciplinary Research on eating and Drinking, 52*, 396-404.
- Tsai, A. G., & Wadden, T. A. (2005). Systematic review: An evaluation of major commercial weight loss programs in the United States. *Annals of Internal Medicine, 42*, 56-66.
- Twohig, M. P. (2004). *ACT for OCD: Abbreviated treatment manual*. University of Nevada, Reno.
- Twohig, M. P., Hayes, S. C., & Masuda, A. (2006). Increasing willingness to experience obsessions: Acceptance and commitment therapy as a treatment for obsessive-compulsive disorder. *Behavior Therapy, 37*, 3-13.

- Twohig, M. P., & Woods, D. W. (2004). A preliminary investigation of acceptance and commitment therapy and habit reversal as a treatment for trichotillomania. *Behavior Therapy, 35*, 803-820.
- Votruba, S. B., Horvitz, M. A., & Schoeller, D. A. (2000). The role of exercise in the treatment of obesity. *Nutrition, 16*, 179-188.
- Wadden, T. A., & Sarwer, D. B. (1999). Behavior treatment of obesity: New approaches to an old disorder. In D. Goldstein (Ed.). *The management of eating disorders*. (pp. 173-199). Totowa, NJ: Humana.
- Wadden, T. A., & Stunkard, A. J. (1985). Social and psychological consequences of obesity. *Annals of Internal Medicine, 103*, 1062-1067.
- Werneke, U., Goldberg, D. P., Yalcin, I., & Ustun, B. T. (2000). The stability of the factor structure of the general health questionnaire. *Psychological Medicine, 30*, 823-829.
- Wilding, J. P. H. (2007). Treatment strategies of obesity. *Obesity Review, 9*, 137-144.
- Wilson, K. G., Sandoz, E. K., & Kitchens, J. (under review). The valued living questionnaire: Defining and measuring valued action within a behavior framework.
- Wolf, A. M., & Colditz, G. A. (1998). Current estimates of the economic cost of obesity in the United States. *Obesity Research, 6*, 97-106.
- World Health Organization. (2008). Controlling the global obesity epidemic. Retrieved June 22, from <http://www.who.int/nutrition/topics/obesity/en/index.html>

- World Health Organization. (2006). Obesity and overweight. Retrieved June 22, 2008, from <http://www.who.int/mediacentre/factsheets/fs311/en/index.html>
- Wooley, S. C., & Garner, D. M. (1991). Obesity treatment: The high cost of false hope. *Journal of the American Dietetic Association, 91*, 1248-1252.
- Wright, A. F., Perini, A. F. (1987). Hidden psychiatric illness: Use of the general health questionnaire in general practice. *Journal of the Royal College of General Practitioners, 37*, 164-167.
- Zettle, R. D. (2005). The evolution of a contextual approach to therapy: From comprehensive distancing to ACT. *International Journal of Behavioral and Consultation Therapy, 1*, 77-89.
- Zettle, R. D. (2003). Acceptance and commitment therapy vs. systematic desensitization in treatment of mathematics anxiety. *The Psychological Record, 53*, 197-215.
- Zettle, R. D., & Rains, J. C. (1989). Group cognitive and contextual therapies in treatment of depression. *Journal of Clinical Psychology, 45*, 438-445.

## APPENDICES



## APPENDIX A

# PROJECT



## ACT Protocol (8 Week)

Project HEALTH Lab  
Southern Illinois University Carbondale

## Table of Contents

|   |     |
|---|-----|
| Mission Statement.....                          | 73  |
| Protocol Introduction .....                     | 75  |
| References and Resources.....                   | 76  |
| Protocol Outline.....                           | 77  |
| Getting Started (1 <sup>st</sup> Session) ..... | 79  |
| Core ACT Processes                              |     |
| Contact with Present Moment .....               | 83  |
| Acceptance.....                                 | 87  |
| Defusion .....                                  | 94  |
| Self as Context.....                            | 101 |
| Values .....                                    | 106 |
| Committed Action.....                           | 108 |

## **Project HEALTH Mission Statement**

**Healthy Eating. Active Living. Therapeutic Healing.**

Two-thirds of Americans are overweight or obese. We live in a culture which bombards us with an unobtainable notion of beauty along with an ever-growing smorgasbord of unhealthy foods. To combat the resulting obesity crisis we have been offered a myriad of pseudoscientific products which guarantee results and require zero to minimal effort. Unfortunately, these fad diets, weight loss pills, and five-minute-a-day exercise programs serve only to exacerbate the problem by fueling the belief that weight loss should be quick and easy.

Project HEALTH seeks to develop an alternative to these popular weight loss programs. Instead of providing gimmicks or short-term diet and exercise regimens, Project HEALTH is dedicated to building behavioral and psychological skills which an individual can use to reach, and then maintain, a healthy weight throughout his or her life. The core of Project HEALTH's treatment strategy lies in function based contemporary behavior therapies which are designed to increase psychological flexibility and build self-management skills.

Our sole commitment is to improve the lives of people who are overweight or obese. We are not a weight loss clinic. Weight can be a useful measurement of overall progress but it is by no means the only measure. We strive to increase the quality of life of our clients and consider any meaningful behavior change towards healthy living a successful outcome even if it does not result in weight loss. Likewise, we view all of our clients as vital and complete individuals from the moment they walk into our program. We guide our client towards valued

living in the present moment and encourage them to live their desired life now instead of waiting until the weight comes off.

We honor our commitment to our clients by effectively designing, implementing, and evaluating evidence-based protocols. We strive to be extraordinary therapists and acknowledge that training is a lifelong process. We are always open to constructive criticism, new procedures, and different theoretical approaches. We use data to evaluate our success and continuously monitor our treatments. We acknowledge and celebrate our clients' successes but remain humbled by the recognition that we serve only as the catalyst for our clients' own accomplishments.

## Project HEALTH

### ACT 8 Week Protocol Introduction

- Don't believe a word I say.
- This protocol is a guide, not a script. Delivering it verbatim to clients does not ensure success. In fact, doing so will almost assuredly lead to weak therapy.
- The outcome of the process is that the process becomes the outcome. The goal here is moving relevant ACT processes not delivering 8 weeks worth of content.
- Be present with your clients. Stay in the room with them. Do not hide behind the protocol. Being present means being willing to have moments where you have no idea what to do.
- This is a flexible protocol. ACT is build upon the philosophy of functional contextualism. Our criterion for success is what works for the client, not how closely your behavior as therapist corresponds to this manual. Remember that variability is an operant. The name of the game is psychological flexibility.
- Model acceptance. Do not dismiss the client's problems and questions. Never force the client to follow your session agenda.
- Do not buy into literal content. It will hook you! Respond to client statements on a functional level (e.g. "how old is that thought/problem," "and this is in service of?" "did you thank your mind for that thought?," "is this about living or digging?" or the always appropriate "lets take a few moments to really sit with that. What shows up? Thoughts? Feelings? Sensations?").
- When doing the weigh-in be a witness for the client. Honor their experience. Don't dismiss a weight gain or no change, be present with them. Ask them what shows up. Take a moment to really be with whatever shows up in the room.
- Ask for permission before doing exercises or diving into difficult content. Respect your client and their boundaries. This is about their life.
- Always be on the look out for patterns of committed action and reinforce them.

## ACT Protocol References and Resources

This protocol assumes a basic understanding of ACT principles and techniques. It is recommended that you read the core ACT book (**ACT**) and additional texts as desired. This protocol consists primarily of content from the ACT resources listed below. The works are cited throughout the protocol and the bullet pointed exercise text that are attributed to a specific source (i.e. ACT 123) are direct or modified quotations from that source.

- ✓ **(AFAD)**  
Eiffert, G. H., & Forsyth, J. P. (2005). Acceptance and commitment therapy for anxiety disorders: A practitioner's treatment guide to using mindfulness, acceptance, and values-based behavior change strategies. Oakland: New Harbinger Publications.
  - ✓ **(GOOYM)**  
Hayes, S. C. (2005) Get out of your mind and into your life. Oakland: New Harbinger Publications.
  - ✓ **(Practical ACT)**  
Hayes, S., & Strosahl, K. (2004). A practical guide to acceptance and commitment therapy. New York: Springer Science + Business Media.
  - ✓ **(ACT)**  
Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). Acceptance and Commitment Therapy: An experiential approach to behavior change. New York: Guilford Press.
  - ✓ **(Weight ACT)**  
Lillis, J., Hayes, S. C., & Bunting, K. (Unpublished). Obesity stigma and weight management acceptance and commitment therapy treatment manual. University of Nevada, Reno.
  - ✓ **(OCD ACT)**  
Twohig, M. P. (2004). ACT for OCD: Abbreviated treatment manual. University of Nevada, Reno.
- Additional Resources for learning ACT include:
    - ✓ Luoma, J., Hayes, S., & Walser, R. (2007). Learning Act: an Acceptance and Commitment Therapy Skills Training Manual for Therapists. Oakland: New Harbinger Publications.
    - ✓ Twohig, M. P., & Hayes, S. C. (2008). ACT verbatim for depression and anxiety: Annotated transcripts for learning acceptance and commitment therapy. Oakland: Context Press / New Harbinger Publications.
    - ✓ [www.contextualpsychology.com](http://www.contextualpsychology.com)
    - ✓ ACT Summer Institutes and other trainings
    - ✓ ACT and RFT listservs

# Project HEALTH

## ACT Treatment Protocol Outline

### Session Structure

- Week in review
  - Self-Monitoring
  - Goal Tracker
- Weigh-in
- Mindfulness
- ACT
- Set goals for upcoming week

### Getting Started

- Treatment Rationale
- Informed Consent
- Weighing Your History
- The Facts
- The Costs
- Need for Direct Experience
- Mindfulness Exercise
- If my weight wasn't such a problem for me I would . . .

### Contact with Present Moment

- Awareness Exercise
- Leaves on a Stream
- Mindful Eating

### Acceptance

- Chinese finger trap
- How old is this problem?
- Weight loss is easy
- Don't think of a chocolate cake
- 95% - 5% (Control is the Problem)
- Polygraph Metaphor
- Acceptance is the Solution
- Serenity Prayer
- Two Scales Metaphor
- Passengers on the Bus
- Joe the Bum

### Defusion

- The Numbers
- Little Miss Muffet . . .
- Complete the sentence
- I can't stay seated I must stand up

- Bad cup
- 2 Computers
- Milk, Milk, Milk
- I'm having the thought that . . .
- Create your own defusion exercise
- But I have a good reason
- Get off your butts!

### **Self as Context**

- Chessboard Metaphor
- Observer Exercise

### **Values**

- Sweet Spot
- Values vs. Goals
- Values as Choice (Coke vs. 7-up)
- The outcome of the process is that the process becomes the outcome
- Tombstone Epitaph
- VLQ Review

### **Committed Action**

- Willing is like Jumping
- SMART Goals
- Swamp Metaphor
- Path up the Mountain
- Tying it all together



# Project HEALTH

## Getting Started (1<sup>st</sup> Session)

### Treatment Rationale (Weight ACT)

- I am very excited about this therapy and believe it will work in helping you to reach and maintain a healthy weight. I am not a doctor, personal trainer, or nutritionist. I highly recommend that you consult and work with relevant professionals in developing a comprehensive weight loss strategy. I am more than happy to provide you with referrals to any of those services. What I can do is help you work through psychological barriers that have prevented you from achieving your desired weight. I also believe that this treatment will help you live a life that is more vital and important to you.
- This treatment approach has been used to help people quit smoking, control their diabetes, live with pain, stop using drugs and alcohol, and relieve their depression and anxiety. There is a large amount of research that has gone into the development of this approach.

### Informed consent (Weight ACT)

It is important to ask any client for consent before starting a treatment or exercise. Acquiring the consent of the client will make it much more likely that they will wholly participate in the treatment process, instead of being passive observers who simply watch as therapy is being done to them. Asking the client for their consent also allows them to take ownership of the choices they make during therapy, potentially allowing them to be active agents of change during the treatment process. It is also a great way to provide the client an opportunity to willingly experience discomfort in a safe setting.

- Topic 1:
- This is your time, invite you to make a difference
- This is about your life, creating one that is important and vital
- Topic 2:
- Creating a safe place for people to make this whatever they want to
- Confidentiality is VERY important; your privacy will be protected
- Stay in room; stay the whole time
- Topic 3:
- Highly experiential; Challenging and unusual; Confusion is likely. This is not intuitive
- Predictions: (1) Some of this will connect with you, (2) Some if this won't. If it doesn't, I ask you to step into that, stick with it, and see if there is something important there.
- Topic 4:
- If I see you working on something, I will ask for permission to push you a bit

- Push yourself, but do only what you feel ready to do; It's your choice, you set limits. I work for you.
- Everything you want to say in here, say...
- Everything you don't want to say in here, say... (you've probably hit something important)
- Topic 5:
- There are two basic types of language. There is a scientific language which is like a reporter trying to get all the facts. It has to be accurate and objective.
- Then there is language a coach uses, language that works to get the job done (e.g. "float down the field").
- In here, I'll use language to get the job done.

### **Weighing Your History (Weight ACT)**

This move is intended to instill a form of creative hopelessness in the client by having them confront the fact that what they have done before has not worked. By doing so, we attempt to get the clients to realize the futility of what they have tried in the past, and offer them a different approach to weight loss. We do this not to make light of their past efforts, but to prepare them for the difficult journey ahead.

- Chances are that this is not the first time you have taken steps to lose weight.
- What have you tried before? What programs and self-help methods you have tried? Think back, how long have you been struggling?
- Is there a sense that you've put a lot of effort into this?
- [*Work with client through diet, exercise, other techniques, and why they didn't work*]
- [*Look for places to fit these ideas into the discussion of why didn't they work*]
  - ✓ Eating in response to emotions: boredom, sadness, stress, happiness, feeling down
  - ✓ Cravings "take control of me", feeling like you just need to eat
  - ✓ Defining success rigidly/ weight cycling
  - ✓ I messed up, oh well. I will never succeed, so screw it.

### **The Facts (Weight ACT)**

Clients may or may not be aware of the facts about weight loss in the United States, but all of them can tell you about the difficulties they have faced when trying to lose weight on their own. Asking them about the facts of their struggle with weight loss can provide a focus for the initial treatment topics. It can also bring to the surface some issues the clients may have been trying to avoid, and allows the therapist to help the client realize that this treatment process will not be a quick fix.

- You are here because you want to lose weight. Maybe you've already lost some of the weight you've wanted to, maybe not. Maybe you've gained some back, maybe not. If you've struggled with weight at all, however, you face a daunting reality.
- What are the facts that you know about weight loss? What are the facts that you have faced with your struggle with weight loss?
  - Over 80% of people gain back lost weight after 5 years. And it's even worse for fad and crash diets.
  - Successful maintenance is 5-10% loss of initial weight
- This is hard work. There is no simple and easy solution.
- *[Ask the client to sit with these facts for a moment. What thoughts and feelings show up?]*

### **The Cost**

Asking the clients about the costs of their struggle puts into perspective the time and energy they have spent on weight loss, and how their weight has affected the rest of their lives. For some clients, the struggle is something that has consumed a great deal of their resources. Getting them to confront the costs of their weight problem may help them to see how their weight, and particularly their struggle with weight loss, may be diverting them from the pursuit of a more valued life.

- I'm beginning to get a sense of how difficult this has been for you. A sense of how much time and effort you have put into to this struggle with your weight.
- You coming here to see me are just the most recent step in a long struggle.
- I know you're eager for answers and solutions. And believe me I want to help. I want to be of service to you. And I think the best place to start is to really look at the costs of this problem. If you're willing, I'd like to spend some time exploring what your weight and your struggle with your weight have cost you.
- What are the difficulties you have experienced because of your weight and your struggle with your weight? Think not only in terms of your health; but also in terms of family, intimate relationships, work, leisure, and friendships.
- *[The therapist should make sure that this is not a 'mindy' process. Explore the costs with the client. Ask for specific examples. Take some time in these costs and see what feelings/thoughts come up. This should be an emotional process for both the therapist and client, not a cognitive exercise]*

### **Need for Direct Experience**

Some of the clients may be expecting a quick fix, like a diet pill or hypnotherapy to make them eat less and exercise more. The therapist has to let the client know that we offer no such quick fix, and that therapy will more than likely be a difficult process. Clients must be made aware that we do not have all the answers, but we may be able to help them discover things that work for them during the therapeutic process.

- Can I try to be a mind reader for a minute? You're thinking, there are only a few minutes left. Now he/she is going to give me the answer. The solution to this whole mess? Am I right?
- Unfortunately I don't have the solution. I don't have any special diets or exercises. I don't have a magic pill that will take the pounds right off. That's not to say I don't think I can help you. I absolutely think I can be of service to you. And if I didn't, I would let you know right away.
- Our work here is a lot like learning how to ride a bike. I could tell you how its done and maybe even drawn a diagram to explain it to you. But that's not how you learn. Right?
- Exercise: Teach me how to walk (Practical ACT 41)
  - ✓ *Ask the client to teach you to walk without physically moving you. The point of course is that it is impossible. Anything time the client tells you to do something simply ask "how do I do that?"*

### **Mindfulness Exercise (AFAD 125-126)**

#### **If my weight wasn't such a problem for me, I would (GOOYM 14)**

This question asks the client to identify some of the valued directions in which they'd like their lives to go if they weren't caught up in the struggle with weight loss. It may allow both the client and the therapist to identify values that are important to the client, and the therapist can then work on ways to help the client to expand his/her behavioral repertoire in regard to pursuing those values.

- There is one more exercise I'd like to do today if you are willing. I'd like you to imagine that a miracle occurred and you magically lost all the weight you want to lose. What would you do? Be honest with yourself and think about what you really want. Think about what has value to you. Think about what gives your life meaning
- What if our work here could be about those things? About working towards those things here and now instead of waiting until the weight comes off.
- Sure I want to help you to lose weight. And that can be part of what we do here. But I find it hard to get excited just about a number. We can set a goal of x pounds and track your progress each week. And if you want, that is all we can do here. But what about *<examples from what the client wrote down>*. What if we dedicated our work to that? Would you be willing to make our work about having *<more examples>*?

## Project HEALTH

### Contact with Present Moment

Mindfulness exercises are intended to help us (both client and therapist) to be more willing to be present in the moment, and helps us focus on the shared purpose present during therapy. It is often the case that both the client and therapist may be having many different thoughts unrelated to therapy when the session begins. A mindfulness exercise helps to bring the focus back to the present moment, and perhaps to bring to the front some thoughts with which the client has been struggling, but has been trying to push aside. Mindfulness is also an acceptance move that may help the client to realize that the thoughts are present, but do not need to control their lives.

#### **Basic Awareness (AFAD 125-126)**

- If you're willing, I have an eyes closed exercise that I'd like you to try. It will help you be more ready for new experiences and become better at just noticing what you experience. In fact, As long as you're willing, I'd like to start every session with an exercise like this one. Can we give it a try?
  1. Go ahead and get in a comfortable position in your chair. Sit upright with your feet flat on the floor, your arms and legs uncrossed, and your hands resting in your lap. Allow your eyes to close gently [pause about 10 seconds]. Take a couple of gentle breaths: in . . . and out – in . . . and out. Notice the sound and feeling of your own breath as you breath in [pause] and out [pause 10 seconds].
  2. Now turn your attention to being inside this room. Notice any sounds that may occur inside the room [pause] and outside [pause 10 seconds]. Notice how you are sitting in your chair [pause 10 seconds]. Focus on the place where your body touches the chair. What are the sensation there? How does it feel to sit where you sit? [pause 10 seconds]. Next, notice the places where your body touches itself [pause 10 seconds]. Notice the sport where your hands touch your legs. How do your feet feel in the position that they are in [pause 10 seconds]? What sensation can you notice in the rest of your body? If you feel any sensations in your body, just notice them and acknowledge their presence [pause 10 seconds]. Also notice how they may, by themselves, change or shift from moment to moment. Do not try to change them [pause 10 seconds].
  3. Now let yourself be in this room. See if you can feel the investment of you and I in this room – what are we here for [pause 10 seconds]. If you are thinking this sounds weird, just notice that and come back to the sense of integrity in this room. Be aware of the value that you and I are serving by being here [pause 10 seconds].

See if you can allow yourself to be present with what you are afraid of. Notice any doubts, reservations, fears, and worries [pause 10 seconds]. See if you can just notice them, acknowledge their presence, and make some space for them [pause 10 seconds]. You don't need them to go away or work on them [pause 10 seconds].

4. Now see if you can return again to the question of why you are here [pause 10 seconds]? What showed up when you walked into this room [pause 10 seconds]? What is it that you want to get from being here [pause 10 seconds]? Now see if for just a moment you can be present with your values and commitments. Why are you here? Where do you want to go? What do you want to do? [pause 10 seconds]
5. Then, when you are ready, let go of those thoughts and gradually widen your attention to take in the sounds around you [pause 10 seconds] and slowly open your eyes with the attention to bring this awareness to the present moment and the rest of the day.

### **Variations on Awareness**

- Focus on daily activities that got person to this room (waking up, getting ready, driving etc.)
- Focus on some of the paces your mind wanders; thoughts, worries, images, bodily sensations, planning or day dreams.
- Gently congratulate yourself when you notice that you have wandered. Then gently escort your attention back to the sensation of your breath.
- Bring a quality of kindness and compassion to your awareness, perhaps seeing the repeated wanderings of your mind as opportunities to bring patience and gentle curiosity to your experience.
- Use statements from the complete the sentence exercise. Ask the client if they are willing to let whatever shows up show up. Is there enough room for these thoughts etc.?
  - ✓ The best thing about me is . . .
  - ✓ People think that I'm . . .
  - ✓ The worst thing about me is . . .
  - ✓ The feeling I've been struggling the most with is . . .
  - ✓ Little miss muffet sat on a . . .
- Notice the you that is noticing. The you that is always you.
- Return to the question: Why are you here? What do you want your life to be about?
- What more needs to be done? What is showing up, fear? Excitement? Relief?

### **Leaves on a Steam (ACT 159)**

This exercise is good to introduce later on in the therapeutic relationship when the client has acquired basic mindfulness skills.

- ✓ If you are willing, I'd like to start today with a variation of the mindfulness work we have been doing. All I'm going to ask you to do is to think whatever thoughts you think and to allow them to flow, one thought after another. The purpose of the exercise is to notice when there's a shift from looking at your thoughts, to looking from your thoughts.
- ✓ I'd like you to imagine that you are sitting on the bank of a clear mountain stream. As you watch the water flowing down the stream, notice that there are a series of leaves floating by in the stream. On each leaf, there is a sentence written down. If you have a hard time putting thoughts into words, feel free to see images on the leaves instead.
- ✓ Here is the task, simply watch the leaves flow by without stopping them or following them down the stream. You are supposed to just let it flow. It is very unlikely that you will be able to do this, and this is the key part of the exercise. When ever you find that the stream has stopped or if you finding yourself following a thought down the stream, I'd like you to notice that you have wandered off, put that though on a leaf and get the stream moving again.
- ✓ One more thing. If the leaves never start and you begin thinking, "it's not working, or "I'm not having any thoughts" then let that thought be written down on a leaf and send it down the stream.
- ✓ *Use basic awareness exercise to center the client.*
- ✓ Now, when you are ready, take a seat next to the stream. If the leaves stop, or your find yourself floating down the stream, notice it and then get the leaves flowing again.
- ✓ *Allow the client 2-3 minutes to work. Don't underdo it time wise, and use very few words. Try to read the client reaction and other cues, and add a very few comments, as needed e.g. "Just let it flow etc. Don't dialogue with the client. Use a brief awareness exercise client back to the room.*

### **Mindful Eating (GOOYM 112-113)**

While the clients may believe that eating is the cause of their problems, this may not always be true. Overeating, and the functions that sustain overeating, are more accurately the targets of our treatment. One of the functions that have shown up for people who overeat is that they do it to escape from other aversive events, such as stress at home or in the workplace, painful thoughts, and physical exertion. ACT takes the stance that eating is not a bad thing in and of itself, and slowing down and being more mindful of the sensations and processes that occur during the act of eating will allow clients to become more experientially aware of what is happening.

- In many western cultures, and particularly in the United States, we don't pay a great deal of attention to the food we eat.
- In a world where everything is super sized and the burger is king, we tend to think of food as not much more than a necessary factor of survival. We take our food for granted.
- Becoming aware of your eating behavior rather than just rushing through it is an excellent way to bring yourself to the present, to notice you and the you who is noticing.
- Food is not the problem. Eating mindlessly is the problem. Let's practice and really enjoy eating mindfully.
- Exercise: Eating Mindfully
  - ✓ *[use a piece of fruit, or a healthy snack the client brought. Eat with the client]*
  - ✓ Let's really take our time with this. What shows up?
  - ✓ Flavors? Textures? Tastes? Sensations?
  - ✓ Notice the actions you are taking while eating. Each bite, each swallow.
  - ✓ What is coming up in your mind? Thoughts? Feelings? Memories?
- Debrief: Did you ever think you would be eating in weight loss therapy?



## Project HEALTH Acceptance

Acceptance of a thought or feeling does not mean that you are resigned to it. Acceptance of the fact that one has a weight problem does not mean that one is resigned to being overweight for the rest of one's life, or that it should forever stand in the way of one's happiness. Acceptance in this case means acknowledging that one is overweight, and working to move in a valued direction anyway. One who does not accept the problems that come with life can easily slip into experiential avoidance and stray further away from the valued direction in which one wants one's life to go.

### **Chinese finger trap (ACT 105)**

The target here is experiential avoidance and the paradoxical nature of struggle. The more we push away from our unwanted private events (i.e. thoughts, feelings, sensations) the more we become trapped by them. This point can be illustrated several ways (e.g. feeding the tiger, man in the hole, etc.) and becomes especially important when working with clients who self-identify as emotional eaters.

- The situation here is something like those “Chinese handcuffs” we played with as kids. Have you ever seen one? It is a tube of woven straw about as big as your index finger. You push both index fingers in, one into each end, and as you pull them back out, the straw catches and tightens. The harder you pull, the smaller the tube gets and the tighter it holds your fingers. You'd have to pull your fingers out of their sockets to get them out be pulling them once they've been caught. Maybe this situation is something like that. Maybe these tubes are like life itself. There is no healthy way to get out of life, and any attempt to do so just restricts the room you have to move. With this little tube, the only way to get some room is to push your finger in, which makes the tubes bigger. That may be hard to do at first, because everything your mind tell you to do casts the issue in terms of “in and out” not “tight and loose.” But your experience is telling you that if the issue is “in and out,” then things will be tight. Maybe you need to come at this situation from a whole different angle then what your mind tells you to do with your psychological experiences.
- Seems like control doesn't work, but that's what we try to do.
- To deal with difficult thoughts and feelings, you begin to live your life to accommodate your thoughts and feelings and your life becomes narrower and narrower, less flexible.
- Your life becomes increasingly more about trying to not think or feel a certain way, or not coming into contact with painful thoughts, emotions, bodily sensations, or memories.

- So maybe what we need is to get outside the box a bit. Do something different, do something counter-intuitive.
- Maybe we need to push-in.

### **How old is this problem? (Weight ACT)**

This is a creative hopelessness move that is often useful early in treatment. It points out that some of the ways in which we have approached weight loss, particularly from a problem-solving perspective, may not have worked as well for us as it might have in other areas of our lives.

- Think of a thought or a feeling you have about yourself and your weight that you do not like.
- *[Possible examples]*
  - ✓ I worry about or hate the way I look
  - ✓ Feeling embarrassed
  - ✓ Feeling hopeless, like there's nothing I can do
  - ✓ Feel like I'm out of control sometimes
- Ask yourself, was this an issue for me last month? Six months ago? A year? 5 years? 10 years? 20 years?
- Exactly how old is this problem?
- Sometimes our deepest concerns lurk in the background for years and years.
- Seems odd, as a species, we humans are pretty good at fixing and controlling things.
- But maybe normal methods of problem solving, fix it, get rid of it, don't work so well with psychological stuff. Maybe that's the case. How long have some of those things been hanging around? Check with your experience and write some of these thoughts and feelings down.

### **Weight loss is easy (Weight ACT)**

This exercise is useful in directing clients towards the role private events play in their struggle with their weight.

- Weight-loss is really easy.
- What really happens is that we consume a certain amount of calories, we burn a certain amount, we store energy, and our body takes a certain shape
- When language gets thrown on top of that, you get "I'm ugly, weak, a bad person, I have no self control, others look down on me, think I'm lazy, I'm unlovable"
- Feelings of sadness, depression, anxiety.
- Spend much time thinking or worrying a lot about being overweight, losing control of eating, what other people think of you.
- And these thoughts, feelings, sensations, urges, etc... can come up at any time, without warning.
- What do we do to get rid of that "bad stuff." Eat.

- Kind of a raw deal.

### **Don't think of a chocolate cake (ACT 124)**

Some clients may believe that controlling their thoughts is the first step to weight loss. For example, someone might say, "I need to have the motivation to do this," or, "I need to control my thoughts and cravings about food and I'll be able to lose weight." We approach this from the perspective that control itself is part of the problem, and attempting to control one's thought before making changes in one's life is ultimately an impossible goal. The metaphor of the chocolate cake is intended to demonstrate the futility of attempting to control one's thoughts.

- Suppose I tell you right now that I don't want you to think about something. I'm going to tell you very soon. And when I do, don't think it even for a second. Here it comes. Remember, don't think of it. Don't think of . . . a warm chocolate cake! You now how it smells when it first comes out of the oven . . . don't think of it! That taste of the chocolate icing when you bite into the first warm piece . . . Don't think of it! As the warm moist piece crumbles and crumbs fall to the plate . . . Don't think of it! It's very important; don't think about any of this!
- Well. How did you do? You may be able to suppress in short-term, but it soon appears more often and with more intensity.
- When you try to not think of something, you create a verbal rule: "Don't think of X." Problem is, that rule contains "X" in it, so it will tend to bring "X" to mind. Make sense?

### **Polygraph Metaphor (ACT 123)**

We have previously illustrated that controlling our feelings and thoughts is largely an exercise in futility. Using the polygraph metaphor, we can help the client to see that it is perhaps more fruitful to focus on his/her willingness to change, rather than attempting to control thoughts before change can occur.

- Suppose I had you hooked up to the best polygraph machine that's ever been built. This is a perfect machine, the most sensitive ever made. When you are all wired up to it, there is no way you can be aroused or anxious without the machine knowing it. So I tell you that you have a very simple task here: All you have to do is stay relaxed. If you get the least bit anxious, however, I will know it. I know you want to try hard, but I want to give you an extra incentive, so I also have a .44 Magnum, which I will hold to your head. If you just stay relaxed, I won't blow your brains out, but if you get nervous (and I'll know it because you're wired up to this perfect machine), I'm going to have to kill you. So just relax! What do you think would happen?
- Now think about this. If I told you, vacuum the floor or I'll shoot you, you'd vacuum the floor. If I said, paint the house or I'll shoot you, you'd be painting. That's how the world outside the skin works. But when I say relax or I'll shoot you, not only will it not work, it's the other way around.

The very fact that I would ask you do to this would make you damn nervous. The tiniest bit of anxiety would be terrifying. You'd naturally be saying, "oh my gosh, I'm getting anxious! Here it comes! BAMMM!

- How does this fit your experience?
- What does this mean for what you've been struggling with?

### **95% vs. 5% (Weight ACT & ACT)**

- 95% of the time human language and the fix it control agenda work beautifully
- Almost everything we see in here wouldn't be here without human language and human rationality. The chair. The lights. The air conditioning/heating. That computer. And so on. So we are warm, it won't rain on us, we have light – in regard to the stuff nonhumans are struggling with, we pretty much have it made. You give a dog or cat all this stuff – warmth, food, social simulation – and it is about as happy as it knows to be. But what about us. Humans are the only species that committee suicide. We can be miserable in conditions any other animal would be happy in.
- There is an operating rule for things outside the skin that works great: If you don't like something, figure out how to get rid of it and get rid of it. And that rule works fine in most of our life. But consider the possibility – just consider it – that that rule does not work in the world between your ears. That last little bit of human existence a pretty important part because is where life satisfaction lies, but it is only a small proportion of our total lives. That rule, the control agenda, works horribly in the last 5% of life. In your experience, not in your logical mind, look and see whether it's not like this:
  - ***If your not willing to have it you've got it***

### **Acceptance is the solution. (Weight ACT)**

- Accepting your experiences (even the unwanted ones) is helpful, deserved, and necessary. You really cannot escape your experience and you deserve to have permission to have it.
- What if it were the case that in order to live a healthy, vital, meaningful, and satisfying life you needed to give up trying to control your internal thoughts and feelings before you could move in the direction you want to go?
- I DO NOT mean tolerate, or resign yourself to
- The opposite of effortful control
- There are things you can control: what you put in your body, how much sleep and exercise you get, etc...
- You are Response-able (able to respond)
- There are things you cannot: how you feel or what you think from moment to moment

### Serenity Prayer

- Grant me the serenity to accept the things I cannot change; courage to change the things I can and wisdom to know the difference.
- Goal of acceptance is to invite all your experiences in, without struggling with them, like you are a big warehouse that can fit everything that shows up. Plenty of room.
- Maybe in order to lose weight you have to be willing to grow.

### Two Scales Metaphor (ACT 133-134)

Often clients will be stuck to the belief that they need the motivation to change. That as soon as the motivation is there, weight-loss will come. In fact, many of our clients come into our clinic hoping that we can give it to them. This exercise is used to provide an alternative for the client who has to be motivated.

- Imagine there are two scales, like the volume and balance knobs on a stereo. One is right out here in front of us and it is called motivation. It can go from 0 to 10. When you first came in here, you came with the stance: “I’m not happy with my weight and I can’t lose weight because I’m just don’t just have the motivation.” In other words, you’ve been trying to pull the pointer up on this scale (*the therapist can model trying to reduce the motivation scale*). But now there’s also another scale. It’s been hidden. It is hard to see. The other scale can also go from 0- to 10 and what we have been doing here so far is preparing a way so that we can see this other scale. We’ve been bringing I around to look at it. It’s really the more important of the two, because it is this one that makes the difference and it is the only one that you can control. So what is this scale called?
- Exactly, Willingness. It measures how open you are to experiencing your own experience when you experience it – without trying to manipulate it, avoid it, escape it, change it, and so on. When motivation is down here at 0, and you’re trying really hard to feel motivated then your willingness scale is set at zero. And that’s a terrible combination. If motivation is low and you are unwilling to do anything unless motivation is high then you are stuck. Break out the shovel.
- So let’s focus on the willingness scale. Unlike the motivation scale, which you can’t move at will, the willingness scale is something you can set anywhere. It is not a reaction – a feeling or a thought- it is a choice. You’ve had it set low. You came here with it set low. So what we have been working on is getting ready to get it set high. If you do this, if you set willingness high, I can guarantee you what will happen to motivation. I’ll tell you exactly what will happen, and you can hold me to this as a solemn promise. If you stop trying to control your motivation, your motivation will be low – or it will be high. I promise you! Hold me to it. And when it is low it will be low, until it’s not low, and then it will be high and when it is high it will be high, until it isn’t high anymore. Then it will be low again.
- I’m not teasing you. There just aren’t good words for what it is like to have the willingness scale set high – these strange words are as close as I can get. I can say one thing for sure, though, and your experience says the

same thing – if you want to know for certain where the motivation scale will be, then there is something you can do. Just set willingness very, very low and sooner or later when your motivation wanes, you can be sure that your struggle to kick start it will keep it low. It will be very predictable. All in the name of getting it high. If you move the willingness scale up, then motivation is free to move. Sometimes it will be low, and sometimes it will be high, and in both cases you will keep out of a useless and counter-productive struggle that can lead only in one direction.

### **Passengers on the Bus (ACT 157)**

Passengers on the bus is an acceptance exercise that physicalizes thoughts and attempts to show how the interaction with them, or lack thereof, can present barriers to success. The point of the exercise is to show that, while some of the thoughts may be unwelcome, they are passengers on the bus anyway, and the client may expend all his/her energy ignoring them without much success, if he/she chooses not to accept them.

- *[When conducting this exercise be sure to use salient barriers as the passengers on the bus. Ask the client to come up with some, and feel free to put other passengers on the bus the client might face. Just don't exceed your therapeutic contract, make sure they are willing.]*
  - ✓ There is one more exercise I'd like to try if you are willing. I'd like you to imagine that you are driving a bus. On this bus there a whole bunch of passengers. The passengers are thoughts, feelings, bodily states, emotions, and other aspects of experience. And just like on the chessboard, some of them are scary, and they're dressed up in black leather jackets and they have switchblade knives. Others are really nice and pleasant.
  - ✓ Now you know exactly where you want the bus to go. You know the sign that sits on the front of the bus and route it is on, well your bus says *<insert the core values the client has chosen>*. And sure enough you are heading in exactly the right direction.
  - ✓ Then what happens is as you are driving along some of the passengers start threatening you, telling you what you have to do, where you have to go. *[bring in one of the core barriers as a passenger. Make is vivid e.g. "Hunger comes up to the front and demands that you stop the bus right now! There's a <insert clients favorite restaurant> one mile back and I have to eat Now!" Feel free to play the role of the passenger. Push as far as the client will allow; make the passenger threatening. Then ask the client if they are willing to have that passenger on the bus. Can they make room for him? Is he welcome? Can he sit right up front?*
  - ✓ *[really spend some time with the passenger. Make him real. Use touch as a symbol of acceptance if appropriate.]*

- ✓ Now notice which way you are heading. Right where you want to go. And notice that your passenger is still there, chattering away. You could make him shut up, it's easy, but what is the cost?
- ✓ *[Repeat the exercise with more passengers as needed]*

### **Joe the Bum (ACT 240)**

Acceptance is easily embraced in the abstract. But what happens if a really ugly, big, mean thought shows up. Then what? Forgot about Joe the plumber, it's time to introduce the client to Joe the bum.

- I want you to imagine that you got a new house and you invited all the neighbors over to a housewarming party. Everyone in the whole neighborhood is invited – you even put a sign up in the supermarket. So all the neighbors show up, the party's going great, and here comes Joe – the –Bum, who lives behind the supermarket in the trash dumpster. He's really stinky and smelly, and you think, "Oh no, why did he show up?" But you did say on the sign, "Everyone's welcome." Can you see that it's possible for you to welcome him, and really, fully, do that without liking that he's here? You can welcome him even though you don't think well of him. You don't have to like him. You don't have to like the way he smells, or his lifestyle, or his clothing. You may be embarrassed about the ways he's dipping onto the punch or the finger sandwiches. Your opinion of him, your evaluation of him, is absolutely distinct from your willingness to have him a guest in your home.
- You could also decide that even though you said everyone was welcome, in reality Joe is not welcome. But as soon as you do that the party changes. Now you have to be at the front of the house, guarding the door so he can't come back in. Or if you say, "OK, you're welcome," but you don't really mean in, you only mean that he's welcome as long as he stays in the kitchen and doesn't mingle with the other guests, then you're going to have to be constantly making him do that and your whole party will be about that. Meanwhile, life's going on, the party's going on, and you're off guarding the bum. It's just not life enhancing. It's not much like a party. It's a lot of work. What the metaphor is about, of course, is all the feelings and sensations that show up that you don't like; they're just more bums at the door. The issue is the posture you take in regard to your own stuff. Are the bums welcome? Can you choose to welcome them in, even though you don't like the fact that they came? If not, what's the party going to be like?

## Project HEALTH Defusion

We are very often fused to thoughts that we hold to be “true,” such as ‘I must have motivation before I can exercise’ or ‘I haven’t got enough time to bother losing weight.’ When we hold on to those thoughts (fusing to them), we anchor ourselves down and prevent ourselves from moving forward. Defusion moves help us to recognize that thoughts are just thoughts, and do not necessarily have to control our lives. We may not have control over our thoughts, and it may be that the thoughts come unbidden. However, we can recognize that thoughts do not control our behavior, and we can move in valued directions despite the psychological noise that we experience.

### **The Numbers (ACT 126)**

The following exercises are intended to highlight how deeply the problem of control runs. From a very young age, we are shaped by our verbal community to form specific verbal relational frames. While these verbal networks are necessary, they may also contribute to the problem of control, and the suffering that a client experiences. For example, a client may form the relational frame that being fat = being undesirable, and may derive that he/she is undesirable without it being directly trained. The numbers exercise illustrates how easily these networks can be formed, and how quickly they can come to control our behavior.

- Suppose I came up to you and said, I’m going to give you three numbers to remember. It is very important that you remember them, because several years from now I’m going to tap you on the shoulder and ask, what are the numbers? If you can answer, I’ll give you a million dollars. So remember, this is important. You can’t forget these things. They’re worth a million bucks. OK. Here are three numbers: Ready? One . . . two . . . three. Now – what are the numbers?
- Good. Now don’t forget them. If you do it’ll cost you a lot. What are they?
- [Ask a few more times, e.g. are you sure you can remember them? etc.]
- Now if you really did believe me (actually I lied) it’s quite likely that you might remember these silly numbers for a long time. Isn’t that ridiculous? I mean, just because some head-shrinker wants to make a point here, you might go around for the rest of your life with “One, two three.” For no reason that has anything to do with you. Just an accident, really. The luck of the draw. You’ve got me as a therapist, and next thing you know you have numbers rolling around in your head for who knows how long. What are the numbers?
- Right. And once they are in your head, they aren’t leaving. Our nervous system works by addition, not by subtraction. Once stuff goes in, it’s in. Check this out. What if I say to you that it’s very important that the numbers are not one, two, three. OK? So I’m going to ask you about the numbers and I want you to answer in a way that has absolutely nothing to



do with one, two, three. OK? Now, what are the numbers? [client answers x, y, z] And did you do what I asked you? Did you meet the goal I set? Let me ask it this way: How do you know [x, y, z] is a good answer. *[push until client acknowledges that the only way to know x, y, z is right is because it is not 1, 2, 3,]*

- Exactly, So [x, y, z] still has to do with one, two, three and I asked you not to do that. Let's try again. Think of anything except one, two, three. Make sure your answer is absolutely unconnected to one, two, three.
- It's impossible. I can't do it either. The nervous system works only by addition unless you get a lobotomy or something; [x, y, z] is just adding to one, two, three; one, two, three is in there, and these numbers aren't leaving. When you're 80 years old, I could walk up to you and say, "What are the numbers?" and you might actually say "one two three" simply because some dope told you to remember them! But it isn't just one, two, three. You've got all kinds of people telling you all kinds of things. Your mind has been programmed by all kinds of experiences.

### **Little Miss Muffet**

The exercise focuses on our "programming," our verbal history. It also encourages flexibility in response repertoires and can easily be combined with other exercises. For example, as a variation on the numbers [i.e. Mary had a little (anything but lamb)].

- Seems a lot of this stuff gets programmed in. (ACT 144)
  - ✓ We can't go back and rewrite our past. Attachment to the programming that we have accumulated throughout our histories can greatly amplify the relevance of our history to the present.
  - ✓ *Ask for emotionally difficult event in childhood. Take a moment to honor the experience, see what comes up in the room. Ask what did they take from that experience: How does the world work? What did you conclude about yourself? Others? Do you sometimes notice that these thoughts are in your parent's voice or are connected to things people told you?*
  - ✓ If you are nothing more than your reactions, you are in trouble. Because you didn't choose what they would be, you can't control what shows up, and you have all kinds of reactions that are silly, mean, loathsome, scary, and so on. You'll never be able to win at this game.
- Mary had a little..., There's no place like..., Little Miss Muffet sat on a . . .
- Do you even know what a tuffet is? When's the last time you've thought about a tuffet? Yet there it is, automatically when you hear little Miss Muffet. Isn't this absurd?

### **Complete the sentence**

This exercise highlights the automatic nature of our mind by encouraging clients to recognize thoughts that "pop" into their heads. This can be an especially

powerful exercise if it is used correctly: try to direct the client towards more difficult content but remember to get consent first. It is often beneficial if the therapist completes the exercise as well.

- If you are willing I'd like to try something. I'm going to start a sentence and I'd like you to write the end of the sentence (whatever pops up in your head) on a note card. I'll write down my reactions too. OK?
  - ✓ People think that I'm...
  - ✓ The hardest thing for me to deal with is...
  - ✓ The best thing about me is that I'm...
  - ✓ I wish I was...
  - ✓ The worst thing about me is that I'm...
- What do you think about this?

### **I can't stay seated I must stand up! (Credit to Hank Robb)**

- So do we really have to buy every thought we have? Who is in charge here, you or your mind?
  - ✓ I cannot walk over to the door and back! *Have clients repeat this thought several times out loud, then have them walk to the door and back while saying it aloud. I cannot stay seated I must stand up! Have client repeat this thought several times out loud while remaining seated.*

### **Bad Cup (Weight ACT & ACT)**

- Willingness should be easy. But there is a problem. Our minds are very tricky.
- The "word generating machine" Non-stop, automatic, 24/7.
- Categorize, predict, explain, compare, worry, judge, evaluate
- We can evaluate anything.
  - ✓ [pick out some objects in the room and evaluate them e.g. wow those are cheap curtains, you think the university could afford a real plant right, etc.]
- Bad cup Metaphor (ACT 153)
  - ✓ There are things in our language that draw us into needless psychological battles, and it is good to get a sense of how this happens so that we can learn to avoid them. One of the worst tricks language plays on us is in the area of evaluations. For language to work at all, things have to be what we say they are when we're engaging in the kind of talk that is naming and describing. Otherwise, we couldn't talk to each other. If we describe something accurately, the labels can't change until the form of that event changes. If I say, "Here is a cup," I can't then turn around and claim it isn't a cup but instead it is a race car, unless I somehow change the cup. For example, I could mash it into raw materials and use it as part of a posts car. But without a change in

form, this is a cup (or whatever else we agree to call it) – the label shouldn't change willy-nilly.

- ✓ Now consider what happens with evaluative talk. Suppose a person says, "This is a good cup," or "This is a beautiful cup." It sounds the same as if that person were saying, "This is a ceramic cup," or "this is an 8-ounce cup." But are they really the same? Suppose all the living creatures on the planet die tomorrow. This cup is still sitting on the table. If it was "a ceramic cup" before everyone died, it is still a ceramic cup. But is it still a good cup or a beautiful cup? Without anyone to have such opinions, the opinions are gone, because good or beauty was never in the cup, but instead was in the interaction between the person and the cup. But notice how the structure of language hides this difference. It looks the same, as if "good" is the same kind of description as "ceramic." Both seem to add information about the cup. The problem is that if you let good be that kind of descriptor, it means that good has to be what the cup is, in the same way that ceramic is. That kind of description can't change until the form of the cup changes. And what if someone else says, "No, that is a terrible cup!" If I say it is good and you say it is bad, there is a disagreement that seemingly has to be resolved. One side has to win, and one side has to lose: both can't be right. On the other hand, if "good" is just an evaluation or judgment, something you're doing with the cup rather than something that is in the cup, it makes a big difference. Two opposing evaluations can easily coexist. They do not represent some impossible state of affairs in the world, such as the cup is both ceramic and metallic. Rather, they reflect the simple fact that events can be evaluated as good or bad, depending on the perspective taken. And, of course, it is not unimaginable that one person could take more than one perspective. Neither evaluation needs to win out as one concrete fact.

## **2 Computer Exercise (Practical ACT 195)**

- Imagine that there are two computers, side by side, that are identical in all details – same software, same data, same machine. Imagine that what is on the screen of both is a frightening image: say a picture of the walls of the room melting. In one case the operator of the computer is sitting close, and has forgotten that what he [fit gender to client] is seeing is even on a computer screen. In the second case, the operator of the computer is sitting back it is quite clear that this is just something on the screen. Which operator do you think will be more frightened by that image – which one will work harder to change it?
- Where are you sitting?
- The mind is like fish in a fishbowl. No perspective.

### **Milk, milk, milk (ACT 154)**

- Let's do an exercise. I'm going to say a word, then you tell me what comes to mind. I want you to say the word "milk." Say it once.
- What comes to mind when you say that?
- [*draw out images, taste, sensations, sounds e.g. glug glug, cold, creamy, coats your mouth etc.*]
- OK, so let's see if this fits. What shot through your mind were things about actual milk and your experience with it? All that happened is that we made a strange sound – *milk* – and lots of these things showed up. Notice that there isn't any milk in this room. None at all. But milk was in the room psychologically. You and I were seeing it, tasting it, feeling it – yet only the word was actually here. Now, here is the exercise, if you're willing to try it. The exercise is a little silly, so you might feel a little embarrassed doing it, but I am going to do it with you so we can be silly together. What I am going to ask you to do is to say the word "milk," out loud, rapidly, over and over again, and then notice what happens. Are you willing to try it?
- [*say milk with client rapidly for at least one minute. provide periodic encouragement or direction e.g. good keep going, say it louder, etc.*]
- What happened to the psychological aspects of milk that were heard a few moments ago?
- Right. The creamy gulgy stuff just goes away. The first time you said it, it was as if milk were actually here, in the room. But all that really happened was that you said a word. The first time you said it, it was really meaningful, it was almost solid. But when you said it again and again and again, you began to lose that meaning and the words began to be just a sound.
- The same is true when you say things to yourself, thoughts. In addition to meaning sustained by the relation between those words and other things, isn't it also true that these words are just words? There isn't anything solid in them.

### **I'm having the thought that . . . (Weight ACT)**

- What is a thought you've had about yourself that seems so real?
- We don't notice that thoughts are thoughts. Almost never.
- Labeling what it is "I am having the thought that vs. I am X"

### **Create your own Defusion Exercise**

These exercises can be used to future move defusion processes with clients. Be sure to use client relevant thoughts in the exercises. Have fun.

- Sing it out
- Defusion Opera
- Silly voices
- Sound it out
- Buying a thought
- Who is in charge here?

- Put thoughts out there / physicalizing
- Thank your mind for that
- <insert your own here>

### **But I have a good reason (ACT 164)**

- *Ask client to give an example of something they “should” have done last week but didn’t do, or did when they “shouldn’t” have. Try bringing focus to weight loss behavior e.g. not exercising or breaking a diet. Have the client give you reasons for their action. Ask them to make up some fake reasons e.g. I didn’t have time, I deserved a break, I was forced to eat etc.*
- *Then ask for reasons to behave the opposite way in which they did.*
- Do you suppose for any reason for doing/not doing x, you could also come up with a reason for not doing/doing x. What if it’s the case that we just have this infinite storehouse of reasons that we can draw on for whatever we do? Could it be? And could it be that although these things go together a lot, doing and giving reasons for doing, that one doesn’t really cause the other? My guess is that you have been trying to generate enough reasons, really good ones, in order to cause yourself to lose weight. Isn’t it really true that you’ve got some really powerful reasons to lose weight? Why else would you be here doing this therapy? You have great reasons. Could you imagine any stronger reasons than *<insert a value from session one>*?
- So isn’t this suspicious? You believed that you do this and that for x and y reasons. But here we just uncovered two pieces of evidence that this isn’t how it works. One is that we seem to have an unlimited supply of reasons and two; you’ve already got about the most powerful reasons imaginable.
- *Take a moment to debrief this with a client. How much time have they spend on reasons? How did they learn to give reasons? Tie it back to programming during childhood. Could it be the reasons are just another way of digging?*

### **Get off your butts (ACT 167 and Practical ACT 285)**

- *Introduce this exercise with a but statement the client has made (e.g. if it’s okay, I’d like to spend a few minutes talking about something you said earlier: I want to exercise, but I’m just too tired. If no but statements come to mind, ask the client to make one: “why haven’t you done x” will often bring up a but statement.*
- I’d like to talk about the word but for a moment. It’s a funny little word that can draw us into a struggle with our thoughts and feeling because it pits one set of thoughts and feeling against another. But literally means that what follows the word contradicts what went before the word. It originally came from the words “be out.” When we use it we often say, in effect, “this private event be out that private event. It’s literally a call to fight, so it’s no wonder that it pulls us into the war zone. Lets consider some examples.

- Here's one. "I wanted to exercise, but I was really tired." Here's another, "I know I shouldn't have had that dessert, but I've had a bad day." Notice that although they both say, "This be out that", what the person actually experiences in both cases is two things: this and that. The "be out" part isn't a description of what happened – its proscription about how private events should work. It's an evaluation, just like the bad cup. This is exactly what we are trying to back out of. No one experienced that two private experiences had to be resolved; instead, two private experiences were experienced. If the word but is replaced by the word and, it is almost always much more honest.
- So in our examples, it is much more honest and direct to say "I wanted to exercise AND I was really tired" or "I shouldn't have had that dessert AND I'm having a bad day."
- So what I would like us to do here is to adopt a verbal convention. We are going to get off our butts and use the word "and" when we talk. It keeps us out of a needless struggle with words and it is a lot more honest.

## Project HEALTH Self as Context

Part of the goal of ACT is to help the client recognize that he/she is not his/her thoughts. Rather, he/she is the context in which his/her thoughts occur, and thoughts can come and go while the basic person remains. Using the following metaphors, we attempt to illustrate this point and allow clients to directly experience a space where this is felt.

### Chessboard metaphor (ACT 190-191)

- Imagine a chessboard that goes out infinitely in all directions. It's covered with black pieces and white pieces. They work together in teams, as in chess – the white pieces fight against the black pieces. You can think of your thoughts and feelings and beliefs as these pieces; they sort of hang out together in teams, too. For example, “bad” feelings (like anxiety, depression, resentment) hang out with “bad” thoughts and “bad” memories. Same things with the good ones.
- So it seems that the way the game is played is that we select the side we want to win. We put the “good” pieces (like thoughts that are self-confident, feeling of being in control, etc.) on one side, and the “bad” pieces on the other. Then we get up on the back of the white horse and ride to battle, fighting to win the war against anxiety, depression, weight, whatever. It's a war game. But there's a logical problem here, and that is that from this posture huge portions of yourself are your own enemy. In other words, if you need to be in this war, there is something wrong with you. And because it appears that you're on the same level as these pieces, they can be as big or even bigger than you are – even though these pieces are in you.
- So somehow, even though it is not logical, the more you fight the bigger the pieces get. If it is true that “if you are not willing to have it, you've got it” then as you fight these pieces they become more central to your life, more habitual, more dominating, and more linked to every area of living. The logical idea is that you will knock enough of them off the board that you eventually dominate them—expect that your experience tells you that the exact opposite happens.
- Apparently, the black pieces can't be deliberately knocked off the board. Sure you can knock them down for a while but they come back just as menacing as ever [*work with the clients to list out experiential avoidance strategies*]. So the battle goes on. You feel hopeless, you have a sense that you can't win, and yet you can't stop fighting. If you're on the back of the white horse, fighting is the only choice you have, cause the black pieces seem life threatening. Yet living in a war zone is no way to live.
- *Work with the client to label some black and white pieces. What is it like down there fighting?*

- Now let me ask you to think about this carefully. In this metaphor, suppose you aren't the chess pieces. Who are you?
- *[use techniques on ACT 191-192 to bring clients attention to the board]*
- It's useful to consider yourself the board in this metaphor. Without a board, these pieces have no place to be. The board holds them. For instance, what would happen to your thoughts if you weren't there to be aware that you thought them? The pieces need you. They cannot exist without you – but you contain them, they don't contain you. Notice that if you're the pieces, the game is very important; you've got to win, your life depends on it. But if you're the board, it doesn't matter whether the war stops or not. The game may go on, but it doesn't make any difference to the board. As the board, you can see all the pieces, you can hold them, you are in intimate contact with them; you can watch the war being played out in your consciousness, but it doesn't matter. It takes no effort.
- Are you willing to stop fighting a war?
- What does it mean to be at board level?

### **Observer Exercise (ACT 193-195)**

It is difficult to explain what it is like to recognize yourself as separate from your thoughts without using the very programming (language, intellectually “getting it”) that we are trying to detach from. This exercise provides the framework for creating a space where the client can contact self as context experientially. Aspects of this exercise can be incorporated into shorter length awareness exercises throughout treatment.

- We are going to do an exercise now that is a way to experience that place where you are not your programming. There is no way anyone can fail at the exercise; we're just going to be looking at whatever you are feeling or thinking, so whatever comes up is just right.
- Close your eyes, get settled into your chair, and follow my voice. If you find yourself wandering, just gently come back to the sound of my voice. For a moment now, turn your attention to yourself in this room. Picture this room. Picture yourself in this room and exactly where you are. Now begin to go inside you skin and get in touch with your body. Notice how you are sitting in the chair. See whether you can notice exactly the shape that is made by the parts of your skin that touch the chair. Notice any bodily sensations that are there. As you see each one, just sort of acknowledge that feeling and allow your consciousness to move on. Now notice any emotions you are experiencing, and if you have any, just acknowledge them. Now get in touch with your thoughts and just quietly watch them for a few moments, treat them as if they were leaves on a stream. Now I want you to notice that as you noticed these things, a part of you noticed them. You noticed those sensations . . . those emotions . . . those thoughts. And that part of you we will call the observer you. There is a person there, behind those eyes, who is aware of what I am



saying right now. And it is the same person you've been your whole life. In some deep sense, this observer you is the you that you call you.

- I want you to remember something that happened last summer. Raise your finger when you have an image in mind. Good. Now just look around. Remember all the things that were happening then. Remember the sights . . . the sounds . . . your feelings . . . and as you do that, see whether you can notice that you were there then, noticing what you were noticing. See whether you can catch the person behind your eyes who saw and heard, and felt. You were there then, and you are here now. I'm not asking you to believe this. I'm not making a logical point. I am just asking you to note the experience of being aware and check and see whether it isn't so that in some deep sense the you that is here now was there then. See whether you can notice the essential continuity – in some deep sense, at the level experience, not of belief, you have been you your whole life.
- I want you to remember something that happened when you were a teenager. Raise your finger when you have an image in mind. Good. now just look around. Remember all the things that were happening then. Remember the sights . . . . the sounds . . . your feeling . . . take your time. And when you are clear about what was there, see whether you can, just for a second, catch that there was a person behind your eyes then who saw, and heard, and felt all of this. You were there then too, and see whether it isn't true – as an experienced fact, not a belief- that there is an essential continuity between the person aware of what you are aware of now and the person who was aware of what you were aware of as a teenager in that specific situation. You have been you your whole life.
- Finally, remember something that happened when you were a fairly young child, say, around age 6 or 7. Raise your finger when you have an image in mind. Good. Now just look around again. See what was happening. See sights . . . hear the sounds . . . feel your feeling . . . and then catch the fact that you were there, seeing, hearing, and feeling. Notice that you were there behind your eyes. You were there then, and you are here now. Check and see whether is some deep sense the you that is here now was there then. The person aware of what you are aware of is here now and was there then.
- You have been you your whole life. Everywhere you've been, you've been there noticing. This is what I mean by the "observer you." And from that perspective or point of view, I want you to look at some areas of living. Let's start with your body. Notice how your body is constantly changing. Sometimes it is sick, and sometimes it is weak. It may be rested or tired. It may be strong or weak. It may be big or small. After all, you were once a tiny baby. You may have even had parts of your body removed, as in an operation. Your cells have died, and not all the cells in your body now were there when you were a teenager, or even last summer. Your bodily sensations come and go. Even as I am speaking, they have changed. So if all this is changing and yet the you that you call you has been there your

whole life, that must mean that although you have a body, as a matter of experience and not of belief, you do not experience yourself to be just your body. So just notice your body now for a few moments, and as you do this, every so often notice that you are the one noticing [pause].

- Now let's go to another area: your roles. Notice how many roles you have or have had. Sometimes you are in the role of a [fit these to the client, e.g. mother . . . or a friend . . . or a daughter . . . sometimes you are a respected worker . . . other times you are a leader . . . or a follower, etc.] In the world of form you are in some role all the time. If you were to try not to, then you would be playing the role of not playing a role. Even now part of you is playing a role . . . the client role. Yet all the while, notice that you are also present. The part of you you call you is watching and aware of what you are aware of. And in some deep sense, that you does not change. So if your roles are constantly changing, and yet the you that you call you has been there your whole life, in must be that although you have roles, you do not experience yourself to be your roles. Do not believe this. This is not a matter of belief. Just look and notice the distinction between what you are looking at and the you who is looking.
- Now let's go to another area: emotions. Notice how your emotions are constantly changing. Sometimes you feel love and sometimes hatred, sometimes calm and then tense, joyful – sorrowful, happy – sad. Even now you may be experiencing emotion – interest, boredom, relaxation. Think of things you have liked and don't like any longer; of fears that you once had that now are resolved. The only thing you can count on with emotions is that they will change. Although a wave of emotion comes, it will pass in time. Yet while these emotions come and go, notice that in some deep sense that "you" does not change. It must be that although you have emotions, you do not experience yourself to be just your emotion. Allow yourself to realize this as an experienced event, not as a belief. In some very important and deep way you experience yourself as a constant. You are you through it all. So just notice your emotions for a moment and as you do , notice also that you are noticing them [pause].
- Now let's turn to a most difficult area. Your own thoughts. Thoughts are difficult because they tend to hook us and pull us out of our role as observer. If that happens, just come back to the sound of my voice. Notice how your thoughts are constantly changing. You used to be ignorant – then you went to school and learned new thoughts. You have gained new ideas and new knowledge. Sometimes you think about things one way and sometimes another. Sometimes your thoughts may make little sense. Sometimes they seemingly come up automatically, from out of nowhere. They are constantly changing. Look at your thoughts even since you came in today, and notice how many different thoughts you have had. And yet in some deep way the you that know what you think is not changing. So that must mean that although you have thoughts, you do not experience yourself to be just your thoughts. Do not believe this. Just notice it. And notice, even as you realize this, that your stream of

thoughts will continue. And you may get caught up in them. And yet, in the instant that you realize that, you also realize that a part of you is standing back, watching it all. So now watch your thoughts for a few moments – and as you do, notice also that you are noticing them [pause].

- So, as a matter of experience and not of belief, you are not just your body . . . your roles . . . your emotions . . . your thoughts. These things are the content of your life, whereas you are the arena . . . the context . . . the cheeseboard . . . the space in which they unfold. As you see that, notice that the things you've been struggling with and trying to change are not you anyway. No matter how this war goes, you will be there, unchanged. See whether you can take advantage of this connection to let go just a bit, secure in the knowledge that you have been through it all and that you need not have such an investment in all this psychological content as a measure of your life. Just notice the experiences in all the domains that show up, and as you do, notice that you are still here, being aware of what you are aware of [pause]. Now again picture yourself in this room. And now picture this room. Picture [describe the room]. And when you are ready to come back into the room, open your eyes.
- *Debrief with the client. Do not analyze or interpret. What was experienced. Is there a sense of calm, tranquility even though some difficult content was present.*
- There is one other thing that the board, as a board, can do other than hold the pieces. It can take a direction, regardless of what the pieces are doing at the time. It can see what is there, feel what is there, and still say, "Here we go!"

## Project HEALTH Values

Values are a core component of ACT, and represent ideals that are important to the client. Values are more than just goals (e.g. getting a degree, landing a good job), and may indeed never be fully achieved (e.g. wanting to help people, wanting to be a good parent). They are directions in life in which we want to move, even if we are not currently doing so.

### Sweet Spot (Kelly Wilson)

- What if you could have your life be about what you want it to be about right now?
- When is the last time you felt comfortable your own skin?
- Help me understand you? What matters to you? Help me be of service?
- Why are you here? What could this be about?

### Values vs. Goals

- Directions (ACT 209)
  - ✓ Values are like directions on a compass.
  - ✓ You can never accomplish them yet they give life direction and meaning.
  - ✓ Values are use to evaluate your actions.

### Values as Choices

- Values are not feelings
- Values are chosen. They cannot be evaluated. They are not reasons. They are perfect.
- Choices (values) are made with reasons (our mind hates being unemployed, it always has something to say) but they are not made for reasons.
- Exercise: Coke vs. 7-up (Practical ACT 50)
  - ✓ *[Have the client choose which one is their favorite drink and then ask them why, repeatedly to each reason given]*
  - ✓ *[Highlight that choosing in an act made with reasons, but not for reasons]*

### The outcome of the process is that the process becomes the outcome

- Process, not outcomes, not goals (ACT 209)
  - ✓ Getting degree vs. continued education. The process of skiing vs. getting to the lodge. Getting married vs. being in love. Being healthy vs. losing 10 pounds.
  - ✓ Emphasis on the process not outcomes. The process is the outcome. Living a vital meaningful life.

### **Tombstone Epitaph (GOYM 170)**

- When people are buried, an epitaph is often written. They say things like, “Here lies Sue. She loved her family with all her heart.”
- If this headstone was yours, what inscription would you like to see on it. How would you most like your life to be characterized? This is neither a description nor a prediction, it is a hope; an aspiration. This is for you. What would you like your life to stand for.
- *[When they are finished. Have them read the epitaph aloud. Be a witness, honor their value. Try drawing parallels to the values they gave in the first session. Notice how the text does not read, “here lies x, she spend her whole life struggling to lose weight]*

### **Valued Living Questionnaire Review**

- *[Spend time with client in each domain. Be present.]*
- *[Make sure that these values are the clients own; not for others. If suspicious ask questions such as “if no one knew that you were working on this, if nobody would ever see the results, would you still do it? or “does that statement really ring true or is it really more a matter of being a good boy or girl” (GOOYM 175)]*
- *Spend some time with this. After all, this is the point where the client is laying everything out there. Be a witness for them. This could be a big moment in their life.*
- Values clarification – review the stated values in all domains
- Action and goal specification – list out concrete goals and actions that are consistent with these values
- Barrier clarification – list barriers to these actions

## Project HEALTH Committed Action

To move in our valued directions, we often have to commit to a course of action. Without the commitment to performing specific actions, there can be no movement toward a valued direction in life.

### Willingness is like jumping (ACT 241)

- Willingness is like jumping. You can jump off lots of things. [Therapist takes a book and places it on the floor and stands on it, then jumps off]. Notice that the quality of jumping is to put yourself in space and then let gravity do the rest. You don't jump in two steps. you can put your toe over the edge and touch the floor, but that's not jumping. [Therapist puts one toe on the floor while standing on the book]. So jumping from this little book is still jumping. And it is the same action as jumping from higher places. [Therapist gets up on a chair and jumps off.]
- Now this is jumping too, right? Same quality? I put myself out into space, and gravity does the rest. But notice, from here I can't really put my toe down very well. Now if I were to jump off the top of this building, it would be the same things. The jump would be identical. Only the context would have changed. But from there it would be impossible to try to step down.
- There is a Zen saying, "You cannot jump a canyon in two steps." Willingness is like that. You can limit willingness by limiting the context or situation. You get to choose the magnitude of your jump. What you can't do is limit the nature of your action and still have it work. Reaching down with you toe is simply not jumping. What we need to do here is jump: we can start small, but is has to be jumping form the very beginning or we won't be doing anything fundamentally useful. So this is not about learning to be comfortable, or grit- your – teeth diets, or gradually changing habits. This is about learning how to be willing.
- What are you willing to do?
- [*Have the client jump from the book as a sign of their commitment*]

### SMART goals (Russ Harris)

- **Specific:** specify the actions you will take, when and where you will do so, and who or what is involved. Example of a vague or non-specific goal: "I will spend more time with my kids." A specific goal: "I will take the kids to the park on Saturday to play baseball." A non-specific goal: "I will be more loving towards my wife." A specific goal: "I will ring my wife at lunchtime and tell her I love her."
- **Meaningful:** The goal should be personally meaningful to you. If it is genuinely guided by your values, as opposed to following a rigid rule, or trying to please others, or trying to avoid some pain, then it will be meaningful. If it lacks a sense of meaning or purpose, check in and see if it is really guided by your values.

- **Adaptive:** Does the goal help you to take your life forwards in a direction that, as far as you can predict, is likely to improve the quality of that life?
- **Realistic:** The goal should be realistically achievable. Take into account your health, competing demands on your time, financial status, and whether you have the skills to achieve it.
- **Time-bound:** to increase the specificity of your goal, set a day, date and time for it. If this is not possible, set as accurate a time limit as you can.

### **Swamp Metaphor (ACT 248)**

- Suppose you are beginning a journey to a beautiful mountain you can clearly see in the distance. No sooner do you start the hike than you walk right into a swamp that stands as far as you can see in all direction. You say to yourself, “Gee, I didn’t realize that I was going to have to go through a swamp. It’s all smelly, and the mud is all mushy in my shoes. It’s hard to lift my feet out of the muck and put them forward. I’m wet and tired. Why didn’t anyone tell me about this swamp?” When this happens, you have a choice; abandon the journey or enter the swamp. This therapy was like that. Life is like that. We go into the swamp, not because we want to get muddy, but because it stands between us and where we are going.

### **Path up the Mountain (ACT 222)**

- Now suppose you get out of the swamp and you start the hike up the mountain. You know how mountain trails are constructed, especially if the slopes are steep. They wind back and forth; often they have switchbacks which make you literally walk back and forth; and sometimes a trail will even drop back to below a level you had reached earlier. If I asked you at a number of points on such a trail to evaluate how well you are accomplishing your goal of reaching the mountaintop, I would hear a different story each time.
- If you were in switchback mode, you would probably tell me that things weren’t going well, that you were never going to reach the top. If you were in stretch of open territory where you could see the mountain top and the path leading up to it, you would probably tell me things were going very well.
- Now imagine that we are across the valley with binoculars, looking at people hiking on this trail. If we were asked how they were doing, we would have a positive progress report every time. We would be able to see that the overall direction of the trail, not what it looks like at a given moment, is the key to progress. We would see that the crazy, winding trail was always heading in exactly the right direction.

**Tying it all Together (ACT 246)**

- FEAR
  - ✓ Fusion with your thoughts
  - ✓ Evaluation of your experiences
  - ✓ Avoidance of your experiences
  - ✓ Reason giving for your behavior
- ACT
  - ✓ Accept your reactions and be present
  - ✓ Chose a valued direction
  - ✓ Take action





Client ID

**Project HEALTH**

Day/Week

Healthy Eating Active Living Therapeutic Healing  
Daily Self Monitoring Log

**Food**

| Meal      | What you had | Extremely Unhealthy | Unhealthy | Somewhat Unhealthy | Somewhat Healthy | Healthy | Extremely Healthy |
|-----------|--------------|---------------------|-----------|--------------------|------------------|---------|-------------------|
| Breakfast |              | 1                   | 2         | 3                  | 4                | 5       | 6                 |
| Lunch     |              | 1                   | 2         | 3                  | 4                | 5       | 6                 |
| Dinner    |              | 1                   | 2         | 3                  | 4                | 5       | 6                 |
| Snack     |              | 1                   | 2         | 3                  | 4                | 5       | 6                 |

**Exercise**

| Activity | Duration (minutes) | Extremely Moderate | Moderate | Somewhat Moderate | Somewhat Intense | Intense | Extremely Intense |
|----------|--------------------|--------------------|----------|-------------------|------------------|---------|-------------------|
|          |                    | 1                  | 2        | 3                 | 4                | 5       | 6                 |
|          |                    | 1                  | 2        | 3                 | 4                | 5       | 6                 |
|          |                    | 1                  | 2        | 3                 | 4                | 5       | 6                 |

**Thoughts**

1. How intense were your thoughts and urges to eat unhealthy foods?

1 2 3 4 5 6 7  
Not at all Intense Somewhat Intense Extremely Intense

2. How believable were your thoughts and urges to eat unhealthy foods?

1 2 3 4 5 6 7  
Not at all Believable Somewhat Believable Extremely Believable

3. How intense was your struggle with your thoughts and urges to eat unhealthy foods?

1 2 3 4 5 6 7  
Not at all Intense Somewhat Intense Extremely Intense

4. How much control did you have over your eating?

1 2 3 4 5 6 7  
No Control Some Control Complete Control

5. To what degree was what you did part of a vital, workable way of living?

1 2 3 4 5 6 7  
Not at all Workable Somewhat Workable Extremely Workable

## APPENDIX C

## Eating Functional Assessment

| Never | Almost<br>Never | Seldom | Half the<br>Time | Usually | Almost<br>Always | Always |
|-------|-----------------|--------|------------------|---------|------------------|--------|
| 0     | 1               | 2      | 3                | 4       | 5                | 6      |

1. \_\_\_\_ I like to eat with my friends or family and make it a social event.
2. \_\_\_\_ I often eat when I feel stressed or anxious because it helps me relax.
3. \_\_\_\_ I enjoy life more when food is involved.
4. \_\_\_\_ I find myself trying to impress my friends with how much I can eat.
5. \_\_\_\_ I like big holiday meals because I get to visit and catch up with friends and family.
6. \_\_\_\_ I enjoy the social aspects of eating, such as being with my friends or being around other people who are having a good time.
7. \_\_\_\_ I eat alone because interacting with others can interfere with the joy I get from eating.
8. \_\_\_\_ If I go on an eating binge, I am able to find comfort from other people who help me deal with my guilt.
9. \_\_\_\_ I tend to eat more junk food when others offer it to me.
10. \_\_\_\_ I find myself slowing down and really taking the time to enjoy what I am eating.
11. \_\_\_\_ I like the taste, texture, and the smells that accompany my favorite unhealthy foods.
12. \_\_\_\_ I like going out to eat with my friends even if the food isn't that good because I enjoy their company.
13. \_\_\_\_ I often eat when I am feeling depressed or sad because it makes me feel better.
14. \_\_\_\_ When I am really enjoying a meal I don't pay much attention to how much I eat.
15. \_\_\_\_ Food relieves my loneliness.
16. \_\_\_\_ Food takes my mind off of issues I don't want to think about.
17. \_\_\_\_ If I fail at something I turn to food for comfort.

## Eating Functional Assessment (Page 2)

| Never | Almost<br>Never | Seldom | Half the<br>Time | Usually | Almost<br>Always | Always |
|-------|-----------------|--------|------------------|---------|------------------|--------|
| 0     | 1               | 2      | 3                | 4       | 5                | 6      |

18. \_\_\_\_ Overeating or eating junk food makes me feel guilty so I eat more to avoid the guilt.
19. \_\_\_\_ Eating helps me calm down after an argument.
20. \_\_\_\_ When I am bored, I eat to pass the time.
21. \_\_\_\_ I find myself getting a rush and feeling excited when I eat.
22. \_\_\_\_ When I eat, I become so focused on eating that I become unaware of my surroundings.
23. \_\_\_\_ I enjoy going out to eat with others because of the good times I have with them.
24. \_\_\_\_ I avoid the healthier menu selections at restaurants because they don't taste as good as the unhealthy items.
25. \_\_\_\_ Healthy foods and snacks don't taste as good as unhealthy foods.
26. \_\_\_\_ When people offer me unhealthy foods I eat them because I don't want to hurt or offend them.
27. \_\_\_\_ I find it difficult to stop eating my favorite foods even when I know they are bad for me because they taste so good.
28. \_\_\_\_ I prefer to be alone when I eat so that nobody else will know how much I am eating.
29. \_\_\_\_ I find myself eating more than I usually do when I am with friends or family.
30. \_\_\_\_ I eat to take a break from work or other difficult tasks.
31. \_\_\_\_ I am more likely to overeat when I am eating my favorite foods.
32. \_\_\_\_ I rely on food as a source of comfort during times of sadness, anxiety, or stress.
33. \_\_\_\_ I look forward to dinner time primarily because I get to spend time with people I care about.
34. \_\_\_\_ Eating healthy would mean I would have to give up most of the foods that taste the best.

## Eating Functional Assessment (Page 3)

| Never | Almost<br>Never | Seldom | Half the<br>Time | Usually | Almost<br>Always | Always |
|-------|-----------------|--------|------------------|---------|------------------|--------|
| 0     | 1               | 2      | 3                | 4       | 5                | 6      |

35. \_\_\_\_ I find myself making more unhealthy choices than usual when I am dining with family or friends.

36. \_\_\_\_ Even if I make unhealthy food choices I can always count on a friend or loved one to help me through this difficult time.

**I tend to make unhealthy food choices when (check all that apply):**

- \_\_\_\_ I am traveling long distances
- \_\_\_\_ I have been watching cooking shows
- \_\_\_\_ I am eating a snack out of its original container
- \_\_\_\_ I am planning to exercise during that day
- \_\_\_\_ My first meal or snack of the day is unhealthy
- \_\_\_\_ I have skipped a meal sometime during the day
- \_\_\_\_ The food is sitting in front of me
- \_\_\_\_ I am dieting
- \_\_\_\_ I am going to start a diet soon
- \_\_\_\_ I have finished a difficult task
- \_\_\_\_ I am full but there is food left on my plate
- \_\_\_\_ It is late at night and only fast food restaurants are open
- \_\_\_\_ I am too tired to cook
- \_\_\_\_ I am at a birthday party or celebrating some other special occasion
- \_\_\_\_ A restaurant unveils a new food item

## Eating Functional Assessment (Page 4)

\_\_\_\_\_ I see an advertisement for a restaurant or food item

\_\_\_\_\_ I am really busy

\_\_\_\_\_ I have been consuming alcoholic beverages

\_\_\_\_\_ I am on vacation

\_\_\_\_\_ Other (please specify) \_\_\_\_\_

\_\_\_\_\_ Other (please specify) \_\_\_\_\_



## Treatment Satisfaction Survey (Page 2)

9. As of today, how close do you feel you are to living a valued healthy life?

1      2      3      4      5  
Not at all close                      Very Close

10. How successful do you think you will be in continuing/maintaining the progress you made during treatment?

1      2      3      4      5  
Not Successful                      Very Successful

11. Would you recommend this therapy to a person struggling with eating and weight management?

1      2      3      4      5  
Definitely Not                      Definitely



## VITA

Graduate School  
Southern Illinois University

Michael J. Bordieri

Date of Birth: August, 7 1983

47 Hillcrest Dr., Carbondale, Illinois 62901

University of Illinois at Urbana-Champaign  
Bachelor of Science in Psychology, May 2005

Thesis Title:

Generating Sustainable Weight Loss: Investigating the Efficacy of a Behavioral Based Weight Loss Intervention

Major Professor:

Dr. Mark R. Dixon

Publications:

Bordieri, M. J., Bordieri, J. E., & Dixon, M. R. (2008). Video golf and gambling: The impact of monetary wagers on performance. *The Analysis of Gambling Behavior*, 2, 149-155.