

8-2010

Initial development of a healthy living curriculum within family behavior therapy for substance abuse

Holly B. LaPota
University of Nevada, Las Vegas

Follow this and additional works at: <https://digitalscholarship.unlv.edu/thesesdissertations>



Part of the [Clinical Psychology Commons](#)

Repository Citation

LaPota, Holly B., "Initial development of a healthy living curriculum within family behavior therapy for substance abuse" (2010). *UNLV Theses, Dissertations, Professional Papers, and Capstones*. 853.
<https://digitalscholarship.unlv.edu/thesesdissertations/853>

This Thesis is protected by copyright and/or related rights. It has been brought to you by Digital Scholarship@UNLV with permission from the rights-holder(s). You are free to use this Thesis in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself.

This Thesis has been accepted for inclusion in UNLV Theses, Dissertations, Professional Papers, and Capstones by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.

INITIAL DEVELOPMENT OF A HEALTHY LIVING CURRICULUM WITHIN
FAMILY BEHAVIOR THERAPY FOR SUBSTANCE ABUSE

by

Holly Beth LaPota

Bachelor of Science
Emporia State University
2006

A thesis submitted in partial fulfillment of
the requirement for the

**Master of Arts in Psychology
Department of Psychology
College of Liberal Arts**

**Graduate College
University of Nevada, Las Vegas
August 2010**

Copyright by Holly B. LaPota 2010
All Rights Reserved



THE GRADUATE COLLEGE

We recommend that the thesis prepared under our supervision by

Holly Beth LaPota

entitled

**Initial Development of a Healthy Living Curriculum within Family
Behavior Therapy for Substance Abuse**

be accepted in partial fulfillment of the requirements for the degree of

Master of Arts in Psychology

Brad Donohue, Committee Chair

Daniel N. Allen, Committee Member

Cortney S. Warren, Committee Member

Chad Cross, Graduate Faculty Representative

Ronald Smith, Ph. D., Vice President for Research and Graduate Studies
and Dean of the Graduate College

August 2010

ABSTRACT

Initial Development of a Healthy Living Curriculum within Family Behavior Therapy for Substance Abuse

by

Holly Beth LaPota

Dr. Bradley Donohue, Examination Committee Chair
Associate Professor of Psychology
University of Nevada, Las Vegas

A mother referred for child maltreatment and substance abuse treatment after her son tested positive for methamphetamines at birth participated in an in-home Family Behavior Therapy-Healthy Lifestyle intervention to eliminate substance use, improve parenting behaviors, lose weight, and develop better exercise habits. Twenty sessions were completed in 6 months that targeted familial communication, self-control, goal setting with contingency management, job getting skills, and stimulus control techniques. Upon termination from treatment, the participant's self-report and urine testing was consistent with substance cessation, and she evidenced substantial improvements in her level of stress, family communication and relationships, and child maltreatment potential. She was able to maintain her weight, and body mass index, and reported engaging in more frequent healthy behaviors. Further, the participant reported more satisfaction with her appearance. Validity indices were mixed with some indicating the participant may have been attempting to present herself favorably.

ACKNOWLEDGEMENTS

A special thanks to Sally K. Miller, PhD, APN, FAANP and Associate Professor, UNLV School of Nursing for her efforts in completing the initial in-home health evaluation/physical for the current participant was of great benefit for the current study. Also my thesis committee members, Dr. Allen, Dr. Cross, and Dr. Warren for their invaluable advice throughout the process and Dr. Donohue, my committee chair, for his support in helping to make the current project a success.

On a personal note, my husband, Paul, deserves mention as an integral part in my accomplishments to date. The constant support from him and the remainder of my family are much appreciated.

This research was supported by a grant from the National Institute on Drug Abuse (1R01DA020548-01A1) awarded to Brad Donohue.

TABLE OF CONTENTS

ABSTRACT	iii
ACKNOWLEDGEMENTS	iv
CHAPTER 1 INTRODUCTION	1
CHAPTER 2 REVIEW OF RELATED LITERATURE.....	4
Relationship Between Substance Abuse and Child Maltreatment.....	6
Relationship Between Child Maltreatment, Substance Abuse, and Obesity	8
Behavioral Treatments for Obesity	16
Behavioral Treatments for Substance Abuse.....	33
Behavioral Treatments for Child Neglect.....	40
Need to Address Obesity, Substance Abuse and Child Neglect Concurrently.....	45
CHAPTER 3 METHODOLOGY	49
Participant	49
Procedures.....	50
Measures	52
Treatment Sessions	58
CHAPTER 4 FINDINGS OF THE STUDY	65
Case Introduction.....	65
Background and History of Presenting Complaint	65
Pre-Treatment Assessment Results.....	66
Case Conceptualization.....	71
Course of Treatment and Assessment of Progress.....	72
Monthly Indicators of Progress.....	80
Post Treatment Assessment and Results.....	83
CHAPTER 5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	90
Complicating Factors.....	90
Treatment Implications of the Case	92
Recommendations to Clinicians and Students.....	94
REFERENCES	97
APPENDIX TABLES.....	128
VITA.....	134

CHAPTER 1

INTRODUCTION

Treatment consumers experiencing maltreatment during childhood evidence significantly more eating binges, fatigue, obesity, and decreased physical activity relative to women without childhood maltreatment (Springer, Sheridan, Kuo, & Carnes, 2003). Indeed, victims of child neglect are at an increased risk for low self-esteem and heightened anxiety, leading to eating disorders in late adolescence and adulthood (Kennedy, Ip, Samra, & Gorzalka, 2007). Immediate health consequences of child neglect include delayed growth and malnourishment (Olivan, 2003). Within child maltreatment populations, substance abuse is considered a primary health concern, and is associated with a number of health risks, including poor dietary nutrition, higher caloric intake, avoidance of pleasurable activities, and problems with appetite (Confrancesco et al., 2007; Gold & Miller, 1997; Rodondi, Pletcher, Liu, Hulley, & Sidney, 2006; Van Etten, Higgins, Budney, & Badger, 1998). Therefore, unhealthy lifestyles are likely to be present when substance abuse and child maltreatment co-exist in families.

Cognitive-behavioral interventions targeting children, adults, and families have demonstrated efficacy in improving dietary behaviors and increasing physical activity. As compared with control groups, goal setting, psycho-education, stimulus control, social support, relaxation training, and contingency management appear to offer the greatest relative benefits in weight loss. However, the outcome literature appears to indicate that when behavioral interventions for obesity are compared, one treatment approach does not emerge as superior in efficacy (Franzini & Grimes, 1980; Andersen et al., 1999). Positive treatment outcomes have also been indicated in several behavioral and family-

based interventions targeting drug abuse, as well as, child neglect. Given that both substance use and child neglect are associated with poor health, it would seem cost-effective to incorporate health interventions within existing evidence-based treatments for drug abuse and child neglect.

To explore this hypothesis further, an initial feasibility case study was conducted in a middle-aged mother referred for child neglect and substance abuse. Interestingly, this participant reported that her methamphetamine use often occurred because she was anxious about weight gain upon cessation of this substance. Evidence-based weight loss interventions were implemented within the context of Family Behavior Therapy for substance abuse and child neglect to determine the feasibility of this approach. Initial results from this case study indicated that the participant found the interventions helpful for her family and some initial progress towards her therapeutic goals. Additionally, the participant's weight was maintained during an extended period of drug cessation.

The current study involved the development and evaluation of a healthy living component within Family Behavior Therapy (see favorable reviews by Carroll & Onken, 2005; Waldron & Turner, 2008), including treatment of child neglect and drug abuse, and HIV prevention. This healthy living intervention emphasized psychoeducation, contingency contracting, stimulus control, self-control, scheduling family physical activity, and seeking health promoting jobs. In this endeavor, an existing evidence-based treatment manual for substance abusing women who have neglected their children was modified to concurrently address obesity and poor nutrition in the family. The manual was initially tested in simulated role-play scenarios with counselors. Subsequent to these role-play scenarios, counselors engaged in brainstorming sessions to enhance its ease of

use and utility. Finally, the manual was tested in an uncontrolled case study with a 35-year old Latina mother of seven children who was referred for substance abuse treatment after her son was born drug exposed to methamphetamine. The participant had a Body Mass Index (BMI; see Footnote ¹) score of 32 and volunteered to participate in the healthy lifestyle intervention based on her desire to achieve her pre-pregnancy body. Further, her adolescent children were obese and she wanted to model a healthy lifestyle for them.

Upon conclusion of treatment, as compared with pre-treatment, the participant was able to maintain her weight, body shape, and body fat percentage and became more aware of dieting techniques and self-control with regards to eating behaviors. She maintained her weight throughout the study. Further, she reported that she and her family were engaging in healthy lifestyle behaviors including, avoiding fried foods, exercising, and eating from all food groups, more frequently. Other measures indicated that the participant had an increased satisfaction with her current life, her family relationships had improved, her stress level decreased, and her home was a safer and more stimulating environment for the family.

¹ Body Mass Index (BMI) is a measure of body fat that is based off of height and weight.

CHAPTER 2

REVIEW OF RELATED LITERATURE

As will be extensively reviewed below, victims and perpetrators of child maltreatment frequently evidence life threatening health concerns. The onset of some health concerns occurs years after child maltreatment has occurred, whereas other concerns occur immediately. Springer, Sheridan, Kuo, and Carnes (2003) reported that treatment consumers experiencing maltreatment in their childhood are at an increased risk for eating binges, fatigue, physical activity, and obesity. Kennedy, Ip, Samra, and Gorzalka, (2007) determined that child neglect results in lowered self-esteem and heightened anxiety, both of which predict eating disorders later in life. There are also immediate health consequences of child neglect, as victims of child abuse or neglect are often malnourished or are physically delayed upon first contact with child welfare workers (Olivan, 2003).

Substance abuse is often considered a chief health concern among perpetrators of child maltreatment, and victims of child maltreatment are at increased risk to suffer substance abuse during late adolescence and adulthood. Indeed, in a sample of 967 opioid-dependent treatment consumers, 68 and 78 percent of males and females respectively had a history of child neglect while 65 and 68 percent of males and females respectively experienced a history of 2 or more types of maltreatment (Conroy, Degenhardt, Mattick, & Nelson, 2009). Similar to child maltreatment, substance abuse is associated with poor dietary nutrition, higher caloric intake, avoidance of pleasurable activities (e.g., hiking, gardening, going to church, talking with children, planning vacations) and problems with appetite (Confrancesco et al., 2007; Gold & Miller, 1997;

Rodondi, Pletcher, Liu, Hulley, & Sidney, 2006; Van Etten, Higgins, Budney, & Badger, 1998). However, the effects of substance use on weight vary with regard to severity of use and type of substance.

Family-based stimulus control and contingency contracting have been shown to demonstrate positive outcomes in both child neglect and drug abuse, but these interventions have yet to be tested in these populations concurrently. Indeed, although obesity is grossly overrepresented in child maltreatment (i.e., BMI increases steadily in adulthood with experience of more forms of maltreatment in childhood; Pederson & Wilson, 2009) and substance abuse (i.e., approx. 25% with co-occurring substance use and binge eating disorder; Grilo, White, & Masheb, 2009), no interventions have been found to concurrently address these problem behaviors in controlled trials. Thus, it is unknown if stimulus control and contingency management are viable options in the concurrent treatment of obesity and substance abuse. Therefore, this proposal involves the controlled development and evaluation of stimulus control and contingency management strategies for obesity within a family behavior therapy program that has demonstrated efficacy in substance abusing women who have been identified to neglect their children. In this endeavor, an existing evidence-based treatment manual for substance abusing women who have neglected their children was modified to concurrently address obesity within the immediate family. The manual was initially tested in simulated role-play scenarios with counselors. Subsequent to these role-play scenarios, counselors engaged in brainstorming to enhance the manual's ease of use and utility. Finally, the manual was tested in an uncontrolled case study involving a substance abusing mother and her neglected children. It was expected that the resulting

intervention would reduce substance use and body mass index, and increase physical activity, satisfaction with appearance, and decrease child maltreatment potential through improved communication and increased amount of time spent together.

Relationship Between Substance Abuse and Child Maltreatment

The American Psychiatric Association (2000) defines substance abuse as a maladaptive pattern of substance use that leads to clinically significant impairment or distress within the year that is apparent by failure to fulfill major role obligations, use in physically hazardous situations, legal problems, or use despite persistent or recurrent social or interpersonal problems. Substance dependence is more severe, and often marked by tolerance, withdrawal, use over longer periods of time than intended, persistent desire or unsuccessful efforts to cut down or control use, spending time in activities necessary to obtain, use, or recover from the substance, reduction of important social, occupational, or recreational activities, or continued use despite having persistent physical or psychological problems.

Approximately 3.7 million persons over the age of 12 years were classified as dependent on, or abusing, illicit drugs within the past year. The prevalence of drug use varies based on type of substance, age of the treatment consumer, occupation, income and other factors, but generally 9.5 percent of youths (12-17 years old), 19.7 percent of young adults (18-25 years old), and 5.8 percent of adults (26 years old and above) are currently using illicit substances (Substance Abuse & Mental Health Services Administration, 2008).

When substance use is present other problem behaviors such as child maltreatment are often comorbid. Leeb, Paulozzi, Melanson, Simon, and Arias (2008) provide

guidelines in understanding child maltreatment. In general, physical abuse includes intentional or unintentional physical injury or harm to a child. Neglect includes failure of the child's caregiver to provide needed, age-appropriate physical, emotional, medical/dental, or educational needs. Psychological or emotional abuse refers to behavior that conveys that the child is flawed, endangered, unwanted, unloved, or not valued. These covert forms of harm may not be readily apparent upon visual inspection, as in the case of physical abuse.

With regard to prevalence of these forms of abuse, approximately 3.3 million referrals to Child Protective Services (CPS) for child maltreatment are estimated to occur annually (U. S. Department of Health and Human Services, 2006). Perhaps more astonishing, approximately 4 children die every day as a result of child abuse or neglect in the United States, and within the past decade there has been about an 8 percent increase in child deaths identified to be due to abuse or neglect while other forms of societal violence have decreased (Peddle, Wang, Diaz, & Reid, 2002). Child abuse and neglect is the second leading cause of death, with neglect accounting for the majority of child maltreatment cases. Indeed, as indicated by the U. S. Department of Health and Human Services (2006), approximately 64 percent of victims of child maltreatment suffer from neglect, and about 41 percent of all deaths due to child maltreatment. More than 70 percent of child fatalities due to maltreatment involve some form of neglect. Parents are the perpetrators in nearly 75 percent of child fatalities involving neglect, and parents are perpetrators in almost 80 percent of all child abuse or neglect incidents.

When parents are diagnosed with a substance use disorder potential for child abuse is of utmost concern. When compared with non-drug using controls, parents with a

substance use disorder, have significantly higher abuse scale scores on the Child Abuse Potential Inventory (Ammerman, Kolko, Kirisci, Blackson, & Dawes, 1999). Jaudes, Ekwo, and Voorhis (1995) reported mothers who abuse drugs are two to three times more likely to be reported for child maltreatment than mothers who do not use drugs. Locke and Newcomb (2003) reported that child maltreatment and substance use co-occur in approximately one third of all child maltreatment cases. When substance abuse and child maltreatment do co-occur it creates more parental dysfunction and a greater need for treatment aimed at decreasing substance use and increasing parenting skills.

Relationship Between Child Maltreatment, Substance Abuse, and Obesity

Rising medical costs and the need for universal health care reform have led to an increased interest in healthy living. In 2001 to 2002, almost 66 percent of adults were overweight or obese (Hedley et al., 2004). Additionally, 31.5 percent of children between 6 to 19 years old were at risk for obesity or at least, being significantly overweight. The Behavioral Risk Factor Surveillance System coordinated by the Centers for Disease Control and Prevention obtained data from telephone surveys between the years of 1991 and 2000 regarding obesity. Throughout the 1990s all states reported increases in the prevalence of obesity (Nelson et al., 2002). Only 33 percent of adults were considered at a healthy Body Mass Index during the years 2001 to 2002 (i.e., between 18.5 to 24.9; Hedley et al., 2004).

Physical activity is associated with a number of health benefits, including, lowered risk of cardiovascular disease, lowered blood pressure, and prevention of obesity (Buemann & Tremblay, 1996; Fung et al., 2000; Havranek, 1999; Jessup, Lowenthal, & Pollock, 1998; Miller, Balady, & Fletcher, 1997). Despite these apparent health benefits,

a great percentage of adults fail to maintain a healthy level of physical activity. Technological advances, such as televisions, computers, and video games are thought to have contributed to significant declines in physical activity of children. For instance, Bassett et al., (2007) studied physical activity in youths within an Amish farming community without technological advances, Amish boys averaged 17,174 steps per day and Amish girls averaged 13,620 steps per day. There was a lower incidence of obesity within their communities. In similar past research, Amish adult men and women averaged 18,425 and 14,196 steps per day, respectively (Bassett, Schneider, & Huntington, 2004). The amount of steps per day in Amish communities without technological advances is nearly 3 times the amount reported by Tudor-Locke et al. (2004) in a sample of American adults averaging 5931 steps per day. When US children were surveyed regarding their episodes of vigorous activity and television watching the majority (80 percent) reported performing at least 3 bouts of vigorous activity each week (Andersen, Crespo, Bartlett, Cheskin, & Pratt, 1998). However, it is unclear what the children actually considered “vigorous” activity. Further, approximately 26 percent of those children reported watching more than 4 hours of television per day (Andersen et al., 1998). Children who reported watching more than 4 hours of television each day evidenced greater amounts of body fat and a greater BMI than those who watched less than 2 hours of television per day. Thus, there is an increased need to target television viewing as a main factor in childhood obesity. Ozdemir and Yilmaz (2008) found schoolyards designed for playing ball games and adequate space for a wide range of activities were associated with lower BMI in school aged children. They also found an association between lowered BMI and children walking to and from school. Thus,

targeting environmental influences contributing to sedentary behavior may result in decreased BMI in children.

Economic status can also influence childhood obesity. Families in which child maltreatment has been identified are overrepresented in low-income communities, and may present with greater health problems than in the general population. For instance, when compared to a moderate-income group, low-income children were at an increased risk for being obese or somewhat overweight in the United States (Wang, 2001). According to the US National Health and Nutrition Examination Survey (NHANES), which is coordinated by the Center for Health Statistics within the Centers for Disease Control and Prevention (CDC), during the last couple of decades there has been a shift in the health status of those adolescents between 15 to 17 years old below the poverty level and those in this cohort above the poverty level (Miech et al., 2006). During the 1970's there were only marginal differences in weight between low-income children and those children above the poverty line. However, recently, the percentage of impoverished overweight adolescents aged 15 to 17 years, as compared with similar adolescents above the poverty level, has increased to a 10 percent difference, with those below the poverty level being more overweight. These effects were not found for younger adolescents aged 12 to 14 years.

Besides poverty and location, there are other environmental factors associated with being overweight and often targeted in behavioral treatment programs for drug abuse and child maltreatment, such as low paternal affection, low paternal time spent with child, and low parental education (Johnson, Cohen, Kasen, & Brook, 2002). In a longitudinal study, teachers were asked to complete questionnaires with information relevant to family

structure and perceived parental support on children for which they had daily contact. After 10 years, the children perceived as “Dirty and Neglected” were found to be 9.8 times more likely to be obese than children rated as “Average” (Lissau & Sorensen, 1994). These findings suggest that during childhood, the consequences of later obesity are not always apparent. There is also greater risk of obesity within children who have been identified to be victims of physical neglect. For instance, 21 percent of children identified for child physical neglect demonstrated problems with obesity during their adolescence or early adulthood (Johnson et al., 2002). Williamson, Thompson, Anda, Dietz, and Felitti (2002) determined the strongest association with adult obesity occurred when being frequently assaulted in childhood. In their study, exposure to multiple forms of child abuse, and increased severity of abuse incidents, was associated with a greater risk of adult obesity. Of 1225 surveys mailed to randomly selected households, 43 percent of the women reported histories of being victimized by child abuse and neglect (emotional neglect = 21%; physical neglect = 12%; physical abuse = 14%) (Walker et al., 1999). Additionally, those women who reported some form of child maltreatment were more likely to engage in health risk behaviors, such as driving while intoxicated, unprotected sexual activity, alcoholism, and obesity. Moreover, the extent of maltreatment was positively correlated to risky health behaviors.

Child maltreatment has been found to be associated with Binge Eating Disorder, Night Eating Syndrome, and being overweight or obese in adulthood with 82 percent, 79 percent, and 71 percent of treatment consumers, respectively reported experiencing maltreatment as children (Allison, Grilo, Masheb, & Stunkard, 2007). Specifically, childhood physical neglect was represented in 50 percent, 65 percent, and 55 percent of

treatment consumers with Binge Eating Disorder, Night Eating Syndrome, and being overweight or obese in adulthood, respectively. Tarren-Sweeney (2006), reported dysfunctional eating patterns in 25 percent of children living in foster care due to child abuse and neglect.

For many who are maltreated as children, it is difficult to maintain appropriate eating behaviors. Indeed, Rohde et al. (2008) found physical or sexual abuse doubled the likelihood of obesity and depression in adulthood. There are also short-term negative consequences associated with child maltreatment. The odds of obesity were 50 percent higher for those children experiencing neglect in the prior year compared to similar children who never experienced an episode of neglect (Whitaker, Phillips, Orzol, & Burdette, 2007).

The Center for Disease Control issued a special report outlining the negative health consequences of childhood maltreatment (Arias, 2004). The report suggested those who experienced child maltreatment were at an increased risk for physical inactivity and smoking, both of which lead to long-term health problems. Additionally, the CDC reported that treatment consumers who experienced childhood maltreatment were at an increased risk for intimate partner violence, putting these treatment consumers at further risk for negative health consequences. In fact, women seeking treatment for substance abuse with a history of eating disorders reported rates of past physical and sexual abuse that were substantially higher than women with eating disorders who do not have substance use problems (Harrop & Marlatt, 2010). Therefore, child maltreatment can have direct and indirect effects on the health outcomes, particularly in women.

Children who are removed from the custody of their biological parents due to child abuse and neglect appear to evidence a broad range of problem eating behaviors. For instance, Demb (1991) found 5 percent of children in foster homes due to child abuse and neglect demonstrated excessive eating patterns. Ninety percent of the biological mothers of these identified children were found to have problems due to substance use. Hodson, Newcomb, Locke, and Goodyear (2006) found that self-reported accounts of physical and emotional abuse in childhood predicted poly-substance use and weight concerns in Latina adolescents. This relationship is further strengthened by a less healthy attachment with Latina families, and suggests physical abuse disrupts healthy attachment within the family and produces increased poly-substance use and weight concerns.

In a recent review, Harrop & Marlatt (2010), reported higher rates of eating disorders in alcohol dependent populations than in the general population. Indeed, when alcohol use disorders and eating disorders were comorbid, mortality rates were higher than with either eating disorder or substance use disorders alone (Harrop & Marlatt). Marijuana also appears to effect weight. For instance, Rodondi, Pletcher, Liu, Hulley, and Sidney (2006) found marijuana use was associated with higher caloric intake per day, higher systolic blood pressure, and higher triglyceride levels. However, the investigators indicate these apparent negative health consequences may not always manifest as a higher BMI. Indeed, in a sample of treatment consumers participating in weight management treatment, higher reported marijuana use was found to be associated with lower BMI (Warren, Frost-Pineda, & Gold, 2005). However, the researchers lowest weight category of participants (i.e., BMI < 30) still included treatment consumers

classified as overweight, and the questionnaire failed to assess treatment consumers in the average BMI range (i.e., 18.5 to 24.9).

Various types of substance use other than alcohol and marijuana are associated with disordered eating behavior. For instance, treatment consumers using stimulants have been found to be more likely to engage in dieting with purging behaviors (Piran & Robinson, 2006). In a related study, regardless of the type of illicit substance used, there was a much higher incidence of disordered eating behaviors among treatment consumers who used these substances than those who did not (Pisetsky, Chao, Dierker, May, & Striegel-Moore, 2008). Piran and Robinson (2005) found the severity of substance use was positively correlated with the extent of disordered eating behavior. In a treatment program for women with problems due to alcohol use, 71 percent of these women also engaged in binge eating behaviors (Stewart, Brown, Devoulyte, Theakston, & Larsen, 2006). This is nearly double the percentage of similar women between the ages of 14 to 40 years in the general population who display binge-eating behavior (i.e., 36 percent). Thus, attention must be paid to dysfunctional eating behaviors of treatment consumers attending treatment for substance use, particularly women and when present, should be addressed.

Many treatment consumers find that once they achieve abstinence from drug use, their eating behaviors change substantially. Men in recovery from substance dependence reported gaining between 14 and 45 pounds during the first 6 months of their recovery (Cowan & Devine, 2008). In many cases this weight gain was necessary because of the tendency to be underweight while using drugs. However, men reported continued weight gain throughout the stages of recovery, often times up to 80 pounds total weight gained

during the first 36 months of recovery. Men also reported binge eating and hoarding of foods during their drug use recovery. For many, their change in weight may increase urges for drugs as a means of achieving their pre-morbid appearance. Therefore, substance use treatment should inform treatment consumers of healthy lifestyle behaviors in order to decrease the potential for relapse. Research on weight concerns following cessation from illicit drug use is limited at best. However, the smoking cessation literature offers evidence of post-use weight gain in a sample of females recruited from Planned Parenthood. When weight concerns were present in this population, participants displayed a greater frequency of smoking and more dependency on tobacco (Glasgow, Strycker, Eakin, Boles, & Whitlock 1999). Relatedly, a sample of 2106 men and women participating in a work-related treatment intervention for smoking had a mean BMI rating of 26.5 and 25.2 for men and women respectively (Jeffery, Hennrikus, Lando, Murray, & Liu, 2000). Twenty-six percent of the women and seven percent of men reported having extreme weight concerns post-cessation, whereas only 14% of women and 38% of men reported having no weight concerns. Further, women who reported having any weight concern were significantly less likely to quit than the women expressing no concern over weight. These results suggest that women have greater weight loss concerns than males and when they are present will likely hinder cigarette cessation treatment programs.

Neale, Abraham, and Russell (2009) followed three individuals admitted to an eating disorders unit following frequent use of crystal methamphetamine. All women reported having typical eating patterns prior to substance initiation and became severely underweight following substance initiation. One participant reported gaining weight following substance cessation and viewed such weight gain as a positive consequence.

Another participant began binge eating and vomiting when she was no longer using crystal methamphetamine in response to the weight gain. The last participant developed Anorexia Nervosa during adolescence and began using crystal methamphetamine as a means of achieving weight loss (Neale, Abraham, & Russell). Thus, methamphetamine use may be associated with weight loss while using followed by a period of weight gain immediately after cessation.

Behavioral Treatments for Obesity

Adult Focused Interventions

Poor lifestyle choices often manifest during adulthood as obesity and poor health. Thus, many obesity treatment programs focus on the adult population. Along these lines, Dunn et al., (1999) conducted a randomized controlled trial to compare the effects of lifestyle physical activity (i.e., scheduling moderate-intensity physical activity most days of the week, problem solving aimed at adopting an active lifestyle) and structured activity (i.e., 50 to 85 percent of maximal aerobic power for 20 to 60 minutes during supervised sessions 5 days per week held at a fitness center) in 235 sedentary men and women. Participants in both experimental conditions received cognitive behavioral therapy consisting of strategies aimed at increasing self-efficacy, motivation, and stimulus control techniques (Kohl, Dunn, Marcus, & Blair, 1998). The results suggested the lifestyle physical activity group had comparable results to the structured activity group after the 24-month intervention. Both interventions significantly reduced body fat, increased physical activity, improved cardio respiratory fitness, and improved blood pressure. However, there were no significant differences between the experimental conditions in

these measures. The results suggest less structured and less intense physical activities may be practical alternatives to structured activities requiring gym memberships.

Similar results were found in a study involving 40 obese adult women who were randomly assigned to a diet with structured aerobic exercise or a diet with lifestyle activity (Andersen et al., 1999). All participants received 16-sessions of a cognitive behavioral weight loss program, which included keeping daily food and activity records, building coping skills, and emphasizing a low-fat diet (Andersen et al.; Brownell & Wadden, 1992). Participants assigned to the lifestyle activity group were provided physical activity feedback monitors and were encouraged to increase their levels of moderate intensity physical activity by 30 minutes per day. To assist in accomplishing this task, they were instructed to incorporate short bouts of exercise into their daily routine (e.g., walk short distances instead of driving) while the structured aerobic exercise group received 3 choreographed step aerobics classes held in a dance studio each week and were led by a certified aerobics instructor. The results revealed both groups decreased their weight at the same rate (Andersen et al.). This study provided further support that structured aerobic exercise programs do not appear to offer additional benefits in the reduction of weight loss over treatments that are focused on general physical activity, at least as specified in this study. However, it is important to acknowledge protocol adherence measurements were not utilized in this study to monitor treatment integrity of instructors, and the extent of participation was not recorded.

Historically, interventions that use the elements of self-monitoring, goal setting, stimulus control, and reinforcement have been effective in reducing the amount of caloric intake of treatment consumers (Wilson, 1984). Within a medical setting, Dutton, Martin,

Welsch, and Brantley (2007) examined the efficacy of physical activity in 158 overweight or obese women well below the poverty level (i.e., income less than \$16,000). Women were randomly assigned to either a tailored intervention or standard care. The tailored intervention involved 6 monthly 15-minute meetings with a physician, providing recommendations relevant to incorporating more activity into the women's daily routines. In this intensive condition, physicians were trained on CBT, Motivational Interviewing (MI), and educated on the Stages of Change model. Additionally, if participants assigned to the tailored intervention group experienced obstacles while attempting to achieve personal goals, the physician would discuss potential solutions to the obstacles with the participant, and assist the participant in developing goals consistent with these discussions. Standard care consisted of participants receiving the standard treatment from their physician during their regularly scheduled appointments. Standard treatment did not include structured information about physical activity or diet. Upon termination, the tailored intervention group demonstrated significantly more weight loss than the standard care group. Interestingly, there was no difference between the groups with regard to physical activity, although both groups increased their physical activity level at the conclusion of the intervention. Therefore, the results of this study suggest weekly goal setting and behavioral problem solving strategies can be utilized to decrease weight in females in a medical setting. Importantly, medical doctors were delivering these treatment modalities, suggesting that even informally trained therapists can aid clients in achieving goals using psychological techniques.

In one of the earliest intervention trials targeting obesity, 40 overweight women were randomly assigned to one of four 6-week long treatment groups; a self-instructional

treatment which trained participants to covertly talk to themselves to cope with hunger and desire to eat, a stimulus-control treatment, a combined treatment (i.e., stimulus-control and self-instructional), and a relaxation control (Dunkel & Glaros, 1978).

Women in the combined treatment lost more weight than the other interventions, and continued to lose weight through the 7-week follow-up assessment. Thus, the addition of a self-instructional component in treatment for obesity was effective when paired with stimulus-control techniques.

Many treatment programs utilize the environmental techniques discussed above with an added component relevant to teaching self-control for eating behavior similar to that used by Dunkel & Glaros (1978). Stuart (1971) pioneered one such combined treatment program for obesity. The treatment included eliminating cues associated with problematic eating while strengthening those associated with healthy eating, planning methods of increasing the healthy eating behaviors, and manipulating contingencies (three-dimensional model; 3D). Behavioral modification techniques (i.e., self-monitoring, self-control) were also utilized in reaching these goals. To examine the initial efficacy of this treatment, 6 overweight women were randomly assigned to the intervention group utilizing this 3D model or a control group. The control group was asked to practice self-control of eating behavior but no instruction for management of the environment was offered although participants were given the same planning materials in each of the interventions (Stuart, 1971). Participants in both groups lost weight with the 3D group losing more than the control group. Franzini and Grimes (1980) tested the efficacy of formal contracts within Stuart's 3D model of weight loss. They matched 76 participants on percent overweight (10.4 percent to 87.7 percent overweight) and

assigned them to one of five group formats, three-dimensional program plus signed contracts (4D), three-dimensional without contracts (3D), caloric-information (2D), relaxation training (1D), and wait-list controls. The 3D group followed the intervention format specified in Stuart (1971). The contract group signed public agreements that they would perform the relevant eating maintenance behaviors and mentioned relationships with self, client, and significant other. This group also incorporated positive reinforcement and support for engaging in weight loss behaviors. The caloric-information group only received information relevant to dietary and exercise behavior and they did not receive any information on the environmental control of eating. Results suggested that treatment consumers in the 3D and 1D group formats dropped out more so than treatment consumers in the 4D and 2D groups. The 4D and 3D groups did not differ significantly in terms of weight loss, but all treatment groups lost more weight than the wait-list controls. Additionally, the 3D participants decreased their percentage of body fat significantly more so than participants in the other treatment groups. Thus, environmental control of eating, self-monitoring of diet and energy, self-control strategies, reinforcement, and dietary planning appear to be effective in eliminating pounds and body fat. Moreover, the results of this study suggest the addition of contracts to the behavioral techniques of self-monitoring and self-control may help to retain participants in treatment. Further, a single case study design examining the use of contingency contracting with stimulus control monitored four obese women for 25 treatment sessions (Fremouw, Callahan, Zitter, and Katell, 1981) Participants eating of inappropriate snacks, eating at designated locations, bites per minute, and weight continued to improve regardless of the addition of contingency contracts to stimulus

control procedures. Results suggest the addition of contingency contracting to stimulus control to not increase the overall effectiveness of the intervention albeit positive results were achieved.

Environmental control techniques have effectively been applied to other eating disorders of excess. A recent meta-analysis revealed that psychotherapy (including cognitive and/or behavioral techniques, dialectical behavior therapy, interpersonal therapy, psychoeducation, and meditation) and structured self-help programs (i.e., cognitive and/or behavioral, telephone interventions, and self-monitoring) demonstrated the largest effect sizes across Binge Eating Disorder treatments when compared with pharmacotherapy, weight loss treatment, and combined psychotherapy with pharmacotherapy (Vocks, Tuschen-Caffier, Pietrowsky, Rustenbach, Kersting, & Herpertz, 2010). Further, this meta-analysis reported that psychotherapy (i.e., cognitive behavioral strategies, psychoeducation, backward chaining relevant to binge eating episodes, monitoring external stressors, and relaxation techniques) and structured self-help (i.e., cognitive behavioral strategies, self-monitoring, and telephone interventions) resulted in the longest rates of abstinence of binge eating episodes across all other interventions reviewed. Interventions utilizing these treatment approaches will likely display the greatest overall improvements relative to interventions without. Specifically, commonly espoused therapeutic goals for treatment consumers with Binge Eating Disorder include eliminating the number of eating binges, and weight management strategies consisting of self-monitoring, cognitive restructuring, problem solving, goal setting, and relapse prevention (Gorin, Le Grange, & Stone, 2003; Wilfey et al., 2002). Specifically, treatment consumers participating in group CBT with, and without,

involvement of a spouse successfully reduced binge eating episodes, and many participants achieved abstinence from eating binges. These changes were significantly greater than a wait-list control group, albeit the addition of a spouse in treatment did not significantly improve outcomes. Wilfey et al. compared group CBT to group Interpersonal psychotherapy (IPT), which formulates a treatment plan based on resolving issues in one of four problem areas (i.e., grief, interpersonal role disputes, role transitions, interpersonal deficits). Both treatments led to significant reductions in eating binges at termination and 12 months after treatment and binge reductions were similar between the experimental conditions across time.

Thus, the aforementioned studies suggest behavioral interventions that focus on increasing physical activity and improving diet are more effective than no-treatment control conditions in reducing weight in adults. These interventions often include self-monitoring weight and exercise, setting weight loss goals, motivational enhancement, reinforcement for reducing weight, impulse control, contingency management, problem-solving, increasing scheduled and impromptu lifestyle exercise regimes, and recognizing and eliminating antecedent stimuli to binge eating. When combined, these interventions appear to offer particular benefits, although these treatments do not appear to be generally superior to one another. Surprisingly, one study (Wilfey et al., 2002), found spousal support did not offer additive benefits. However, this may be due to the lack of contingencies for treatment goals and active involvement in homework assignments.

Child Focused Interventions

Several behavioral investigations have examined child-focused behavioral weight management interventions. For instance, Robinson (1999) randomly assigned two

schools consisting of one hundred and ninety eight children to an 18-session, 6-month intervention consisting of teaching self-monitoring and self-reporting of television and video game use or a control group consisting of an assessments-only condition. The experimental intervention consisted of determining if reduction of television and video game use plays a significant role in childhood obesity. Thus the investigators sought to decrease use of such media but did not specifically promote alternative active behaviors. Child participants were challenged to turn off the television and become more selective of the time they engaged in television and video games. Each household received pamphlets that suggested strategies to avoid television and video game use, and an electronic television manager that could turn off the television after a programmed period of time. Compared with the control group, children's television viewing time significantly decreased, and children reportedly ate less often in front of the television. Children in both experimental interventions increased their BMI, triceps skin-fold thickness, waist circumference, and waist-to-hip ratio which could be attributed to normal development for this age group. However, children in the experimental condition demonstrated significantly less increases in these anthropometric measurements relative to the control group. Self-reported levels of physical activity did not increase for either intervention. Therefore, this study suggests reducing television and video game activity may be useful in preventing excessive weight gain. However, it may be important to encourage alternative physical activities, as well.

Along these lines, Tsiros et al. (2008) randomly assigned 18 overweight or obese adolescents to a 10-week CBT intervention targeting eating habits and activity levels utilizing psychoeducation, goal setting, self-monitoring, problem solving, and cognitive

restructuring or a no-treatment control group. At the conclusion of treatment, CBT participants achieved significant reductions in weight, BMI, fat mass, abdominal fat, and hip circumference relative to the control group. Additionally, CBT participants reportedly demonstrated significant reductions in total energy intake, carbohydrate intake, fat intake, and sugar intake relative to control participants. There was no change in the amount of physical activity as measured by pedometer readings. Results were maintained at 10-week follow-up. These findings suggest eating behaviors may be easier to change than physical exercise. However, changes in eating behaviors still resulted in improved anthropometric measurements relative to a control group.

In a similar study combining interventions targeting physical activity and diet for weight management, a sample of one hundred and ninety-seven children enrolled in preschool at Head Start were randomly assigned to participate in a weight control intervention that included topics such as healthy eating and exercise (i.e., reduced television viewing, involvement in fun physical activities and games) or a control group consisting of general health information (Fitzgibbon et al., 2005). The intervention group utilized modeling, increasing motivation, and a number of kid friendly fun activities that would help to increase motivation in a non-coercive manner as developed by Fitzgibbon et al., (2002). Researchers measured BMI, dietary intake, and physical activity in overweight and non-overweight children upon termination and at 1- and 2-year follow-up assessments. There were no differences in BMI at post-intervention. However, significant differences in BMI were noted at 1- and 2-year follow-up with children in the treatment group gaining less weight than children in the general health information group. There were no differences in dietary intake and hours of television viewing

between control and treatment group. Children in the intervention group did consume less saturated fat at post-intervention than children in the control group. However, these differences were not maintained at 1- and 2-year follow-up assessments. Thus, there may be long-term benefits in combined diet and physical activity interventions with children despite lack of initial efficacy. It is interesting that self-reported target process measures (e.g., television viewing, dietary intake) were not significantly different between experimental groups across time, whereas the treatment group demonstrated significant improvements relative to the control group in objective measures (e.g., BMI). These results suggest self-reported measures relevant to obesity may be inaccurate, or that treatments affect youth in unpredictable ways. The results also suggest it is methodologically important to include follow-up assessments when conducting research involving the evaluation of treatments for childhood obesity.

Researchers have sought to utilize rewards and psychoeducation in interventions for weight loss, blood pressure, and blood lipid changes within adolescents. Coates, Jeffery, Slinkard, Killen, & Danaher (1982) randomly assigned 42 adolescents between 13 and 17 years to one of four interventions; daily contact weight loss, weekly contact weight loss, daily contact calorie change, and weekly contact calorie change. Participants in all interventions received monetary rewards for reaching their goals (i.e., 1 pound lost per week in the weight loss groups and caloric intake necessary for weight loss equivalent to 1 pound lost per week for the caloric change group). Additionally, all study participants received a 15-week educational program consisting of self-observation and caloric goals, appropriate foods to eat, appropriate times to eat, exercise, portion control, self-instruction, stimulus control, self-talk, social control, problem-solving, the use of

accurate food diaries, and knowledge of caloric values of food. Participants in the daily contact reward group showed significant changes in percent above ideal weight from pre-treatment to post-treatment and from pre-treatment to follow-up (i.e., 6 months post-treatment). There were no significant changes in percent above ideal weight observed from post-treatment to follow-up suggesting the maintenance of weight loss. Changes in weight, total cholesterol, LDL cholesterol, systolic blood pressure, and diastolic blood pressure were also significant across all participants. This study suggests the overall importance of frequent contact and rewards in reducing weight and other health related outcomes in adolescents.

The child-focused behavioral interventions utilizing the CBT techniques of motivational enhancement, goal setting, cognitive restructuring, and problem solving appear effective in reducing sedentary behavior, restricting television viewing, weight gain, and enhanced dietary nutrition when compared to control conditions. Also important, there may be delays in demonstrating these improvements in some populations, such as children from economically impoverished backgrounds. Moreover, unlike adult-focused treatments targeting obesity, there have been relatively few direct comparisons of viable treatments for obesity in children.

Family Focused Interventions

There is ample research supporting the effectiveness of treating obesity within the context of the family. In an earlier review, Baranowski, Nader, Dunn, and Vanderpool (1982), found family social support can ameliorate eating behavior problems and increase participation in exercise-related activities. Indeed, they found that promoting social support within families could encourage changes in diet and exercise behavior. However,

perceived familial support was not related to the number of treatment consumers in the family. Mexican American youths between ages of 8 to 18 years who reported having a larger family size and less familial support for eating healthy consumed more snacks per day (Ayala, et al., 2007). Lastly, past research has shown that familial contexts that are low in family stress and high in family support have the best health related outcomes regardless of the specific type of health intervention employed (Kitzmann, Dalton, & Buscemi, 2008).

Further, environmental factors within the family have also been shown to influence lifestyle choices. Research has shown that families that eat meals together more frequently have less likelihood of engaging in high-risk behaviors such as substance use, sexual activity, depression/suicide, antisocial behaviors, violence, bingeing/purging, and excessive weight loss (Fulkerson et al., 2006). Additionally, family mealtime is positively correlated with external and internal developmental assets (e.g., support, boundaries, social competencies, positive values; Fulkerson et al.). Furthermore, Jefferson (2006) surveyed 2010 European families and found those families that reported eating meals together were more likely to have children of normal weight. Generally, families who spend time together also have better health outcomes. The amount of time that fathers reported spending with children was positively correlated with the amount of physical activity children engaged in (Beets & Foley, 2008). The same researchers identified a positive correlation between family sports and child physical activity. Additionally, parents of obese children were less likely to join in physical activities with their children, 52 percent of parents of obese children surveyed stated that they never or rarely join in activities with their children compared to only 38 percent of normal weight

children (Jefferson, 2006). Suggesting that treatment strategies aiming to increase positive interactions within families may be beneficial in the treatment of obesity in children.

Family interventions have employed strategies aimed at increasing physical activity. In one such study, Epstein, Paluch, Kilanowski, and Raynor (2004) recruited 63 families that met study criteria (i.e., child between 8-12 yrs old that had a BMI greater than 85th percentile and at least one parent willing to attend the treatment) to participate in a family focused physical activity intervention. Families were randomly assigned to either a treatment where reinforcement was utilized or a treatment utilizing stimulus control both in an effort to reduce sedentary behaviors. The families in the reinforcement group utilized strategies of shaping and goal setting to reach the target behavior, whereas families in the stimulus control group were instructed to change their environment to decrease sedentary behaviors (e.g., unplug the television). In both interventions participants were instructed to praise children for meeting goals relevant to treatment and all families received workbooks teaching weight control and self-monitoring, dietary guidelines, and behavior change techniques and maintenance. The aim in both intervention groups was to reduce the hours of the chosen sedentary behaviors to 15 or less per week. Results suggested that both the stimulus control group and the reinforcement group significantly reduced sedentary behavior, reduced intake of high energy density foods, increased moderate to vigorous physical activity, and decreased BMI z-scores after 16 sessions and these results were maintained 6 months after treatment. Thus, as with many of the adult-focused interventions for obesity, behavioral

goal setting, encouragement, and shaping appeared to be as effective as stimulus control strategies.

Cluss, Ewing, Long, Krieger, & Lovelace (2010), utilized the treatment approach from Epstein and colleagues in an adapted format for use in low-income families. Researchers modified the manual to address special needs in this population, including simplifying the wording, changing the mode of delivery to include telephone, mail, face-to-face intervention components, and consolidating the focus of treatment into a few key approaches (i.e., nutrition, balancing energy, and behavioral interventions). Forty-eight families with children in the BMI range of 85th to 94th percentile were recruited through medical practices. Results revealed that the adaptations for the low-income population were effective at enhancing program retention and participant satisfaction. Further, although the children did grow taller during the 8-week treatment period, the children did not gain a significant amount of weight at post-treatment. This suggests that despite the short treatment period, the children were already evidencing decreased BMI. This feasibility study suggests that enhancing service delivery to include phone based interventions and making treatments concise may help to maintain participation within weight loss programs. Further, as Epstein and colleagues found, behavioral strategies were effective in reducing BMI within pediatric samples.

Goal setting and reinforcement alone have also been shown to be helpful in increasing physical activity and improving diet. Fifty-six obese children and their mothers were randomly assigned to 16-sessions of CBT with the mother only or CBT with the mother and the child (Munsch et al., 2008). Treatment with the mother-only included the adoption of the stoplight diet for the family, modeling of appropriate

physical activity by mothers and goal setting with rewards for achievement of the goals while the child attended Progressive Muscle Relaxation Training. The mother-child CBT treatment sessions were tailored to meet the family's treatment consumer problems. Treatment strategies included encouraging the mother's modeling of physical activity, goal-setting, self-monitoring, implementation of the stoplight diet, and maintenance strategies. Results indicated that in both experimental groups, there were significant reductions in the percentage of children who were overweight at termination and 6-month follow-up, relative to baseline. However, there were no changes in the mothers' BMI from baseline to 6-month follow-up in either treatment group, suggesting that mother-focused CBT with or without children present could be a viable treatment option for childhood obesity. However, this CBT program is not sufficient in reducing mothers' BMI potentially due to the lack of focus on the mother's weight management. Moreover, the addition of a child in the mother's treatment did not appear to offer additive benefits.

In another family based treatment for childhood obesity, one hundred and eleven overweight children (ages of 6 to 9 years) and their families were randomly assigned to one of three groups (Golley, Magarey, Baur, Steinbeck, & Daniels, 2007). A parenting skills training group included psycho-education, developing nurturing environments, promoting social competencies of children, reduction of problems, and enhanced parental competence and self-sufficiency consistent with the Triple P approach, a family based behavioral intervention consistent with social learning principles (e.g., media and communication strategies, brief parenting advice, narrow and broad focus parent skills training, and intensive family intervention; Sanders, 2003). A parent skills training with intensive lifestyle intervention group included sessions teaching parents about proper diet

and activity requirements, while the children participated in noncompetitive games centered on aerobic exercise; and a wait-list control group. Waist circumference significantly decreased across the 12-month assessment period in both of the intervention groups but not in the control group. Additionally, boys had a significant decrease in BMI and waist circumference although this effect did not occur for girls. Therefore, family based interventions utilizing parental psycho-education and child aerobic exercise may be efficacious in reducing BMI in boys and reduction in waist circumference in boys and girls.

Behavioral treatments have consistently demonstrated success in treating obese children who are more likely to live in households located in low socio-economic settings (Jefferson, 2006). Eakin et al. (2007) randomly assigned 200 low-income Spanish-speaking adults with at least one chronic condition to behavioral therapy or usual care condition. In addition to physical activity and diet, treatment focused on psychoeducation, goal setting, feedback, problem solving, and social support (i.e., family, friends, neighborhood resources). The intervention group yielded significantly greater support for the client than the control group at 6 weeks and 6 months. Additionally, dietary behavior had significantly improved in the treatment group as compared to the control group at 6 weeks and 6 months. However, there were no significant differences between the two groups for physical activity, according to a self-report. Therefore, external support systems can be utilized to achieve greater dietary behavior within a treatment setting. However, these results suggest families were not motivated to sufficiently pursue greater exercise. Further, self-report measures of physical activity may not be accurate.

Similar family focused interventions have also been researched within ethnic minority populations. In one such study, 65 African American mother and daughter pairs were randomly assigned to a treatment intervention or an attention control group (Stolley & Fitzgibbon, 1997). The treatment intervention emphasized a low-fat, low-calorie diet, and increased activities that were targeted to the African American culture (e.g., food preferences, methods of food preparation, and consideration of neighborhood markets), while the attention control group consisted of general health messages emphasizing relaxation, communication, communicable diseases, and stress reduction. Mothers demonstrated a significant decrease in saturated fat and dietary fat and an increase in parental support. The daughters' behaviors did not demonstrate a significant improvement at post-treatment. Neither the mothers' or daughters' weight or dietary cholesterol significantly changed from pre-assessment to post-assessment in either group. Although, the interventions targeted the daughters and mothers equally, the researchers reported that children were generally within the normal weight range as compared to generally overweight mothers. This may have resulted in mothers having a greater concern for their dietary habits than the daughters in the current study. As indicated, the intervention group was no more effective than the control group in reducing weight loss at the conclusion of treatment, which is the primary objective measure. As reviewed in other studies earlier in this paper, it is possible that treatment effects relative to weight loss may require more time to occur (i.e., not evidence until follow-up). Indeed, the intensive intervention lasted 12 weeks, with follow-up meetings every 3 months for an additional 15 months.

Summary of Behavioral Treatments for Obesity

Thus, most cognitive-behavioral interventions targeting children, adults, and families have demonstrated efficacy in improving dietary behaviors and increasing physical activity and have accomplished significant improvements in target obesity related measures (e.g., reduced saturated fat intake, reduced percent overweight, increased vigorous physical activity, reduced waist circumference, reduced carbohydrate intake, and reduced sugar intake). However, it is important to emphasize that improvements have sometimes not been found until as much as 1 year post-treatment. Moreover, some process measures have not improved relative to controls (e.g., number of hours exercising), whereas reductions in weight loss have occurred. In general, interventions utilizing goal setting, psychoeducation, stimulus control, social support, relaxation training, and reinforcement appear to offer greatest relative benefits in weight loss, particularly those that include contingency management, as compared with control groups. Methods to increase motivation to reduce weight appear to be a useful, albeit unnecessary component. When comparisons have been made between the behavioral interventions, none seem to be superior to any other. However, comprehensive behavioral interventions appear to be consistently successful, whereas individual interventions sometimes evidence lower efficacy.

Behavioral Treatments for Substance Abuse

Treatment outcome studies for substance abuse are extensive (Carroll & Onken, 2005; Dutra et al., 2008; Bender, Springer, & Kim, 2006; Waldron & Turner, 2008). As in obesity, cognitive behavioral methods of goal setting with contingencies, motivational interviewing, stimulus control, problem solving, and utilizing family support systems

within treatment components have consistently demonstrated success. For instance, within, the adolescent substance abuse population, a multisite randomized controlled study, was conducted to examine the effectiveness of five short term therapies for adolescent cannabis users, including Motivational Enhancement Therapy plus Cognitive Behavior Therapy – 12 sessions (MET/CBT12), Motivational Enhancement Therapy plus Cognitive Behavior Therapy – 5 sessions (MET/CBT5), Family Support Network (FSN), Adolescent Community Reinforcement Approach (ACRA), and Multidimensional Family Therapy (MDFT) (Dennis et al., 2004). MET/CBT5, one of the behavioral treatments, includes resolving ambivalence, increasing motivation, planning activities, establishing social support, refusal of offers, and problem solving. MET/CBT 12 includes an additional 7 sessions targeting anger, communication, cognitive restructuring, and management of cravings. The Adolescent Community Reinforcement Approach (ACRA), which is a comprehensive behavioral therapy that incorporates the elements of operant conditioning in which adolescents learn to identify antecedents and consequences of substance use, goal setting, problem solving, family communication, and adolescent life satisfaction. During Trial 1, adolescent participants were randomly assigned to receive MET/CBT5, MET/CBT12, or FSN treatment. During Trial 2, participating adolescents were randomly assigned to the, ACRA, MDFT, or MET/CBT5. Treatment conditions were similarly effective across trials in demonstrating significant reductions in substance use at the post-treatment assessment. However, ACRA and MET/CBT 5 were relatively more cost-effective.

Treatment gains have also been evidenced in individual adult and adolescent treatment programs utilizing cognitive behavioral elements. Azrin, McMahon et al.,

(1994) examined a family behavioral therapy for adolescents and adults referred for problems with illicit drug use. Major therapeutic components of this program included stimulus control, urge control, and a social control procedure, which enlisted the help of significant other to help with homework assignments and contingency contracting procedures. Compared with non-directive supportive therapy, the behavior therapy successfully reduced amount of illicit drug use as measured by urine analysis, self-report, and significant other reports through 12 months of continuous monitoring. Other measures such as school attendance, employment, mood, conduct, and family relationships improved substantially after treatment. All results were maintained at 9 months post-treatment (Azrin, Acierno, et al., 1996). Results were essentially replicated in a sub-sample of youths abusing drugs (Azrin, Donohue, Besalel, Kogan, & Acierno, 1994). Similarly, this family behavior therapy was equally effective as an empirically-supported problem-solving therapy in significantly reducing alcohol and drug use, improving overall mood, and improving conduct in a sample of conduct disordered substance abusing youth for up to 6-months post-treatment (Azrin, Donohue, et al., 2001).

Kaminer, Burleson, and Goldberger (2002), examined cognitive behavior therapy in 88 adolescents with a substance use disorder. Participants were randomly assigned to the CBT intervention including didactic presentations, modeling, role playing, and homework to implement sessions focused on alcohol and drug refusal and coping with relapse within a group format (Kaminer, Blitz, Burleson, Kadden, & Rounsaville, 1998) or a Psychoeducational Therapy intervention including didactic or videotaped presentations about the immediate and delayed consequences of substance use (Kaminer,

Burleson, & Goldberger, 2002). The CBT group had significantly less relapses at 3-month follow-up. However, there were similar relapse rates between the two groups at 9-month follow-up. Similar results were found for CBT in comparison to Interactional Therapy in a sample of 32 adolescents with more reductions in substance use apparent in the CBT intervention than in the IT condition at 3-month follow-up (Kaminer, Burleson, Blitz, Sussman, & Rounsaville, 1998), and both CBT and IT being equally effective at 15-month follow-up at reducing substance use (Kaminer & Burleson, 1999). These studies suggest that CBT may be more effective at decreasing substance use initially but effects appear to decline over time.

Behavioral treatments also appear to be effective in treating youth who are dually diagnosed with drug abuse and conduct disorders. For instance, Bender, Springer, and Kim (2006), conducted a meta-analysis on interventions for dually diagnosed adolescents including, Multisystemic Therapy (MST), Interactional Therapy (IT), Family Behavior Therapy (FBT), Individual Cognitive Problem Solving (ICPS), CBT, Ecologically Based Family Therapy (EBFT), Psychoeducational Therapy (PET), and Seeking Safety Therapy (SS). Greatest effect sizes were found for the behavioral interventions of FBT and ICPS across both externalizing and internalizing conduct disorders and substance abuse. PET, MST, and IT also produced large effect sizes, although only in one domain. Although behavioral therapies have shown positive effects for adolescent substance use, other treatments have also shown positive gains in reducing substance use, such as Brief Strategic Family Therapy (BSFT; Santisteban et al., 2003; Szapocznik, Kurtines, Foote, Perez-Vida, & Hervis, 1983; Szapocznik, Kurtines, Foote, Perez-Vida, & Hervis, 1986), Functional Family Therapy (FFT; Barton & Alexander, 1981; Friedman, 1989),

Multisystemic Therapy (MST; Borduin et al., 1995; Henggeler, Pickrel, & Brondino, 1999; Henggeler, Clingempeel, Brondino, & Pickrel, 2002), Multidimensional Family Therapy (MDFT; Liddle et al., 2001; Liddle, Rowe, Dakof, Ungaro, & Henderson, 2004), and Structural Ecosystems Therapy (SET; Robbins, Szapocznik et al., 2008).

Behavioral strategies have also been successfully utilized in the treatment of adult substance abuse. The Community Reinforcement Approach (CRA) first demonstrated efficacy in the treatment of adults with alcohol abuse (Azrin, 1976; Hunt & Azrin, 1973). Theoretically it is consistent with the tenants of operant conditioning and social learning theory (see Sisson & Azrin, 1986). Treatments focus on problem solving and communication skills training, goal setting, job finding skills training, and reinforcement contingent on abstinence.

CRA has also been combined with contingency management to treat drug abusers. In this CRA application, vouchers are utilized as incentives to maintain abstinence and increase treatment retention. In a study comparing CRA plus vouchers in forty-three participants who were randomly assigned to a standard care or CRA plus vouchers within a community setting (Secades-Villa, Garcia-Rodriguez, Higgins, Fernandez-Hemida, & Carballo, 2008), participants in the CRA plus vouchers group consistently demonstrated a greater number of continuous days of cocaine abstinence. Other studies have found similar reductions in opioid (Bickel, Amass, Higgins, Badger, & Esch, 1997; Silverman, et al., 1996b), marijuana (Budney, Higgins, Radonovich, & Novy, 2000), cocaine use (Higgins et al., 1994; Higgins, Budney, Bickel, & Hughes, 1993; Higgins et al., 1991; Higgins, Wong, Badger, Haug-Ogden, & Dantona, 2000; Kirby, Marlowe, Festinger, Lamb & Platt, 1998; Silverman et al., 1996a; Silverman et al., 1998) and use of multiple

drugs at one time (Iguchi et al., 1996; Jones, Haug, Silverman, Stitzer, & Svikis, 2001; Silverman et al., 2002) within methadone maintenance populations.

Voucher-based contingency management procedures have also been utilized within cocaine dependent treatment consumers for naltrexone compliance. Carroll et al., 2001 randomly assigned 127 opioid-dependent treatment consumers to standard naltrexone treatment (i.e., 3 times per week), naltrexone treatment plus vouchers for naltrexone compliance and drug-free urine samples, or naltrexone treatment plus vouchers with the involvement of a significant other in treatment sessions. The addition of vouchers was associated with significantly higher compliance with naltrexone medication and a reduction in opioid use when compared to the standard treatment. However, the addition of the significant other within the sessions did not improve rates of abstinence and compliance with the naltrexone treatment. Similar improvements have been noted when voucher based incentives have been utilized for medication compliance within substance abuse populations (Carroll, Sinha, Nich, Babuscio, & Rounsaville, 2002; Preston et al., 1999).

Further, Petry, and Martin (2002) implemented a low-cost contingency management (CM) procedure in 42 cocaine-using methadone maintenance patients within a community setting. Participants were randomly assigned to standard methadone treatment, which consisted of daily methadone doses, monthly individual counseling, and 2-3 days of urine testing per week or CM treatment consisting of prizes drawn from a bowl for each consecutive negative urine sample for opioids or cocaine in addition to the standard methadone treatment. Participants assigned to the CM treatment achieved longer durations of continuous abstinence than patients in the standard treatment

condition and these results persisted throughout the 6-month follow-up period despite the discontinuation of contingent reinforcement. Similar positive results have been found in 120 community outpatient treatment consumers with cocaine use when compared to the standard treatment (Petry et al., 2004).

In a cognitive behavioral therapy that emphasized the use of functional analysis of drug use and skills training to foster abstinence from drugs, one-hundred and twenty treatment consumers receiving treatment at a methadone maintenance program were randomly assigned to CM, CBT, CM+CBT, or TAU (i.e., methadone maintenance alone) (Rawson et al., 2002). Treatment consumers in the TAU condition received daily methadone doses and 2 monthly counseling sessions. The CM condition received vouchers for each negative urine sample for cocaine, the voucher values were increased for each successive negative test. The CBT condition received 48 group sessions over 16 weeks. The CM+CBT condition participated in both of the above-mentioned CM and CBT conditions. Upon termination from treatment, treatment consumers in the CM condition had significantly more negative urine tests for cocaine. However, CBT and CM alone, and combined, produced reductions in cocaine use as compared with the TAU group, which demonstrated no change in drug use. Upon follow-up, CBT continued to evidence treatment gains and eventually produced comparable results as the CM condition. Other studies have demonstrated similar results within a methadone maintenance program (Epstein, Hawkins, Covi, Umbricht, & Preston, 2003), demonstrating the initial effectiveness of CM at reducing substance use although the addition of CBT produced stable reductions across time.

Thus, substance abuse and dependence treatments appear to be particularly effective when familial support and contingency contracting are utilized. Moreover, stimulus control strategies relevant to modifying environmental factors to decrease the likelihood of substance abuse appear to enhance substance use outcomes. Similar to behavioral treatments for obesity, when direct comparisons are made between behavioral therapies for substance abuse, the results are often similar (Waldron et al., 2008).

Behavioral Treatments for Child Neglect

There is a paucity of controlled treatment outcome studies focused on child neglect. In their review of treatment outcome literature, Allin, Wathen, and MacMillan (2005) found only a few well-designed studies relevant to child victims of neglect. Most treatments for child maltreatment are focused on child victims utilizing various forms of play therapy and social skills training. For instance, Udwin (1983) tested the effectiveness of imaginative play training compared to a control play group in 34 institutionalized preschool children who had experienced neglect, abuse, or a combination of both. The imaginative play training intervention consisted of 10 small group sessions within 5-weeks with a facilitator of peer exercises and games. The control group participants received 10 play sessions with no active training in how to make believe. Children in the intervention group improved peer interactions, cooperation, imagination, positive affect, divergent thinking, and evidenced a decrease in aggressive play.

Fantuzzo et al. (1996) tested the efficacy of resilient peer treatment (n = 25) as compared with an attention control (n = 21). African-American children who evidenced social isolation due to abuse, neglect, or both, and a non-maltreated control group were

randomly assigned to the treatment or control group. Treatment consisted of 15-sessions across a 2-month period in which maltreated children were paired with a resilient peer “buddy” and a parent volunteer as a “play supporter.” The control group children were paired with children of “average” imaginative play ability. During the pre-treatment assessment, maltreated children displayed a significantly lower amount of interactive play, as compared with non-maltreated children. Maltreated and non-maltreated children increased their amount of positive play and became more active at post-treatment assessment. Additionally, children in the treatment group displayed less externalizing and internalizing behavior problems. Lastly, Reams and Friedrich (1994) tested the efficacy of Play therapy plus milieu therapy compared to milieu therapy alone in preschoolers who were victims (or siblings of victims) of physical, sexual, or emotional abuse, or physical or emotional neglect. Forty-one children were randomly assigned to the experimental group (i.e., play therapy and milieu therapy) or control (i.e., milieu therapy alone). Treatment goals were to create a safe environment, encourage expression of sensitive topics through play activities, and teach coping strategies through an interactive, directive format. Upon treatment termination, children in the experimental condition presented with less isolated play as compared to the control group. However, these differences were no longer present at a 2-month follow-up assessment. Additionally, there were no significant differences found in the areas of anxiety, aggression, conduct problem scores, hostility, functional play, attention, or compliance. Thus, the results of this study probably do not support the use of play therapy for maltreated children in areas other than isolated play. However, it does appear that some efficacy can be achieved by utilizing play therapy to teach neglected or abused children

to interact more effectively with peers, at least initially. The efficacy of these interventions on child maltreatment remains to be seen.

Behavioral interventions focusing on ameliorating or preventing child abuse have also been effective within families where maltreatment has occurred. Sixteen families with at least one adult and one child were referred from a child-welfare agency for participation in parent training due to child abuse (Wolfe, Sandler, & Kaufman, 1981). Importantly, assignment to the parent training group, and wait-list control occurred based on order of the referral and not through random assignment. The parent training intervention utilized psychoeducation regarding child development, child management utilizing the behavioral strategies of positive reinforcement, time out, shaping, appropriate punishment, problem solving, modeling, and self-control. Weekly sessions were held one time per week for 2-hours. Additionally a treatment coordinator visited the family in home to assist the parents in implementing the techniques learned in parent training within the home. Families participating in the parent-training improved in child management skills. However, no treatment effects were observed in the areas of conduct problem scores and caseworker ratings on child management, anger control, and child development in 10 problem areas. These improvements were maintained at a 10-week follow-up assessment for the five of eight treatment families that were available for testing. Further, pre-test and follow-up test differences revealed significant improvements in child related problems and child problem intensity in the five treatment families. However, caution should be used when interpreting these results because of the low sample size and lack of follow-up assessment on the control families.

The Multisystemic model is based on an ecological viewpoint of child maltreatment as the child is intertwined within multiple systems nested within one another, which influence the child's behavior directly and indirectly. Brunk, Henggeler, and Whelan (1987), tested the efficacy of Multisystemic Therapy (MST) in 43 families that had at least one parent who had been investigated for abuse or neglect and a child victim of abuse or neglect. Families participated in weekly sessions for 8-weeks at their home or in a clinic setting, and were randomly assigned to receive MST or parent training alone. MST consisted of focusing on all relevant systems which varied depending on the family. However, most families received informal parent education, parenting flexibility, appropriate expectations, support, marital counseling, and coaching. The parent training intervention was conducted within the clinic in a group format and consisted of instructing parents on child development and management techniques. The parent training was consistent to that proposed by Wolfe, Sandler, and Kaufman (1981) as reviewed above. Results revealed that both MST and Parent Training were effective in treatment of the families with regard to psychiatric symptoms, stress, and individual and familial problems. However, MST did result in more improved family problems. Parents participating in the parent training group achieved a greater amelioration of social problems than those families in the MST condition. These results may be confounded by the group format of the parent training, as MST primarily takes place in the home. In general, treatments consisting of a parenting component seem effective in child neglect and abuse populations. However, the home based MST exceeded parent training in effectiveness on ameliorating familial problems.

The ecobehavioral approach pioneered by Lutzker and Rice (1984) in Project 12-Ways is perhaps the most comprehensive child maltreatment program to date. This is an in-home treatment that focuses on the areas of parent-child training, stress reduction, self-control, social support, assertiveness training, basic skills, leisure time activities, health maintenance and nutrition, home safety, job placement, marital discord, alcoholism referral, money management, and services for unwed and young mothers. In one of their studies, fifty treatment consumers were randomly selected from 150 treatment consumers served by Project 12-Ways, and were compared to 47 treatment consumers randomly selected from those families in the same system, but not served by the program. Families were not randomly assigned to the treatment conditions. Results provided pilot support for Project 12-Ways in decreasing the likelihood of repeated abuse or neglect up to 1 year post-treatment, as compared with clients receiving no structured treatment. Similarly, Project SafeCare is a treatment program that focuses on child health care, parent-child interactions, and home safety and accident prevention. This intervention provided the same services to all families whereas Project 12-Ways tailored the treatment components to meet the specific needs of the family. Two-hundred and sixty-six families who were at-risk for child maltreatment as well as those families with histories of child maltreatment were referred to complete the program (Gershater-Molko, Lutzker, & Wesch, 2003). Families improved parenting skills, child health-care skills, and improved safety in homes. However, there was a significantly high drop-out rate in the intervention (i.e., only 41 of the initial 266 families completed all training components).

Chaffin et al. (2004) randomly assigned 100 parent-child dyads with a confirmed child physical abuse report to Parent-Child Interaction Therapy (PCIT), Enhanced PCIT,

or standard community treatment. PCIT consisted of motivational enhancement techniques, positive parent-child interactions (e.g., avoid criticism, ignore undesired behavior, provide praise), giving appropriate commands utilizing homework and in-vivo practice. Enhanced PCIT (EPCIT) consisted of all PCIT interventions as well as specific services for depression, substance abuse, or domestic violence. Lastly, the standard community group consisted of psychoeducation. Treatment consumers in the PCIT group were significantly less likely to have a physical abuse re-report over a follow-up median time of 850 days. However, there were no differences among the groups in the number of neglect re-reports. Further, those treatment consumers in the PCIT achieved a greater reduction in negative parent-child interactions. EPCIT did not enhance the overall effectiveness of PCIT as an intervention.

Need to Address Obesity, Substance Abuse and Child Neglect Concurrently

More recently, investigators have attempted to address substance abuse and child neglect concurrently within one treatment. One such approach implemented a home-based cognitive behavioral intervention designed to develop skills in coping with negative emotional states and the behavioral strategies of reinforcement and time away from reinforcement for parenting skills, familial communication exercises, and establishing a larger social support network within the families in which at least one caregiver were prescribed methadone and had children between the ages of 2 and 8 years old (Dawe & Harnett, 2007). Participants were randomly assigned to this home-based CBT intervention, a brief intervention group based on 2 sessions of parent training, or a standard care group that included methadone maintenance and access to a caseworker to assist with housing and employment benefits. Those who received home based CBT had

significantly lower CAPI abuse scores across time as well as lowered dosages of methadone, lowered PSI Total score, and SDQ problem and prosocial scores across time, while participants in the Standard care group had an increased CAPI abuse score over time and evidenced no change in other outcome measures, the Brief intervention group evidenced significant reductions (albeit small) in CAPI abuse scores and no change in other outcome measures.

Family components have been included in treatments for substance abuse, child neglect, and obesity (Fulkerson et al., 2006; Baranowski, Nader, Dunn, & Vanderpool, 1982; Beets & Foley, 2008; Kitzmann, Dalton, & Buscemi, 2008). Thus, given the efficacy of similar treatment approaches and the finding that substance abuse is associated with a number of health risks (Confrancesco et al., 2007; Gold & Miller, 1997; Rodondi, Pletcher, Liu, Hulley, & Sidney, 2006; Van Etten, Higgins, Budney, & Badger, 1998), interventions incorporating family, behavioral components would seem beneficial for treatment consumers with comorbid substance abuse, child neglect, and obesity. Improved substance use outcomes have been found within a substance use population when intervention components target exercise. For instance, one-hundred and eighty-seven participants in a contingency management plus standard intensive outpatient treatment demonstrated longer periods of drug abstinence when they were able to complete at least one exercise related activity (e.g., jogging, planning a workout routine, playing basketball; $n = 45$) during a 12 week treatment program as compared to non-exercising participants ($n = 142$) (Weinstock, Barry, & Petry, 2008). A randomized controlled trial investigated the effects of a cognitive behavior intervention for female smokers who were concerned about their weight (Sallit, Ciccazzo, & Dixon, 2009). The

intervention group received psychoeducation regarding nutrition and physical activity, self-monitoring, goal setting, stimulus control aimed at eating behaviors and cognitive restructuring whereas the control group only met to complete assessment measures. Results revealed the cognitive-behavioral group had better quality dieting, decreased weight, decrease in number of cigarettes smoked, and increased efficacy for weight loss and quitting smoking, as compared to the control group (Sallit et al.). Suggesting the added benefit of health related activities in improving drug use outcomes within a substance use treatment.

Interventions that have resulted in positive outcomes for obesity share many intervention strategies as those treatments with efficacy in drug abuse and child neglect samples, including goal setting with contingencies, self-control, stimulus control, reinforcement, and family support. Further, research literature has revealed that pregnant women enrolling in a substance use program due to external pressure from legal entities requiring substance use treatment had better program retention, better program attendance, less likely to have positive urine tests, and self-reported decrease in drug or alcohol use when compared to pregnant women facing less external pressure (Ondersma, Winhusen, & Lewis, 2010). Retention rates in weight loss programs have been substantially less, Finley, Barlow, Greenway, Rock, Rolls, & Blair (2007) reported 73 percent retention in a commercial weight loss program for the first four weeks, however, at 13 weeks retention rates dropped to less than half (i.e., 42 percent) and 22 percent and 7 percent after 26 and 52 weeks, respectively. However, those who were retained in the weight loss program evidenced a larger amount of weight loss (Finley, Barlow, Greenway, Rock, & Blair). Thus, participants mandated to treatment evidence higher

retention rates while individuals retained in a weight loss program evidence greater weight loss outcomes. Integration of treatment for poor health, substance use, and child neglect would seem more cost-effective.

With the aforementioned research in mind, an initial feasibility study was conducted to test the ease of incorporating components for obesity treatment into the pre-established Family Behavior Therapy framework for substance abuse and child neglect. To examine feasibility, an uncontrolled case study was conducted in a middle-aged female.

CHAPTER 3
METHODOLOGY

Participant

The study participant was referred to a treatment outcome study two months after testing positive for amphetamines during the birth of her daughter/son. Upon referral, she met study criteria, including 1) being diagnosed with Drug Abuse or Drug Dependence (i.e., lifetime or current) based on her responses to a structured clinical interview, 2) being referred for neglect by the local Department of Family Services (DFS) within four months, 3) drug use within four months of referral (self-report, collateral report from a significant other, caseworker report, or positive urinalysis), 4) primary reason for referral was not treatment of sexual abuse or domestic violence, 5) residing locally for at least four months with no plans to move or intentions to have an extended absence within 10 months to improve retention for follow-up assessment, 6) living with the child victim to assure adequate practice of skills with the child between therapy sessions or if the child is not currently living with the mother, plans for reunification, 7) the mother had at least one adult significant other at the time of the pre-treatment assessment willing to participate in treatment, 8) had a Body Mass Index score of 25 or greater, 9) not diagnosed with Anorexia Nervosa, Bulimia Nervosa, or Binge Eating Disorder as per her responses to a structured clinical interview, 10) participation in a health screen conducted by a medical professional, and 11) willingness to sign an informed consent from the mother indicating interest in participating in the Healthy Lifestyle component of FBT.

Procedures

Manual Development

The Family Behavior Therapy – Healthy Lifestyle (FBT-HL) manual was developed as part of the current study. Components of a pre-existing FBT manual for child neglect and substance abuse (developed as part of a NIDA funded grant, RO1 DA020548-01 A1) were modified to include various strategies that have shown efficacy in the literature for improved lifestyle choices and eating behaviors. The proposed FBT-HL manual was developed according to a standardized method of manual development utilized in other outcome studies (e.g., Donohue & Van Hasselt, 1999). These methods included a literature review to identify interventions most successful in the current population, preparation of treatment manuals after integrating the results of the literature review, and subsequent utilization of the manuals within a client case and discussion of difficulties encountered during group supervision. The manual was then summarized into a set of protocol checklists to ensure treatment adherence. Protocol checklists were utilized during training sessions with fellow counselors portraying the role of family members during role-play scenarios that attempt to simulate an in vivo administration of the intervention. Upon the conclusion of each training session, relevant counselors discussed the ease of administration and the expected utility of the intervention protocol. Any potential changes to the intervention protocol were discussed during supervision.

After the intervention protocols were deemed sufficient in the simulated role-plays, the checklists were utilized within treatment sessions with a family who met both study inclusionary and exclusionary criteria. During this process, the counselor audio recorded all sessions to permit random selection of audio recorded sessions to be reviewed for

treatment integrity by a protocol adherence specialist. Further, counselors met for 2 hours in a group supervision format with a licensed clinical psychologist to review the previous week's therapy session audiotapes. Each of these weekly group sessions began with the supervisor providing feedback to the counselors regarding the session protocol adherence from audio recordings, as well as anecdotal suggestions and inquiries relevant to improving protocol. Additionally, the counselor was encouraged to provide reciprocal feedback, including problems experienced in the home (e.g., client compliance, potential clinical problems not addressed by intervention protocols), and potential solutions to modify the protocol to be consistent with these problems. The group brainstormed solutions, and protocol checklists were modified to best accommodate these problems based on mutual agreement among the treatment team. During the implementation of the protocols in the participant's home, the participant was asked to rate the extent to which the interventions were "helpful" utilizing a 7-point scale (i.e., extremely helpful, extremely unhelpful). These ratings were examined to assist in determining the social validity of the treatments.

Assessment

The participant was administered a battery of tests and measures (see Measures below) during an in-home assessment one week prior to treatment. A nurse and lab assistant conducted an additional 30-minute assessment session immediately following the second treatment session (which preceded the implementation of health related interventions) to assure the participant was appropriate to participate in an exercise and nutrition program. Additionally, the participant completed the same battery of tests and measures immediately after treatment completion (i.e., 6 months).

An abbreviated assessment battery was administered once per month throughout the six months of treatment to provide on-going information to determine the participant's progress in therapy. This battery included weight, body fat, tape measurements, and Life and Parental Satisfaction ratings and will be extensively reviewed below. Trained clinicians blind to the treatment design administered monthly assessments, whereas pre-treatment and post-treatment assessments were administered by trained clinicians blind to the treatment assignment.

Measures

Pre/Post Assessment Measures

The following scales were administered one-week prior to treatment and post-treatment:

The participant's weight was recorded using a standardized scale. Height was recorded to calculate the participant's BMI. Additionally, body fat percentages (i.e., BMI) and mass were recorded utilizing an Omron electronic body fat analyzer.

The Life Satisfaction Scale-Revised has 13 content items and an additional item that requires the participant to rate her "overall life satisfaction". Content items assess the participant's degree of happiness in 13 aspects of her life (i.e., friendships, family, school, spirituality, safety, employment, fun activities, appearance, sex life/dating, ability to avoid drugs, ability to avoid alcohol, appearance, availability of transportation, amount of control over your life) using a 0% to 100% scale of happiness. The original version (i.e., Life Satisfaction Scale) was developed for use in conduct-disordered and substance abusing youth, and was found to have good reliability and validity (Donohue et al., 2003).

The Parent Satisfaction with Child Scale-Revised includes 11 content items, and an additional item that requires that participant to rate her “overall happiness with child.” Content items assess the participant’s degree of happiness in 11 aspects of the parent-child relationship (i.e., communication, relationship, reaction to attention/praise/rewards, compliance, reaction to redirection/punishment, following household rules, family involvement, safety skills, household chores, and school/educational activities) using a 0% to 100% scale of happiness. The original scale (i.e., Parent Satisfaction with Child scale) was developed for use in parents of conduct-disordered and substance abusing adolescents and was found to have good reliability and validity (Donohue, DeCato, Azrin, & Teichner, 2001).

The Eating Attitudes Test – 26 (EAT-26; Garner & Garfinkel, 1979) is a 26-item inventory comprising four subscales (i.e., dieting, oral control, awareness of food contents, and food preoccupation). It was originally developed as a measure of the symptoms of anorexia nervosa but more recently has been used to as a general measure of eating concerns. The EAT-26 has been shown to have adequate reliability and moderate to high validity with concurrent measures such as body image, weight, and number of diets (Garner, Olsted, Bohr, & Garfinkel, 1982; Koslowsky et al., 1992).

A Healthy Lifestyle Questionnaire (HLQ) was developed for use in this study. It includes 10 content items assessing how often the participant and the participants’ children, engaged in healthy tasks (i.e., eating fried foods, participation in sports and exercise, avoiding second portions at mealtime, eating from all main food groups, eating vegetables or fruit for snacks). The scale contains two subscales assessing the extent to which individuals engage in health-related behaviors (e.g., I eat fried foods, or I avoid

taking seconds or more than one plate of food during meals), and another scale assessing the extent to which children engage in health-related behaviors (e.g., My children eat fried foods, My child avoid taking seconds or more than one plate of food during meals). Items were developed based on the review of the obesity literature. The frequency of these behaviors are rated on a Likert-type scale (i.e., 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often, 6=always). Higher scores on this scale represent more frequent engagement in the healthy lifestyle behaviors assessed with two items (i.e., My children eat fried foods and I eat fried foods) reverse scored.

The Structured Clinical Interview for DSM-IV TR (SCID-IV; Spitzer, Williams, Gibbon, & First, 1992) is a structured diagnostic interview that is utilized to assess the presence or absence of DSM-IV TR mental health disorders. This scale was utilized to assist in determining Substance Abuse and Substance Dependence diagnoses, as well as Eating Disorder diagnoses relevant to our inclusionary and exclusionary criteria. Good reliability and validity estimates have been found for the SCID (Spitzer et al., 1992).

The Home Safety and Beautification Tour (HSBT; Donohue & Van Hasselt, 1999) was utilized to assess living conditions in homes of neglected children. Individual items measure the severity of home hazards including, toxins, electrical hazards, sharp objects, heavy objects, small objects, and the extent to which the home is clean and socially and cognitively stimulating (e.g., adequate toys and clothing, sanitary conditions). Assessors conduct a room-by-room tour of the home. Ratings are derived for rooms in the house utilizing a standardized checklist and 5-point Likert-type scale measuring treatment priority (i.e., 0=item not present, 1=item present, no priority, 2= item present, minimal priority, 3=item present, moderate priority, 4=item present, high priority). When

determining level of safety the assessor considers the developmental and chronological age of children in the home, as well as accessibility of children to the potential hazard or stimulating object. Reliability and validity estimates are currently unavailable, although the measure appears to have good face validity.

The Time-Line Follow-Back Interview (TLFB; Sobell, Sobell, Klajner, Paven, & Basian, 1986) was used to gather information regarding the mothers' frequency of illicit drug and alcohol use, HIV risk behaviors, episodes of domestic violence, dates children were removed from the home, and days incarcerated. In gathering information, the assessor utilizes month-by-month calendars for the previous 120-days. Significant events, such as birthdays, vacations, and holidays were recorded to aid recall of relevant days of substance use. After these events are recorded the participant is asked to record days in which illicit drug and alcohol use and other variables of interest have occurred. A collateral report of the same information is collected separately from the participant's significant other (i.e., her neighbor) on a separate calendar. This TLFB method has been shown to correspond closely with collateral reports and official records, the test-retest reliability is also good (Ehrman & Robbins, 1984; Sobell et al., 1986). Test-retest reliability has also been shown to be moderate to high for TLFB calendars ranging from one to six months prior to the day of assessment (Carey, 1997; Sacks, Drake, Williams, Banks, Herrell, 2003). Adolescent and caregiver reports of drug and alcohol use were significantly correlated with objective urine drug screen results (Donohue et. al., 2007).

Urinalysis testing were conducted by a same-gender research assistant certified in urine testing procedures utilizing on-site enzyme immunoassay. The following illicit drugs were assessed: marijuana (THC), cocaine, amphetamines, methamphetamines,

benzodiazepines, opiates, methadone, tricyclic anti-depressants, and phencyclidine (PCP).

The Parenting Stress Index Short Form (PSI-SF; Abidin, 1995) is a 36-item self-report measure of stress in the parent-child system. The PSI-SF yields 4 subscales (i.e., Total Stress, Parental Distress, Parent-Child Dysfunctional Interaction, Difficult Child). The PSI-SF includes a validity scale to detect the presence of defensive responding. The test-retest reliability for each of the scales ranged from .68 to .85. The internal consistency was good at .80 to .91. Further, the short form scales are highly correlated with respective scales in full length PSI (see Abidin, 1995) test-retest reliability is stable over a 1-year time frame (Haskett, Ahern, Ward, & Allaire, 2006). Negligent mothers have reported higher PSI scores than control mothers (Ethier & LaFreniere, 1993), and PSI scores have been shown to be significantly correlated with Child Abuse Potential Inventory Scales (Rodriguez & Green, 1997) and are predictive of Eyberg Child Behavior Inventory Scores 1 year later (Haskett et al., 2006).

The Child Abuse Potential Inventory (CAPI; Milner, 1986) consists of 160-items designed to detect persons who engage in abusive behavior towards children, thus this identifies children at risk for neglect and abuse. An Abuse Potential scale can be calculated along with three validity scales. The CAPI also yields factor scores that are closely related to abuse (i.e., distress, rigidity, unhappiness, loneliness, problems with others, problems with child, problems with self, problems family). The CAPI has been used widely and has shown very good internal consistency, test-retest reliability, and ability to discriminate mothers known to neglect, and abuse their children from those who do not (Heinz & Grisso, 1996; Walker & Davies, 2010).

The Family Environment Scale (FES; Moos & Moos, 1984) was utilized to assess familial relationships. For this study, only the Conflict and Cohesion scales were administered due to recommendations from others in the substance use field (Santisteban et al., 2003). The Conflict scale is a measure of the extent to which family members are perceived to argue and disagree. The Cohesion scale is a measure of the extent to which family members are perceived to be harmonious and “close”. Participants indicate whether each of 18-items is true or false regarding their family. The reliability and validity of the FES is excellent (Moos & Moos, 1984), and it has been utilized to examine relationships involving child maltreatment (Donohue & Van Hasselt, 1999; Schaeffer, Alexander, Bethke, & Kretz, 2005).

The Family Support Scale (FSS; Dunst, Jenkins, & Trivette, 1984) is an 18-item 5-point Likert-type scale that measures that helpfulness of sources of significant others and organizational support to family members with children. Support systems assessed include but are not limited to school/daycare, parents, spouse’s parents, church, and children. The FSS has adequate reliability and validity in family service participants (Cherniss & Herszog, 1996) and families involved with Head Start (Hanley, Tasse, Aman, & Pace, 1998).

Monthly On-Going Assessment Measures

The following assessments were completed on a monthly basis throughout the six-months of treatment:

Participant weight (lbs), height, waist (in), hip (in), arm (in), and bust (in) measurements and body fat percentages (i.e., BMI) and mass, Life Satisfaction and Parent Satisfaction Scales.

Measures Administered After Implementation of Each Intervention. A rating of “helpfulness” (1=extremely unhelpful, 2=very unhelpful, 3=somewhat unhelpful, 4=don’t know, 5=somewhat helpful, 6=very helpful, 7=extremely helpful) was obtained from the participant after each FBT-HL intervention was administered.

A rating of compliance (1=extremely noncompliant, 2=very noncompliant, 3=somewhat noncompliant, 4=don’t know, 5=somewhat compliant, 6=very compliant, 7=extremely compliant) was obtained from the therapist after each FBT-HL intervention was administered. Therapists based these ratings on the mother’s “participation” in session, homework completion, and attendance of significant other.

Treatment Sessions

The participant’s treatment plan consisted of a battery of interventions that were administered successively and cumulatively based on her preferences, and the therapist’s analysis of the family’s needs. Once the participant acquired the ability to complete role-plays successfully with minimal therapist involvement, the treatments were reviewed to a lesser extent. Her response to each of the interventions is described below.

Treatment Modules

Behavioral goals. Goals were constructed to address the participant’s idiosyncratic needs, as well as those of the referral agent. Due to the need for a treatment plan to target these specific concerns from the referral agent, treatment consumers are provided a list of standardized generic goals that explicitly target the precursors to drug use, child neglect, and HIV risk behaviors. Program therapists then assist the treatment consumer in customizing the standardized goals to make them more meaningful to them. Goals are then transferred to a written contract that permits monitoring and provision of rewards for

their completion on a weekly basis. Each week the treatment consumer is provided the opportunity to modify and change goals that will be a focus for the week, and significant others are also encouraged to correspondingly change their rewards.

To accommodate the benefits of a healthy diet and physical activity, Behavioral Goals includes a Healthy Lifestyle worksheet. This worksheet includes standardized goals related to eating a balanced diet, engaging in family activities, eating family meals together, and exercising (e.g., playing recreational sports together or taking family walks). The treatment consumer is required to set at least one of their weekly goals as a healthy lifestyle goal to ensure that healthy living is a focus of treatment. However, the treatment consumer is also encouraged to set healthy lifestyle goals throughout treatment.

Stimulus control. There are stimuli in the environment that make drug use, child neglect, and contracting HIV more likely, and less likely, to occur. Thus Stimulus Control is an intervention that identifies, monitors, and eliminates/controls the stimuli that increase the likelihood of drug use, child neglect, and HIV (at-risk stimuli). Alternately, it seeks to increase time spent with stimuli that decrease the likelihood of drug use, child neglect, and HIV (safe-stimuli). Because at-risk stimuli can unexpectedly occur, families are taught skills to identify where, and when, at-risk stimuli are most likely to occur and develop a plan for managing such stimuli when avoidance is impossible.

Additions to Stimulus Control within an obese population includes prompts for clinicians to gather items that put the family at-risk for engaging in an unhealthy lifestyle (e.g., junk food, fast food) and items that are safe for maintaining a healthy lifestyle (e.g., portion control, family mealtime). Additionally, the family schedules an activity related

to physical activity upon the conclusion of each treatment session utilizing Stimulus Control, rather than permitting the activity to be a sedentary one.

Self control. Substance use is associated with environmental stimuli such as certain places, objects, and people that will bring about physiological sensations. These conditioned antecedent stimuli often initiate the reinforcing aspects of substance use and place the treatment consumer at an increased risk for substance use. Similarly, neglectful parents often ignore or fail to recognize environment stimuli that warrant proper caretaking behaviors. Self-control enables treatment consumers to successfully recognize these conditioned antecedent stimuli early in order to avoid the negative consequences associated with the reinforcing properties of such stimuli.

Due to many drug users engaging in unhealthy binge-eating episodes, a trial, Self-Control includes role-plays for when a client has cravings or urges to engage in such disordered eating practices or avoidance of physical activity. The treatment consumer is taught to utilize Self Control when conditioned antecedent stimuli are present that could lead to disordered eating practices or lack of physical activity.

Basic necessities. Treatment consumers who use drugs and fail to take proper care of their children often experience domestic related emergencies that threaten the safety and maintenance of their basic needs. These emergency situations require immediate attention during the course of treatment, and can often be prevented. Therapists utilize an Assurance of Basic Necessities and Safety worksheet to teach treatment consumers to monitor the conditions that may increase the likelihood of emergencies. Therapists then utilize other FBT interventions to assist the treatment consumer in building skills relevant to prevent or eliminate the conditions that either lead to or are associated with home-

based emergencies. In order to address health lifestyle issues, the aforementioned worksheet includes “missed opportunity to exercise”.

I’ve got a great family. Families who engage in drug use and child neglect often display derogatory and belittling comments towards one another. This intervention helps members of the family to recognize the positive aspects of one another by prompting them to indicate things they love, admire, or respect about one another.

Positive request. This intervention is designed to increase the number of positive exchanges among family members by teaching the skills associated with making effective requests. This procedure includes the components of stating specific actions, when the behavior is desired, likely benefits of engaging in the behavior, stating why the behavior may be difficult, offers to help, providing reinforcement, and suggesting alternative behaviors.

Arousal management. Treatment consumers who engage in drug use and child neglect often have problems associated with anger and upset. A series of behavioral techniques such as identifying antecedents associated with anger, relaxation, neutral description of the problem, blaming the problem on the situation, and stating something contributing to the behavior is utilized to manage the treatment consumer’s negative feelings during the Arousal Management intervention.

Catching my child being good. This intervention teaches treatment consumers how to reinforce positive child behaviors and ignore undesired child behaviors as these skills have been shown to enhance the quality of the parental relationship. Relevant skills treatment consumers acquire during this intervention are attending, immediate

reinforcement, descriptive praise, tactile reinforcement, tone of voice, incidental teaching, queries, avoidance of criticism, and ignoring undesired behaviors.

Positive practice. Positive practice is a parenting method that can be utilized for treatment consumers to learn how to non-aversively punish undesired child behaviors when the child is too young or has never been taught the desired behavior. The treatment consumer is instructed to first blame the behavior on the situation and then instruct the child to practice performing the desired behavior.

Child compliance training. Treatment consumers learn this parenting method, which can be utilized to appropriately punish undesired behavior by providing commands and consequences for the child not completing the requested task. Techniques taught include effective delivery of commands to children, including the use of warnings and consequences of undesired behavior.

Job club. Job Club is implemented in order to assist the treatment consumer in obtaining a satisfying job with sufficient income. This enables the treatment consumer to attain the basic necessities for their family and is generally associated with a sense of pride. Job Club includes teaching the treatment consumer to effectively request an interview, as well as job interviewing skills and behaviors. After all components are practiced in session, treatment consumers perform calls to potential employers and request interviews in the presence of the program therapists. This intervention includes a discussion regarding seeking out and obtaining jobs that are consistent with healthy living (i.e., gym instructor, avoid employment in fast food restaurants).

Financial management. Financial management is included in FBT in order to assist families in learning to identify precursors to financial deficits, prioritize spending, and

obtain and manage additional sources of income leading the family to successfully balance their income and other resources. Procedures include listing monthly expenses, listing types and amounts of income, and learning how to identify surplus and deficits. This intervention includes an assessment of costs associated with unhealthy living, such as buying junk food and eating at fast food restaurants.

Home safety and beautification tour. A Home Safety and Beautification Tour is a standard FBT intervention component. It is completed in order to assure the family home is safe and stimulating. During this intervention therapists and the family tour the home, identify safety issues and home hazards, and established safety plans to ameliorate any potential concerns. During these tours, an assessment of available food is conducted to ensure adequate food supply and foods from all the major food groups. These safety plans are then incorporated into Behavior Goals (described above) in order to ensure participant follow through with suggested changes.

Therapists

Two therapists were assigned to conduct the therapies. The primary therapist was a clinical psychology Ph.D. student, and the secondary therapist was a research team member working towards a Master's degree in mental health.

Protocol Adherence

A protocol adherence specialist blind to the treatment design to determine adherence ratings monitored randomly selected audiotapes. Additionally, a program research assistant reviewed all session audiotapes to monitor the adherence to the protocol steps. The therapist administering the treatment also completed session protocol checklists indicating which therapeutic tasks were administered. The protocol adherence specialist

then rated the same session on separate protocol checklists independently. The therapist's, research assistant's, and protocol adherence specialist's randomly selected protocol checklists were then compared and a reliability estimate was computed.

Methods to Improve Participant Attendance & Retention

Several methods were implemented to enhance treatment completion. First, study exclusionary criteria necessitated that the participant lived in the immediate vicinity for a 4-months and not have plans to move within the next 9 months. Further, the participant received a \$100 gift card for completion for the pre-, post- and follow-up assessments. On a weekly basis, session attendance was monitored by a Client Services Team to assist in the review of homework completion and resolving concerns of the participant. Lastly, a prepaid cell phone with unlimited minutes was provided to the participant as a contingency for attendance during sessions and weekly telephone interventions.

CHAPTER 4
FINDINGS OF THE STUDY

Case Introduction

The participant was a 35 year-old mother of Hispanic background who resided with her six children, brother and sister-in-law and their infant child. Initially in therapy, her sister-in-law participated as an adult significant other but after the sister-in-laws family moved out of town for an employment opportunity, her adolescent children began to participate as supportive others during the remaining treatment sessions.

Background and History of Presenting Complaint

Court documents provided by the participant's caseworker indicated the participant and her boyfriend (20 years-old) were involved in a domestic violence incident in which he struck her with his open hand and attempted to hit her with a baseball bat. After coming to the attention of the metro police department, this boyfriend also admitted to striking the participant's six and 12-year-old children with a closed fist resulting in injuries to their faces. The latter incidents happened approximately two months prior to the participant's premature birth of her infant son, who tested positive for methamphetamine. When child welfare workers began investigating these occurrences both the participant and her boyfriend denied substance use. Her boyfriend was ordered to stay away from the family, and was required to attend a domestic violence class. The client was referred to receive substance use treatment and also attend domestic violence classes.

The participant reported having a difficult relationship with her extended family. They reportedly were not supportive and she perceived them as trying to take her children

away from her. She also reported that her extended family talked her adolescent daughter into reporting her boyfriend for having sexual intercourse with her teenage daughter, which was later determined to be unfounded by the local Department of Family Services. The participant had three prior substantiated cases for child neglect relevant to her adolescent daughter's truancy and lack of supervision for her older daughters.

The participant reported that she wanted to improve communication among her immediate family. Her adolescent daughter had run away multiple times, and was truant from school. Her two adolescent daughters were violent towards one another (e.g., name calling, yelling, and pushing).

Pre-treatment Assessment Results

Results of the pre-treatment assessment battery are summarized below (Table 1 summarizes the resulting scores). Table 2 lists the scores derived from the body measurements and eating attitudes/behaviors questionnaires, and initial health screen.

Validity

There is some evidence that the participant was attempting to present herself in a positive manner due to significant elevations on the CAPI Lie scale, which measures her tendency to make socially acceptable responses, and a significantly low score on the CAPI Random Responding scale, suggesting the CAPI content scales may be underestimates of her true abuse potential. Further, her score on the PSI-SF Defensive Responding scale was in the 70th percentile, suggesting the participant may have been biased to present herself in a favorable manner. However this score is not clinically elevated, and therefore is likely to represent an accurate representation of her current stress.

Health Status

The participant's health screen suggested that she was in relatively good health. She did have a prior diagnosis of diabetes but at the beginning of treatment the participant was managing it well. The nurse conducting the physical screening suggested she keep simple carbohydrates such as granola bars present when exercising in case her blood sugar dropped.

Body Shape

Anthropometric measurements revealed the participant was 4'11" in height and weighed 134 lbs. Her body fat percentage and mass as measured by the Omron Body Fat Analyzer were 32.1% and 43 lbs. According to this body fat percentage, the participant was in the obese range.

Health Behavior Frequency

Based on the participant's responses to the Healthy Lifestyle Questionnaire, her children were engaging in healthy behaviors often. They were always eating from all major food groups and choosing healthy snacks like fruits and vegetables. Further, they participated in exercise or sports often and very often avoided fried foods. However, they never avoided taking second portions of foods during meals. The total score on the Healthy Lifestyle Questionnaire for the children was 22 out of 30 points (i.e., higher scores represent more frequent engagement in health related behaviors). The participant's responses regarding her own health revealed she sometimes engaged in the behaviors. She reported always eating foods from all the major food groups. But engaged in all other behaviors sometimes (i.e., avoiding taking second portions of foods, participated in exercise or sports, choosing healthy snacks like fruits and vegetables).

She did report that she often ate fried foods. Her total score on the Healthy Lifestyle Questionnaire was 19 out of 30. For this family at intake, fried foods appeared to be the biggest problem behavior.

Eating Attitudes

The Eating Attitudes Test-26 did not reveal any negative eating attitudes associated with bulimia, dieting, or oral control issues. The participant only reported engaging in two items with any frequency, reporting she often takes longer than others to eat her meals and sometimes enjoys trying new rich foods. Results suggest no apparent cognitive distortions regarding food intake, dieting, or nutrition.

Life Satisfaction

On the Life Satisfaction Scale The participant indicated that she was 100% satisfied with most areas of her life including, friends, school, spirituality/religion, safety, fun activities, ability to avoid drugs, amount of control, and overall life satisfaction. She reported 80% and 84% satisfaction with her appearance and ability to avoid alcohol, respectively, and 50% satisfaction with availability of transportation. She was completely dissatisfied (0%) with her family, employment, and sex life/dating. These lowest areas of satisfaction would ultimately be treatment goals to help to establish the family as a cohesive unit, secure employment, and encourage meeting new people and increasing self-esteem.

Substance Use

Based upon the participant's responses on the SCID-IV and information obtained during the initial intake interview with the participant's caseworker, she was diagnosed with a Current Stimulants Abuse. This was primarily due to her current neglect report for

her child having methamphetamine in his system at birth, although she did report three days of methamphetamine use during the 120 days prior to the initial assessment on the Timeline Follow Back and six “drinks” of alcohol during that same period of time. Her caseworker reported 4 negative drug tests as assessed from a hair follicle analysis and urine analysis testing prior to intake. Her neighbor also completed a Timeline Follow Back with regards to substance use but did not report any illicit drug use. However, she did report 17 drinks of alcohol during the 120 days prior to the assessment period. Her urine analysis on the day of the assessment was negative for all assessed substances.

Child Neglect and Abuse

On the CAPI, her scores on the Problems with Others, which measures difficulties with social relationships was significantly elevated. More specifically, the participant’s Problems with Family scale score was significantly elevated which suggests that the family was likely experiencing fights and difficulty getting along. Further, her Rigidity score was significantly elevated which suggests that she may have beliefs consistent with children being orderly, obedient, clean, and quiet. Importantly, her Abuse score was not significantly elevated. Thus, her children did not appear to be at significant risk for physical abuse or neglect, according to this measure. However, the caseworker did remove the participant’s infant son from the home due to concerns of continued neglect. According to the client’s report on the Timeline Follow Back, he was placed in DFS custody for 63 out of 120 days prior to intake, which was the result of one child neglect report during that period.

Child Management and Parenting

On the Parent Satisfaction with Child scale, the participant rated the extent of satisfaction with her 2 mo old infant in various domains. On a scale from 0% to 100% satisfaction, she reported 100% satisfaction with all areas assessed including his communication with her, relationship with her, reaction to her positive attention, and overall satisfaction. These results of satisfaction were consistent with reported levels of stress on the Parent Stress Index-Short Form. The participant scored in the 10th percentile on the Total Stress Scale, which measures her overall stress with respect to her interactions with her children and their behaviors. Thus, her stress level was well below that of the general population. Further, her scores on the Parental Distress and Parental Child Dysfunction scale were relatively low (i.e., 30th and 35th percentile, respectively), and the Difficult Child scale was very low (i.e., 1st percentile) indicating a low level of distress in her role as a parent.

Family Functioning

The participant's scores on the Cohesion and Conflict subscales of the Family Environment Scale indicated that she experienced an average amount of family conflict, and that her family was cohesive. These results are contrary to other measures of familial distress on the Child Abuse Potential Inventory, and Life Satisfaction Scale, which revealed difficulties within her family and a general dissatisfaction with her familial unit. In fact, on the Family Support Scale, she reported her parents as only sometimes helpful, her children as very helpful, and reported her relatives as not available.

Home Safety

A tour of the participant's home revealed minimal home hazards. There were a few tipsy objects such as an ironing board and brooms, and razors in the bathroom and electrical outlets that were accessible to small children. There was an absence of home decorations and age appropriate toys for the infant.

Case Conceptualization

At the beginning of treatment the participant reported experiencing a number of stressors within her lifetime, including an unsupportive family, a violent marriage which subsequently ended in divorce, her younger brother's suicide two years prior, and more recently, her current relationship with a young man 15 years younger which also involved domestic violence. The participant reportedly was dependent on male figures during the course of her lifetime, which was made worse by her lack of the requisite skills to state her wishes in a productive manner.

This lack of assertiveness and effective communication skills lead to a diminished capacity to care for her young children in light of the stressors she experienced. For example, her boyfriend physically abused her younger children and given her dependency on male figures, she may have lacked motivation to stop such abuse. Moreover, terminating the relationship with her then boyfriend may have lead to extreme anxiety and fear of being alone. Her adolescent daughters were left to manage the family and eventually all children began acting out, some by evidencing behavioral problems within the home and her adolescent daughters avoiding school. These behavioral problems lead to a great number of stressors in the participant's life that she was unable to manage due to depressive thoughts associated with her brother's suicide. A downward spiral followed

which ended with her child neglect report and subsequent referral for substance use and child neglect.

The participant never admitted to program therapists the extent to which she used and the circumstances surrounding her substance use. In fact, when presented with evidence to the contrary (i.e., positive drug screens from the caseworker) she refused to acknowledge the validity of the information obtained. She reported only trying marijuana once while in high school and never used it subsequent to that time. When probed regarding her methamphetamine use she waivered in her assessment of how the drug was found in her system. Some reasons she provided were that methamphetamine must have gotten in her system simply from being in the environment in which it was being used, one of her family members must have slipped it to her unknowingly, and lastly that her adolescent daughter slipped her the methamphetamine because she was angry. Her ability to participate in the substance use program was based on urinalysis testing conducted by the participant's caseworker. It is likely that she experienced the use of Methamphetamine as a positive reinforcer, as it was a means of providing her energy to combat the aforementioned stressors. Negative consequences of admitting her methamphetamine use included fear of both judgment and further child neglect reports. In fact, in methamphetamine-dependent individuals, paranoia, delusional thinking, and hallucinations are often present (Mahoney, Kalechstein, De La Garza & Newton, 2008). Therefore, these psychotic symptoms may have actually been decreasing her ability to reliably provide information regarding her drug use.

Course of Treatment and Assessment of Progress

The family received 20 treatment sessions during a 6-month period of time. Each session lasted between 90 and 120 minutes, and each was conducted once or twice per week. The weekly treatment sessions were conducted in-home with at least one significant other, e.g., the participant's sister-in-law and her adolescent daughters. Additionally, the mother was encouraged to have her younger children attend treatment sessions to enable the participant to practice newly learned parenting skills throughout the interventions. During the course of treatment, the participant's adult significant other was present for only three sessions. Her infant was present for 20 sessions. With regards to her remaining children, four attended approximately 15 sessions, whereas her oldest daughter was often absent due to her running-away from home, she attended approximately 10 sessions. All treatments were standardized and implemented in a structured format utilizing protocol checklists.

Treatment Integrity

Protocol adherence was calculated by dividing the number of protocol steps completed by the number of protocol steps possible for each therapy. According to the therapists self-reported adherence 98 percent of treatment components possible were completed. The impartial reviewer's reported protocol adherence was significantly correlated with the therapists reported treatment integrity ($r=.98, p<.01$). Thus, the participant received the intervention components she was intended to receive.

Behavioral Goal Setting and Contingency Management

The participant established and updated goals relevant to improving parenting skills, improving health, and improving the safety of the home. Specifically, the client set goals

relevant to improving communication among herself and her children, establishing a familial routine, enrolling in an online nursing program, obtaining a driver's license, obtaining transportation, placing child safety equipment in the home, and exercising. During this intervention the participant received rewards from her children each week she completed her goals and she provided rewards to her children for supporting her with her goals. The majority of rewards consisted of receiving alone time in the form of bubble baths or massages for the participant from her children. The children often received small token gifts or time spent with friends as their awards. Upon termination from treatment, the client had acquired an automobile and was in process of studying for the driver's license exam. She had begun volunteering in an effort to learn computer skills that were necessary for her to enroll in an online degree program. Her family had developed a routine in which the children completed their homework with a tutor immediately after school and would return home in time to eat meals as a family. The participant showed effort in improving the communication among her family, for the most part; the children reported that their mother didn't yell at them as much.

With regard to her healthy lifestyle goals, the participant reported wanting to visit the recreation center near her apartment on a more frequent basis with her children as a means of getting exercise. The family began visiting and playing football nightly and eventually the participant began volunteering at the recreation center and her children would meet her there after school. They also began taking family walks around the track at the recreation center and the participant was able to work on her other goal of improving familial communication during these walks as she would ask her children about their days and any concerns they have.

Stimulus Control

At the start of treatment, the participant wanted to make it clear to program therapists that she did not use drugs and in fact, reportedly never tried drugs in the past. Therefore, she did not willingly share her drug use “triggers” (antecedent stimuli). When asked to list as many people, places, and situations that preceded poor parenting, HIV risk factor exposure, or substance use in the past, the participant was unable to generate items. The participant was attempting to present herself in a positive light and lead therapists to believe she had minimal problems with any of these items. With regard to drugs, the participant did report living in a location in which methamphetamine was being produced and therefore, many of the antecedent stimuli were related to that location. Additionally, she was able to share a number of negative emotional states (i.e., anxiety, stress) that contribute to her not being an optimal parent. Next, The participant was prompted to create a list of people, places, and situations not associated with HIV risk factors, poor parenting, and substance use. This list included her generating ideas that she hasn’t tried but would like to. She had an easier time generating positive activities, moods, and situations.

With regards to items generated regarding poor health, the participant reported risky items consistent with having no energy and alcohol. Health promoting activities for the participant’s family included eating meals together as a family, exercising, checking blood sugar levels, taking family walks, playing sports, and limiting eating between meals.

Therapists reviewed this list on a continual basis to assess 1) how she handled risky situations and 2) how she was able to increase time spent in safe situations. Throughout

treatment she basically denied engaging in any of the activities included on her at-risk list. It is unlikely that she was able to avoid these situations for the duration of her treatment but she did report spending a large portion of her time doing things that benefited her family such as taking walks and playing sports together as a family, The participant volunteering at a recreation center, eating meals together as a family, having energy to do things for her family, having family movie nights, children going to school, and limiting between meals.

Psychoeducation

During treatment, the participant's daughter celebrated her 15th birthday. The participant spoke of needing to get a cake and did not have the financial means to obtain one. The opportunity was taken and the therapist offered to make a "healthy" birthday cake for her daughter. A recipe was developed out of everyday ingredients that could be used as substitutions in an ordinary boxed cake mix and a new less expensive, healthier alternative to frosting was used. After supplying the cake, an intervention in which the recipe was described and the substitutions were explained including how many caloric savings was accomplished and methods of exercise to eliminate the excess calories in the system. The family voiced satisfaction with the cake and the recipe was supplied. In all, the family reportedly was excited to make the cake in the future. Indeed, spontaneously throughout treatment, the children would ask when they were going to get another cake.

Home Safety and Beautification

This intervention was introduced in the 11th treatment session. Although the participant agreed that the safety tour was necessary and her verbal reports were all cooperative. Behavioral signs such as fidgeting, moving very quickly from room to

room, and failure to engage in the tour indicated that the participant was defensive. The home tour revealed a number of potential home health hazards. Areas of concern included uncovered outlets, toxins that were accessible, insulin syringes that were accessible, glass windows in the children's rooms that did not lock or have a screen, and alcoholic beverages that were accessible. Suggestions were made and safety supplies were provided to the participant to ameliorate the hazards. Of important note, the infant was not yet mobile at the time of the home tour, thus many of the identified hazards were not hazardous at the time but would become hazardous towards the end of treatment. For this reason, the participant set a goal to implement the safety precautions prior to the infant beginning to crawl. At the conclusion of therapy, the participant began to take pride in her home by adding decorations. For example, the participant placed red garland on the ceilings of her bedroom that she shared with her infant son as a means of providing visual stimulation to him. She also added family portraits throughout the house. Perhaps more importantly, she placed covers on the electrical outlets throughout the common areas of the home.

Family Communication

The Communication modules aim to improve family communication and relationships. Therapists introduced "I've Got a Great Family" to The participant during session 2 after she reported some difficulties with her family. The participant stated that she understood how the modules would benefit her family. The family enjoyed hearing positive things about one another. The participant and the children were noted to tear up when hearing the comments. Due to the apparent need for positive statements in this family and the family's report of it being extremely helpful for them, therapists continued

reviewing this intervention multiple times after the initial implementation. Indeed, this intervention along with another communication module, Positive Request (implemented during session 5), was utilized once when the adolescent had run away from home and spontaneously arrived during the treatment session as a means of allowing the adolescent an opportunity to voice her concerns regarding the family and provide the participant an opportunity to respond to her requests for help. The family did not formally complete the homework exercises although in all the communication appeared to be improving. Arousal Management, the last communication module, was implemented during session 4 in order to help the adolescent and mother continue to increase their ability to discuss problems in a neutral manner.

Child Management

Child Management modules were utilized to help the participant to be more consistent in her disciplinary methods, to improve her children's compliance to her requests, and decrease her rigid beliefs regarding her children. In session 7, therapists introduced "Catch My Child Being Good." In session 8, the participant learned Positive Practice. In session 19, the therapists reviewed "Child Compliance Training." Throughout the child management modules, the participant was extremely eager to learn new parenting strategies and was highly compliant in session, including active participation in role-plays and *in vivo* trials. However, the participant provided many examples of how she was already utilizing similar approaches with her children, suggesting that she may have been defensive regarding her current parenting practices. When the participant engaged in role-plays with her children during treatment sessions they commented that their favorite part was that their mom wasn't yelling and instead

was using a calm tone of voice. At times, the participant would tear up at hearing these statements from her children regarding her progress.

Basic Necessities

During session 17 The participant was presented a list of 17 potential emergencies including adult-to-adult aggression/violence, adult-to-child aggression/violence, child-to-child aggression/violence, self injurious behavior, lack of food, illness or need for medical attention, overdue bills, unsanitary conditions in home, difficulty with caseworker, difficulty with FBT team, sexual assault, custody issues, court hearing, plans to move, substance use, HIV risk behavior, and not getting enough exercise. She was queried to indicate whether each of these items was imminent or present. Potential problems were solved utilizing Self Control (see review of this intervention below). The participant was asked to indicate whether any of these emergencies were present or may soon occur. The participant reported child-to-child aggression may soon occur and also her adolescent daughter may soon run away. She was subsequently aided in completing self-control trials to help problem solve how she could prevent her adolescent running away and also ways of intervening with child-to-child aggression. As a result, goals added to her behavior goals worksheet to reward her adolescent for going to school as truancy is also a precursor to her running away from home and for her to separate her children when fighting occurs. The participant did not report that she missed any opportunities to exercise during this intervention.

Job Club

The participant reported not ever being employed due to her relationships with males and them being the primary provider for her family. However, she reported wanting to

start learning skills so she could support herself in the future. Job Club was implemented in the 19th session and focused on determining what kinds of employment would be consistent with her health related goals. The participant reported wanting to secure employment as a nurse or in a law related field in the future. She began to think of ways she could start working towards these career options.

Monthly Indicators of Progress

The participant completed brief, monthly assessments throughout the course of her treatment. The same primary assessment technician from the pre-treatment assessment completed these sessions in-home. The technician for these assessments was blind to the specific procedures implemented with the participant. Results of these monthly assessments are presented in Table 2. Further, assessments were administered at the conclusion of each intervention to determine the extent to which the participant found the interventions helpful and the extent to which the participant complied with treatment components (see Table 3).

Client Helpfulness & Compliance Ratings

Overall, the participant reported all the interventions to be very helpful to extremely helpful ($M=6.21$, $SD=.55$, $N=33$). Conversely, the therapists reported the participant was somewhat compliant to very compliant ($M=5.91$, $SD=.68$, $N=33$) with all interventions. According to the participant, the most helpful interventions were Self-Control ($M=7.00$, $SD=.00$, $n=1$), I've Got a Great Family ($M=6.50$, $SD=.71$, $n=2$), and Positive Request ($M=6.33$, $SD=.58$, $n=3$). Conversely, interventions in which the participant was most compliant with were Self-Control ($M=7.00$, $SD=.00$, $n=1$) and Positive Practice ($M=7.00$, $SD=.00$, $n=1$). The participant was least compliant with Positive Request ($M=5.67$,

$SD=.58, n=3$), Arousal Management ($M=5.00, SD=.00, n=2$), and Behavioral Goals ($M=5.75, SD=.89, n=8$).

Weight

After implementing treatments related to healthy lifestyles, the weight did not change significantly. The largest difference throughout treatment was 4 lbs heavier (i.e., end of month 5) and 3 lbs lighter (i.e., end of month 1). Upon conclusion of treatment, the participant weighed approximately the same amount as she did at intake. Thus, the ongoing assessment did not indicate any significant difference on the participant's weight. Of important note, around the time that the participant's weight began increasing she had an episode in which her blood sugar dropped and she had to receive emergency treatment. Subsequent to this episode, the participant visited her physician for treatment of her diabetes and she discussed her desire to loss weight with him. During this appointment the physician told her he didn't feel as if her current weight was a large issue and he would prefer her not to go back to her pre-pregnancy weight because at that time she was below the norm for her body stature. After this visit, the participant lost motivation to continue working towards weight loss. An attempt was made to refocus treatment on eliminating body fat, not weight but the motivation simply wasn't there. Further, throughout treatment the participant's adolescent daughter ran-away approximately 5 times. When these incidents occurred, the participant was noted to have a stressed appearance and would have difficulty completing her health related goals for the previous week.

Body Mass Index

The participant's body fat percentage and mass did not change significantly throughout the course of treatment, achieving a decline shortly before the holiday season but then increasing to the level at intake starting after the holidays. Upon conclusion of treatment, the participant evidenced a 3 percent increase in her body mass index and a 4 lb increase in fat mass.

Life Satisfaction

In order to assess the participant's satisfaction with her progress throughout treatment, her satisfaction with her appearance was assessed. At intake she reported being somewhat dissatisfied with her appearance with a mediocre rating of 60 percent. At the end of month three, the participant reported feeling 90 percent happy with her appearance although this level began to decline towards the end of treatment as the increases in other health related measurements began to increase. Of note, the week that the participant provided the 90 percent satisfaction rating she presented during session wearing a dress shirt, high heeled shoes, her hair was fixed, and she was wearing make-up. This was a significant change from her usual sweat pants and t-shirts as well as disheveled hair. Upon conclusion of treatment, the participant reported feeling 100 percent satisfied with her appearance.

Summary of Monthly Indicators of Progress

It has been well documented that treatment consumers recovering from substance use evidence significant weight gain (Cowan & Devine, 2008; Hodgkins, Cahill, Seraphine, Frost-Pineda, & Gold, 2004). In fact, one study revealed during the first 6 months of recovery, men can evidence up to 45 lbs of weight gain (Cowan & Devine). Thus, during

a six-month time frame, the participant was able to maintain her body weight while beginning recovery from substance use. Her avoidance of the negative factors associated with weight gain will likely increase her ability to continue abstaining from drug use. Although a decline would have been more consistent with the participant's weight loss goals, her physician did not advise such a drastic weight loss. Despite not achieving her weight loss goals, the client reported increased satisfaction with her appearance upon termination from treatment. Further, she reported the interventions generally very to extremely helpful for her family. Qualitatively, she evidenced an improved appearance as she began dressing in a fashionable manner and was noted to smile more.

Post Treatment Assessment and Results

A narrative summary of the post-treatment assessment results is provided in the following section, and the specific post-treatment scores are listed in Table 1 next to the pre-treatment scores.

Validity

There is some evidence that the participant was responding in a defensive manner due to a significant elevation on the Lie scale of the Child Abuse Potential Inventory (the CAPI Lie scale was also elevated at pre-treatment assessment). Other measures of defensive responding such as the Defensive Responding index of the Parenting Stress Index did not reveal significant elevations at post-treatment. At pre-treatment assessment the Parenting Stress Index Defensive Responding scale was substantially higher although not considered clinically elevated. In all, an elevated Lie scale on the CAPI may result in a social desirability bias that may affect other self-report measures.

Health Behavior Frequency

At post-treatment assessment the client reported an increase in the number of healthy lifestyle behaviors her children and herself engaged in. She reported never eating fried foods whereas at pre-treatment she reported sometimes eating fried foods and her children rarely at fried foods. The family also increased the amount of exercise and athletics they participated in at post-treatment, reporting always engaging in said behaviors while during pre-treatment such behaviors occurred at a much lesser degree for the participant and children (i.e., sometimes and often, respectively). The children decreased the frequency of taking second portions at meals from always taking seconds to only often taking seconds. Their total frequency score was 27 out of 30 for the children and 24 out of 30 for the participant. This represents an increase of 5 points for both the participant and her children from pre-treatment assessment to post-treatment assessment.

Eating Attitudes

The Eating Attitudes Test-26 did not reveal significant negative eating attitudes associated with bulimia, dieting, or oral control issues. The participant did display a greater number of problematic eating attitudes at post-treatment than pre-treatment assessment. Namely, she reported always displaying self-control around food and always being aware of the caloric content of food. In the absence of other negative eating attitudes the occurrence of these dieting and oral control beliefs were viewed as positive due to the focus during treatment being displaying more awareness and self-control in risky situations.

Life Satisfaction

On the Life Satisfaction Scale the participant indicated equivalent or greater satisfaction in all assessed domains. In fact, she reported 100% satisfaction with most areas of her life including, friends, family, appearance, transportation, spirituality/religion, safety, fun activities, ability to avoid drugs and alcohol, amount of control, and overall life satisfaction. Some of these ratings rose dramatically, for instance, the domains of family and employment were rated at 0% at pre-treatment assessment and increased to 100% at post-treatment assessment. Further, she reported being 0% satisfied with her romantic relationships at pre-treatment assessment and at post-treatment assessment her rating was 70% satisfaction. This was the lowest reported domain of satisfaction.

Substance Use

According to the participant's responses on the SCID-IV, she no longer met criteria for substance use disorders, including Stimulants Abuse. Her urine analysis was also negative for all assessed substances at the time of the post-treatment assessment. The Timeline Follow Back procedure was conducted with the participant and her neighbor separately to gain further understanding of the participant's drug and alcohol use for the 120 days prior to the assessment. The participant did not report any drug use, which was consistent with her neighbor's report on the participant's drug use. However, the client reported having 7 alcohol beverages in the 120 days prior to the assessment. This is somewhat greater than the number of drinks the client reported at pre-treatment, and greater than the significant other's report of 4 alcohol beverages. When comparing significant other report of alcohol use at pre-treatment and post-treatment assessment, the

participant's alcohol use also evidenced a decline. Thus, all drug use measures were consistent with no illicit drug use during the past 6 months of treatment.

Child Neglect and Abuse

All of the participant's Child Abuse Potential Inventory (CAPI) scores were significantly improved at post-treatment. The Abuse scale is a composite of other factor scores that measures the degree to which a respondent's response pattern matches that of a person who has likely maltreated children; the participant's pre-treatment score (i.e., 203) was below the cut-off score (i.e., 215) albeit still high. At post-treatment assessment her score on the Abuse scale dropped dramatically. This suggests a significant overall reduction in the likelihood of child maltreatment.

Other CAPI subscale scores indicated improvements in various domains of emotional and familial functioning relevant to abuse potential. The Distress factor scale, which measures personal adjustment problems, although not elevated at pre-treatment, decreased significantly at post-treatment assessment (i.e., from 94 at pre to 0 at post). Additionally, the participant's score on the Problems with Family factor scale, which represents difficulties in the familial relationship score which was clinically elevated at pre-treatment assessment decreased dramatically to below the cut-off level (i.e., from 38 at pre to 7 at post). This would be indicative of an improved familial relationship. Similarly, her scores on the Rigidity factor scale which measures attitudes towards appearance and behavior of children including children as orderly, obedient, and cleanliness, decreased dramatically to below the clinical cut-off from pre-treatment to post-treatment (i.e., from 47 at pre to 29 at post). The participant's general difficulties with social relationships was measured via the Problems with Others factor scale, her

scores dropped dramatically to below the clinical cut-off from pre-treatment to post-treatment (i.e., from 24 at pre to 3 at post). According to the Timeline Follow Back, the caseworker placed the infant son back in the participant's home, lending support to the decline of the abuse potential.

Child Management and Parenting

The Parent Satisfaction with Child scale revealed no differences at post-treatment assessment from pre-treatment assessment. She remained 100% satisfied with all domains of satisfaction with her 8-month-old son. This is consistent with her overall amount of stress as reported on the Parenting Stress Index-Short Form. The participant's responses at post-treatment assessment were consistent with lower amounts of distress as compared to Pre-treatment assessment. With regards to the scale scores, although no subscale was elevated at pre-treatment assessment, the participant's post-treatment scores were substantially lower. All subscale scores were in the 1st percentile as compared to Total Stress in 10th percentile, Parental Child Dysfunction in the 35th percentile, Parental Distress in the 30th percentile, Difficult Child in the 1st percentile, and Total Stress in the 10th percentile at pre-treatment. Scores in the 1st percentile is consistent with a much lower amount of stress in her role as a parent as other mothers typically report.

Family Functioning

The Family Support Scale which measures the extent to which individuals in the participant's life have been helpful. The participant reported her parents, relatives, spouse's relatives, friends, spouses friends, and her children were all extremely helpful. At pre-treatment assessment, the participant reported her parents were sometimes helpful and her children were very helpful. The amount of support she received from individuals

close to her was greater at post-treatment which is consistent with second measure of family functioning, the Family Environment Scale. The Conflict subscale of the Family Environment Scale indicated that the participant's family experienced less family conflict than is average (i.e., from 27th percentile at pre to 4th percentile at post). Further, the Cohesion subscale indicated her family was more cohesive (i.e., from 81st percentile at pre to 93rd percentile at post). Taken together, the family was experiencing a larger degree of commitment and support from each other and the number of instances in which anger was expressed decreased.

Home Safety

At post-treatment the family was no longer living in the home that was rated at pre-treatment. This move was necessary as a family of 7 was living in a 2 bedroom apartment at pre-treatment assessment whereas they moved to a 4 bedroom apartment in the same complex. In contrast to pre-treatment, only minor safety risks were present at post-treatment. Risks found included sharp corners on furniture, spoiled food, accessible cleaning supplies, and heavy boxes. The participant had placed covers on electrical outlets and decorated to make the home more stimulating for the children.

Summary of Findings

Overall, according to self-report and objective measures, the participant accomplished improvement in various domains from pre-treatment to post-treatment. However, the CAPI validity scales suggest she may have attempted to present herself in a favorable manner. Also, it should be mentioned that her CAPI Lie scale score was also elevated at pre-treatment assessment, suggesting improvements in various problem behaviors may have occurred, but perhaps not to the extent she reported.

At post-treatment the participant reported a complete cessation of substance use. This concurs with objective urinalysis testing results that were negative from illicit substances at post-treatment, and with the absence of a substance abuse diagnosis according to a structured interview.

Substantial improvements were found in family functioning. She also reported better communication within the family and a decreased amount of family conflict. At post-treatment, the participant reported larger amount of satisfaction in her life in the domains of family, appearance, sex life/dating, ability to avoid alcohol, and transportation and perceived her family as more helpful.

Results on the CAPI suggest a significantly lower potential for abuse and lower problems with family and others, and distress. Further, she was able to develop a more realistic view of children and achieved greater overall flexibility with regards to their behavior. PSI results indicated she was experiencing a lesser amount of familial stress along with parental child dysfunction and parental distress.

With regards to the participant's health lifestyle goals, she reported that herself and her children were more frequently engaging in behaviors consistent with health living such as, eating fewer fried foods, exercising, and limiting meals to one plate. She also evidenced a greater awareness of the caloric intake of foods and a greater ability to display self-control when eating. Her weight or tape measurements did not change significantly throughout treatment. Suggesting an overall maintenance of her body shape throughout the initial stage of substance cessation.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Complicating Factors

Stressors

It has been documented that among the low-income population, overweight women engage in emotional eating and have a reduced ability to participate in health related behaviors when faced with stressors (Chang, Nitzke, Guilford, Adair, & Hazard, 2008). Conversely, social support, appearance, fit in clothes, and declined ability to participate in activities with children act as motivators for the women to engage in nutritious diet and physical activity (Chang et al.). Thus when working in low-income families, eliminating or decreasing stressors for the family as well as strengthening the family as a cohesive unit is of primary concern. As such, Kitzmann, Dalton, & Buscemi (2008) reported the better health related outcomes in families that have lower familial stress and high familial support, regardless of the specific health intervention utilized.

In this endeavor, FBT-HL strategies were utilized in the present case to minimize the stress associated with a run-away adolescent daughter and an unsupportive family structure by teaching communication strategies aimed at requesting needs and help in an appropriate manner. In fact, on two occasions the adolescent arrived home during treatment sessions. During these occasions communication strategies were utilized in which the mother was instructed to state that she was happy her daughter came home, and that they would discuss the run-away behavior during the next day when they were not distressed. The intention of this intervention was to reinforce the daughter for the behavior of coming home. The positive request procedure was also implemented to

enhance conflict resolution skills between the mother and her daughter, thereby eliminating aversive circumstances associated with arguments that were reportedly reasons for her leaving the home. However, the daughter continued to leave the home for up to one or two days throughout treatment, perhaps due to strong reinforcers associated with running away (e.g., security, comfort, sexual relations with others outside the home). In retrospect, it may have been helpful to teach the mother to provide her daughter with external reinforcers through a contingency management system (Thompson,2000).

Despite the occurrence of running away during treatment, communication strategies did help to further develop the family as a cohesive unit by helping to increase the number of positive statements that were made to one another as noted on self-reported assessment measures and observations of the participant interacting with her children during treatment sessions. This was also apparent when her younger adolescent daughter returned home after an extended stay with her aunt due to difficulties communicating with her older sister and mother.

Crisis Management

The mother reported several significant stressors throughout treatment, which increased her likelihood of drug use relapse (Tate, McQuaid, & Brown, 2005). Indeed, she experienced domestic violence, substance use, adolescent run-away, estranged extended family, lack of support from her children's fathers, lack of transportation, diabetes, suicide of her close brother, and lack of economical resources. These stressors were converted to treatment goals, and monitored during each week of therapy. In this way treatment planning could directly and immediately address these stressors through skill building exercises that were prioritized based on imminent threat to the well being of

the client or her minor children. For instance, when it was determined that the adolescent daughter had left home, this stressor was immediately addressed in skill-building interventions that were prepared a priori (i.e., Positive Request, Self Control). When the participant's abusive boyfriend was determined to come by the home, the focus of treatment was shifted to making sure that domestic violence would not occur during those visits utilizing Stimulus Control. It was further conceptualized that this approach would decrease the likelihood of antecedent stimuli to drug use (i.e., triggers), and permit other explicit interventions to be put on hold.

Treatment Implications of the Case

Weight Management & Substance Use

This case demonstrated the initial efficacy of implementing a health program within a structured, evidence-based framework for substance abuse and child neglect. Generally, cessation from stimulant substances is associated with weight gain (Jeffery et al., 2000; Neale, Abraham, & Russell, 2009). This participant was able to achieve cessation from substances while maintaining her weight. Although greater weight loss outcomes would have closer matched her goals, it has been well documented that during the first 6 months of recovery from substances treatment consumers experience weight gain (Cowan & Devine, 2008). Thus, maintenance would be considered a success within the current population as the client reported a greater amount of satisfaction with her appearance, which is associated with lower rates of relapse (Jeffery et al., 2000). Additionally, in a sample of methamphetamine users, over a third of the women reported continued methamphetamine use as a means of weight loss. Eighty-four percent of women surveyed reported weight loss as a consequence of methamphetamine use; the most

commonly reported consequence in the sample (Brecht, O'Brien, Mayrhauser, & Anglin, 2004). Thus, it may be very appropriate to consider the incorporation of basic lifestyle in treatment planning among these cases to assist them in achieving or maintaining a healthy weight.

Cultural & Economic Considerations

The Pediatric Nutrition Surveillance Survey conducted by the Center for Disease Control and Prevention on low-income children enrolled in federally funded maternal and child health programs across the United States reported the prevalence of obesity among Hispanic children as 18.3%, this is among the highest prevalence (i.e., following American Indian and Native Alaskan cultures) of obesity in the cultures surveyed with white and black children represented the lowest prevalence (12.6% and 12.0%, respectively; Polhamus, Dalenius, Mackintosh, Smith, & Grummer-Strawn, 2009). Further, Lindsay, Sussner, Greaney, & Peterson (2009), conducted focus groups with Hispanic families to determine their perceived environmental influences on eating behaviors. The families included in these focus groups reported supermarket proximity, cost of food, access to recreational facilities, and neighborhood safety as important environmental determinants of health behavior.

The participant in the current study did reside across the street to a recreational facility in which she began volunteering. However this facility was within a high crime neighborhood and did not have a supermarket within close proximity. In fact, the participant reported requiring a full day to shop for groceries due to the necessity to take public transportation to acquire her supplies and the need to bring along children at times to help carry the bags. These issues are often not addressed in weight loss programs.

However, these factors have been shown to influence obesity related outcomes. One study examined the proximity of fast-food restaurants and convenience stores as compared to supermarkets and specialty food stores to residences (Spence, Cutumisu, Edwards, Raine, & Smoyer-Tomic, 2009). The researchers found that individuals with more supermarkets and specialty food stores available had lower incidence of obesity. Conversely, individuals with more convenience stores and fast food restaurants in the area evidenced higher obesity rates. Although the participant in the current study was not in close proximity to supermarkets and specialty stores and lacked the availability of transportation, the social services caseworker involved with the client was able to provide her bus passes to travel to needed destinations. This may be an important component to include in weight loss programs within low-income populations.

Recommendations to Clinicians and Students

The FBT-HL intervention seems suitable in the current population because of the number of health concerns present in a drug use and child neglect population. Being healthy is generally incompatible with drug use therefore; implementing a health component into this population appears to have many benefits for the participating adults and children. For the adults, learning skills necessary for living healthy will have benefits for employment and instill a greater sense of pride in their body and self-esteem. This increased pride and self-esteem could have further implications for avoidance of future drug use, avoidance of HIV risk behaviors, and avoidance of making other devastating life choices. Often times, children grow up being obese when they are not adequately taught appropriate lifestyle choices to engage in. Thus, implementing healthy lifestyle components in adults will likely have a trickle-down effect on the children

because of modeling of appropriate lifestyle behaviors such as being physically active and eating nutritious foods. Further, the overall benefit of bringing the family together to support one another will have added benefits for future positive interactions and maintain activities that are incompatible with drug abuse and child neglect.

Health Considerations

When working with treatment consumers recovering from stimulants use, care should be taken to assure that weight loss goals are consistent with a healthy weight level. In this case, the participant's desire to maintain a weight she was during her time of abusing stimulants was unrealistic and incompatible with a healthy lifestyle. Managing the distortions around healthy weight and challenging the associated cognitive distortions may be necessary before participants are able to develop appropriate weight loss goals.

The current case illustrated the difficulty participants have in developing insight into which environmental factors are present that act as antecedents to negative health factors. An instrument was recently evaluated for use in low-income, minority women to help to develop an understanding of the stimuli associated with weight gain in each specific case. This Eating Stimulus Index has subscales pertaining to problem behaviors including fruit/vegetable availability, convenience eating, social acceptance, self-efficacy, emotional eating, dietary restraint, hunger, and taste (Cahill, Freeland-Graves, Shah, Lu, & Klohe-Lehman, 2009). When this instrument is administered therapists can utilize the responses to the items to inform stimulus control strategies to ensure targeted treatment of specific factors related to weight gain. Additionally, a more complete picture of the weight status of the participant could have been gained by utilizing tape measurements of arm, bust, waist, and hip. An attempt was made in the current study to collect such

measurements. However, due to practical reasons (i.e., not having a trained health practitioner to provide consistent tape measurements), it was determined that this method of assessment could not be reliably obtained.

Alcohol use leads to an increase in the incidence of Type 2 diabetes and generally individuals diagnosed with diabetes are urged to avoid alcoholic beverages (Kay, Taylor, Barthwell, Wichelecki, & Leopold, 2010). The same researchers report that individuals with diabetes that consume alcohol are at a greater risk for hypoglycemia and thus should take extra care in monitoring their glucose levels. The participant in this study reportedly was able to maintain in blood glucose levels, and thus did not monitor her sugar level on a regular basis. Additionally, Mainous, Diaz, & Geesey (2008) found diabetic Latinos that are more acculturated into the United States culture are less likely to adhere to the dietary habits suggested (i.e., saturated fats and fiber consumption) by the American Diabetes Association. Future researchers working with diabetic clients are urged to directly monitor the frequency of the treatment consumer's blood glucose checks in order to ensure optimal health, especially when working with individuals who have a history of alcohol and illicit substance use.

REFERENCES

- Abidin, R. (1995). Parenting Stress Index (3rd ed.). Psychological Assessment Resources, Inc., Lutz, FL.
- Allin, H., Wathen, C. N., & MacMillan, H. (2005). Treatment of child neglect: A systematic review. *Canadian Journal of Psychiatry, 50*, 497-504.
- Allison, K. C., Grilo, C. M., Masheb, R. M., & Stunkard, A. J. (2007). High self-reported rates of neglect and emotional abuse, by persons with binge eating disorder and night eating syndrome. *Behaviour Research and Therapy, 45*, 2874-2883.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th Ed. Text Revision). Washington, DC: Author.
- Ammerman, R. T., Kolko, D. J., Kirisci, L., Blackson, T. C., & Dawes, M. A. (1999). Child abuse potential in parents with histories of substance use disorder. *Child Abuse & Neglect, 23*, 1225-1238.
- Andersen, R. E., Crespo, C. J., Bartlett, S. J., Cheskin, L. J., & Pratt, M. (1998). Relationship of physical activity and television watching with body weight and level of fatness among children. *Journal of the American Medical Association, 279*, 938-942.
- Andersen, R. E., Wadden, T. A., Bartlett, S. J., Zemel, B., Verde, T. J., & Franckowiak, S. C. (1999). Effects of lifestyle activity vs structured aerobic exercise in obese women: A randomized trial. *Journal of the American Medical Association, 281*, 335-340.

- Arias, I. (2004). The legacy of child maltreatment: Long-term health consequences for women. *Journal of Women's Health, 13*, 468-473.
- Ayala, G. X., Baquero, B., Arredondo, E. M., Campbell, N., Larios, S., Elder, J. P. (2007). Association between family variables and Mexican American children's dietary behaviors. *Journal of Nutrition Education and Behavior, 39*, 62-69.
- Azrin, N. H. (1976). Improvements in the community-reinforcement approach to alcoholism. *Behaviour Research and Therapy, 14*, 339-348.
- Azrin, N. H., Acierno, R., Kogan, E. S., Donohue, B., Besalel, V. A., & McMahon, P. T. (1996). Follow-up results of supportive versus behavioral therapy for illicit drug use. *Behaviour Research and Therapy, 34*, 41-46.
- Azrin, N. H., Donohue, B., Besalel, V. A., Kogan, E. S., & Acierno, R. (1994). Youth drug abuse treatment: A controlled outcome study. *Journal of Child & Adolescent Substance Abuse, 3*, 1-16.
- Azrin, N. H., Donohue, B., Teichner, G. A., Crum, T., Howell, J., & DeCato, L. A. (2001). A controlled evaluation and description of treatment consumer-cognitive problem solving and family-behavior therapies in dually-diagnosed conduct-disordered and substance-dependence youth. *Journal of Child and Adolescent Substance Abuse, 11*, 1-43.

- Azrin, N. H., McMahon, P. T., Donohue, B., Besalel, V. A., Lapinski, K. J., Kogan, E. S.,...Galloway, E. (1994). Behavior therapy for drug abuse: A controlled treatment outcome study. *Behavior Research and Therapy*, 32, 857-866.
- Baranowski, T., Nader, P. R., Dunn, K., & Vanderpool, N. A. (1982). Family self-help: Promoting changes in health behavior. *Journal of Communication*, 32, 161-172.
- Barton, C., & Alexander, J. F. (1981). Functional family therapy. In A. S. Gurman & D. P. Kniskern (Eds.), *Handbook of family therapy* (pp. 403-443). New York: Brunner/Mazel.
- Bassett, D. R., Tremblay, M. S., Esliger, D. W., Copeland, J. L., Barnes, J. D., & Huntington, G. E. (2007). Physical activity and body mass index of children in an older order Amish community. *Medicine and Science in Sports & Exercise*, 39, 410-415.
- Bassett, D. R., Schneider, P. L., & Huntington, G. E. (2004). Physical activity in an old order Amish community. *Medicine and Science in Sports & Exercise*, 36, 79-85.
- Bavolek, S. J., & Keene, R. G. (2001). Adult-Adolescent Parenting Inventory (AAPI-2): Administration and Development Handbook. *Family Development Resources*.
- Beets, M. W., & Foley, J. T. (2008). Association of father involvement and neighborhood quality with kindergartners' physical activity: A multilevel structural equation model. *American Journal of Health Promotion*, 22, 195-203.

- Bender, K., Springer, D. W., & Kim, J. S. (2006). Treatment effectiveness with dually diagnosed adolescents: A systematic review. *Brief Treatment and Crisis Intervention, 6*, 177-205.
- Bickel, W. K., Amass, L., Higgins, S. T., Badger, G. J., & Esch, R. A. (1997). Effects of adding behavioral treatment to opioid detoxification with buprenorphine. *Journal of Consulting and Clinical Psychology, 65*, 803-810.
- Blair, S. N. (1984). How to assess exercise habits and physical fitness. In J. D. Matarazzo, S.M. Weiss, J. A. Herd, N. E. Miller & S. M. Weiss (Eds.) *Behavioral health: A handbook of health enhancement and disease prevention*. New York: John Wiley & Sons.
- Borduin, C. M., Mann, B. J., Cone, L. T., Henggeler, S. W., Fucci, B. R., Blaske, D. M., & Williams, R. A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. *Journal of Consulting and Clinical Psychology, 63*, 569-578.
- Brecht, M. L., O'Brien, A., von Mayrhauser, C., & Anglin, M. D. (2004). Methamphetamine use behaviors and gender differences. *Addictive Behaviors, 29*, 89-106. doi:10.1016/S0306-4603(03)00082-0
- Brownell, K. D., & Wadden, T. A. (1992). Etiology and treatment of obesity: Understanding a serious, prevalent, and refractory disorder. *Journal of Consulting and Clinical Psychology, 60*, 505-517.

- Brunk, M., Henggeler, S. W., & Whelan, J. P. (1987). Comparison of Multisystemic Therapy and Parent Training in the brief treatment of child abuse and neglect. *Journal of Consulting and Clinical Psychology, 55*, 171-178.
- Budney, A. J., Higgins, S. T., Radonovich, K. J., & Novy, P. L. (2000). Adding voucher-based incentives to coping skills and motivational enhancement improves outcomes during treatment for marijuana dependence. *Journal of Consulting and Clinical Psychology, 68*, 1051-1061.
- Buemann, B., & Tremblay, A. (1996). Effects of exercise training on abdominal obesity and related metabolic complications. *Sports Medicine, 21*, 191-212.
- Cahill, J. M., Freeland-Graves, J. H., Shah, B. S., Lu, H., & Klohe-Lehman, D. M. (2009). Development and validation of the Eating Stimulus Index in low-income, minority women in early postpartum. *Journal of American Dietetic Association, 109*, 1593-1598. doi: 10.1016/j.jada.2009.06.364
- Carey, K. B. (1997). Reliability and validity of the time-line follow-back interview among psychiatric outpatients: A preliminary report. *Psychology of Addictive Behaviors, 11*, 26-33.
- Carroll, K. M., Ball, S. A., Nich, C., O'Connor, P. G., Eagan, D., Frankforter, T. L.,...Rounsaville, B. J. (2001). Targeting behavioral therapies to enhance naltrexone treatment of opioid dependence: Efficacy of contingency management and significant other involvement. *Archives of General Psychiatry, 58*, 755-761.

- Carroll, K. M., & Onken, L. S. (2005). Behavioral therapies for drug abuse. *American Journal of Psychiatry*, *162*, 1452-1460.
- Carroll, K. M., Sinha, R., Nich, C., Babuscio, T., & Rounsaville, B. J. (2002). Contingency management to enhance naltrexone treatment of opioid dependence: A randomized clinical trial of reinforcement magnitude. *Experimental and Clinical Psychopharmacology*, *10*, 54-63.
- Chaffin, M., Silovsky, J. F., Funderburk, B., Valle, L. A., Brestan, E. V., Balachova, T.,...Bonner, B. L. (2004). Parent-child interaction therapy with physically abusive parents: Efficacy for reducing future abuse reports. *Journal of Consulting and Clinical Psychology*, *72*, 500-510.
- Chang, M., Nitzke, S., Guilford, E., Adair, C. H., & Hazard, D. L. (2008). Motivators and barriers to healthful eating and physical activity among low-income overweight and obese mothers. *Journal of American Dietetic Association*, *108*, 1023-1028. doi: 10.1016/j.jada.2008.03.004
- Cherniss, C., & Herzog, E. (1996). Impact of home-based therapy on maternal and child outcomes in disadvantaged adolescent mothers. *Family Relations*, *45*, 72-79.
- Cluss, P. A., Ewing, L. J., Long, K. A., Krieger, W. G., & Lovelace, J. (2010). Adapting pediatric obesity treatment delivery for low-income families: A public-private partnership. *Clinical Pediatrics*, *49*, 123-129. doi: 10.1177/0009922809346572

- Coates, T. J., Jeffery, R. W., Slikard, L. A., Killen, J. D., & Danaher, B. G. (1982). Frequency of contact and monetary reward in weight loss, lipid change, and blood pressure reduction with adolescents. *Behavior Therapy, 13*, 175-185.
- Cofrancesco, J., Jr., Brown, T. T., Luo, R. F., John, M., Stewart, K. J., & Dobs, A. S. (2007). Body composition, gender, and illicit drug use in an urban cohort. *American Journal of Drug and Alcohol Abuse, 33*, 467-474.
- Conroy, E., Degenhardt, L., Mattick, R. P., & Nelson, E. C. (2009). Child maltreatment as a risk factor for opioid dependence: Comparison of family characteristics and type and severity of child maltreatment with a matched control group. *Child Abuse & Neglect, 33*, 343-352. doi:10.1016/j.chiabu.2008.09.009
- Cowan, J., & Devine, C. (2008). Food, eating, and weight concerns of men in recovery from substance addiction. *Appetite, 50*, 33-42.
- Dawe, S. & Harnett, P. (2007). Reducing potential for child abuse among methadone-maintained parents: Results from a randomized controlled trial. *Journal of Substance Abuse Treatment, 32*, 381-390.
- Demb, J. M. (1991). Reported hyperphagia in foster children. *Child Abuse & Neglect, 15*, 77-88.
- Dennis, M., Godley, S. H., Diamond, G., Tims, F. M., Babor, T., Donaldson, J.,... Webb, C. (2004). The cannabis youth treatment (CYT) study: Main findings from two randomized trials. *Journal of Substance Abuse Treatment, 27*, 197-213.

- Donohue, B., De Cato, L. A., Azrin, N. H., & Teichner, G. A. (2001). Satisfaction of parents with their conduct-disordered and substance-abusing youth. *Behavior Modification, 25*, 21-43.
- Donohue, B., Hill, H. H., Azrin, N. H., Cross, C., & Strada, M. J. (2007). Psychometric support for contemporaneous and retrospective youth and parent reports of adolescent marijuana use frequency in an adolescent outpatient treatment population. *Addictive Behaviors, 32*, 1787-1797.
- Donohue, B., Teichner, G., Azrin, N., Weintraub, N., Crum, T. A., Murphy, L., & Silver, N. C. (2003). Initial reliability and validity of the Life Satisfaction Scale for Problem Youth in a sample of drug abusing and conduct disordered youth. *Journal of Child and Family Studies, 12*, 453-464.
- Donohue, B., & Van Hasselt, V. B. (1999). Development and description of an empirically based ecobehavioral treatment program for child maltreatment. *Behavioral Interventions, 14*, 55-82.
- Dunkel, L. D., & Glaros, A. G. (1978). Comparison of self-instructional and stimulus control treatments for obesity. *Cognitive Therapy and Research, 2*, 75-78.
- Dunn, A. L., Marcus, B. H., Kampert, J. B., Garcia, M. E., Kohl, H. W., & Blair, S. N. (1999). Comparison of lifestyle and structured intervention to increase physical activity and cardiorespiratory fitness: A randomized trial. *Journal of the American Medical Association, 281*, 327-334.

- Dunst, C. J., Jenkins, V., & Trivette, C. M. (1984). Family support scale: Reliability and validity. *Journal of Individual, Family, and Community Wellness, 1*, 42-52.
- Dutra, L., Stathopoulou, G., Basden, S. L., Leyro, T. M., Powers, M. B., & Otto, M. W. (2008). A meta-analytic review of psychosocial interventions for substance use disorders. *American Journal of Psychiatry, 165*, 179-187.
- Dutton, G. R., Martin, P. D., Welsch, M. A., & Brantley, P. J. (2007). Promoting physical activity for low-income minority women in primary care. *American Journal of Health Behaviors, 31*, 622-631.
- Eakin, E. G., Bull, S. S., Riley, K. M., Reeves, M. M., McLaughlin, P., & Gutierrez, S. (2007). Resources for health: A primary-care-based diet and physical activity intervention targeting urban Latinos with multiple chronic conditions. *Health Psychology, 26*, 392-400.
- Ehrman, R. N., & Robbins, S. J. (1984). Reliability and validity of 6-month reports of cocaine and heroin use in a methadone population. *Journal of Consulting and Clinical Psychology, 62*, 843-850.
- Epstein, D. E., Hawkins, W. E., Covi, L., Umbricht, A., & Preston, K. L. (2003). Cognitive behavioral therapy plus contingency management for cocaine use: Findings during treatment and across 12-month follow-up. *Psychology of Addictive Behaviors, 17*, 73-82.

- Epstein, L. H., Paluch, R. A., Kilanowski, C. K., & Raynor, H. A. (2004). The effect of reinforcement or stimulus control to reduce sedentary behavior in the treatment of pediatric obesity. *Health Psychology, 23*, 371-380.
- Ethier, L. S., & LaFreniere, P. J. (1993). Le stress des meres monoparentales en relation avec l'agressivite de l'enfant d'age prescolaire. *Journal International De Psychologic, 28*, 273-289.
- Fantuzzo, J., Sutton-Smith, B., Atkins, M., Meyers, R., Stevenson, H., Coolahan, K.,...Manz, P.(1996). Community-based resilient peer treatment of withdrawn maltreated preschool children. *Journal of Consulting Clinical Psychology, 64*, 377-386.
- Finley, C. E., Barlow, C. E., Greenway, F. L., Rock, C. L., Rolls, B. J., & Blair, S. N. (2007). Retention rates and weight loss in a commercial weight loss program. *International Journal of Obesity, 31*, 292-298. doi: 10.1038/sj.ijo.0803395
- Fitzgibbon, M. L., Stolley, M. R., Dyer, A. R., VanHorn, L., & KauferChristoffel, K. (2002). A community-based obesity prevention program for minority children: Rationale and study design for Hip-Hop to Health Jr. *Preventive Medicine, 34*, 289-297.
- Fitzgibbon, M. L., Stolley, M. R., Schiffer, L., Van Horn, L., Christoffel, K. K., & Dyer, A. (2005). Two-year follow-up results for hip-hop to health JR.: A randomized controlled trial for overweight prevention in preschool minority children. *Journal of Pediatrics, 146*, 618-625.

- Franzini, L. R., & Grimes, W. B. (1980). Contracting and Stuart's three-dimensional program in behavior modification of the obese. *Psychotherapy: Theory, Research, and Practice, 17*, 44-51.
- Fremouw, W. J., Callahan, E. J., Zitter, R. E., & Katell, A. (1981). Stimulus control and contingency contracting for behavior change and weight loss. *Addictive Behaviors, 6*, 289-300.
- Friedman, A. S. (1989). Family therapy vs. parent groups: Effects on adolescent drug abusers. *American Journal of Family Therapy, 17*, 335-347.
- Fulkerson, J. A., Story, M., Mellin, A., Leffert, N., Neumark-Sztainer, D., & French, S. A. (2006). Family dinner meal frequency and adolescent development: Relationships with developmental assets and high-risk behaviors. *Journal of Adolescent Health, 39*, 337-345.
- Fung, T. T., Hu, F. B., Yu, J., Chu, N., Spiegelman, D., Tofler, G. H.,...Rimm, E. B. (2000). Leisure-time physical activity, television watching, and plasma biomarkers of obesity and cardiovascular disease risk. *American Journal of Epidemiology, 152*, 1171-1178.
- Garner, D. M., & Garfinkel, P. E. (1979). The Eating Attitude Test: An index of the symptoms of anorexia nervosa. *Psychological Medicine, 9*, 273-279.

- Garner, D. M., Olsted, M. P., Bohr, Y., & Garfinkel, P. E. (1982). The EAT: Psychometric features and clinical correlates. *Psychological Medicine, 12*, 871-878.
- Gershater-Molko, R. M., Lutzker, J. R., & Wesch, D. (2003). Project SafeCare: Improving health, safety, and parenting skills in families reported for, and at-risk for child maltreatment. *Journal of Family Violence, 18*, 377-386.
- Glasgow, R. E., Strycker, L. A., Eakin, E. G., Boles, S. M., & Whitlock, E. P. (1999). Concern about weight gain associated with quitting smoking: Prevalence and association with outcome in a sample of young female smokers. *Journal of Consulting and Clinical Psychology, 67*, 1009-1011. doi: 10.1037/0022-006X.67.6.1009
- Gold, M. S., & Miller, N. S. (1997). Cocaine (and crack) neurobiology. In J. H. Lowinson, P. Ruiz, R. B. Millman, and J. G. Langrod (Eds.), *Substance abuse: A comprehensive textbook* (pp. 166-188)., 3rd Ed. Baltimore: William & Wilkins.
- Golley, R. K., Magarey, A. M., Baur, L. A., Steinbeck, K. S., & Daniels, L. A. (2007). Twelve-month effectiveness of a parent-led, family focused weight management program for prepubertal children: A randomized controlled trial. *Pediatrics, 119*, 517-525.
- Gorin, A. A., Le Grange, D., & Stone, A. A. (2003). Effectiveness of spouse involvement in cognitive behavioral therapy for binge eating disorder. *International Journal of Eating Disorders, 33*, 421-433.

- Grilo, C. M., White, M. A., & Masheb, R. M. (2009). DSM-IV psychiatric disorder comorbidity and its correlates in binge eating disorder. *International Journal for Eating Disorders, 42*, 228-234.
- Hanley, B., Tasse, M. J., Aman, M. G., & Pace, P. (1998). Psychometric properties of the Family Support Scale with Head Start families. *Journal of Child and Family Studies, 7*, 69-77. doi: 10.62-1024/9&!D300-0069
- Harrop, E. N., & Marlatt, G. A. (2010). The comorbidity of substance use disorders and eating disorders in women: Prevalence, etiology, and treatment. *Addictive Behaviors, 35*, 392-398. doi:10.1016/j.addbeh.2009.12.016
- Haskett, M. E., Ahern, L. S., Ward, C. S., & Allaire, J. C. (2006). Factor structure and validity of the Parenting Stress Index-Short Form. *Journal of Clinical Child and Adolescent Psychology, 35*, 302-312. doi: 10.1207/s15374424jccp3502_14
- Havranek, E. P. (1999). Primary prevention of CHD: Nine ways to reduce risk. *American Family Physician, 59*, 1455-1463.
- Hedley, A. A., Ogden, C. L., Johnson, C. L., Carroll, M. D., Curtin, L. R., & Flegal, K. M. (2004). Prevalence of overweight and obesity among US children, adolescents, and adults, 1999-2002. *Journal of the American Medical Association, 291*, 2847-2850.

- Heinz, M. C., & Grisso, T. (1996). Review of instruments assessing parenting competencies used in child custody evaluations. *Behavioral Sciences and the Law, 14*, 293-313.
- Henggeler, S. W., Clingempeel, W. G., Brondino, M. J., & Pickrel, S. G. (2002). Four-year follow-up of multisystemic therapy with substance-abusing and substance dependent juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*, 868-874.
- Henggeler, S. W., Pickrel, S. G., & Brondino, M. J. (1999). Multisystemic treatment of substance-abusing and dependent delinquents: Outcomes, treatment fidelity, and transportability. *Mental Health Services Research, 1*, 171-184.
- Higgins, S. T., Budney, A. J., Bickel, W. K., Foerg, F. E., Donham, R., & Badger, G. J. (1994). Incentives improve outcome in outpatient behavioral treatment of cocaine dependence. *Archives of General Psychiatry, 51*, 568-576.
- Higgins, S. T., Budney, A. J., Bickel, W. K., & Hughes, J. R. (1993). Achieving cocaine abstinence with a behavioral approach. *American Journal of Psychiatry, 150*, 763-769.
- Higgins, S. T., Budney, A. J., & Sigmon, S. C. (2001). Cocaine dependence. In D. H. Barlow (Eds.), *Clinical handbook of psychological disorders: A step-by-step treatment manual*. New York: Guilford Press.

- Higgins, S. T., Delany, D. D., Budney, A. J., Bickel, W. K., Hughes, J. R., Foerg, F., & Fenwick, J. W. (1991). A behavioral approach to achieving initial cocaine abstinence. *American Journal of Psychiatry, 148*, 1218-1224.
- Higgins, S. T., Wong, C. J., Badger, G. J., Haug-Ogden, D. E., & Dantona, R. L. (2000). Contingent reinforcement increases cocaine abstinence during outpatient treatment and one year follow-up. *Journal of Consulting and Clinical Psychology, 68*, 64-72.
- Hodgkins, C. C., Cahill, K. S., Seraphine, A. E., Frost-Pineda, K., & Gold, M. S. (2004). Adolescent drug addiction treatment and weight gain. *Journal of Addictive Diseases, 23*, 55-65. doi: 10.1300/J069v23n03_05
- Hodson, C., Newcomb, M. D., Locke, T. F., & Goodyear, R. K. (2006). Childhood adversity, poly-substance use, and disordered eating in adolescent Latinas: Mediated and indirect paths in a community sample. *Child Abuse & Neglect, 30*, 1017-1036.
- Hunt, G. M., & Azrin, N. H. (1973). A community-reinforcement approach to alcoholism. *Behaviour Researcher and Therapy, 11*, 91-104.
- Iguchi, M. Y., Lamb, R. J., Belding, M. A., Platt, J. J., Husband, S. D., & Morral, A. R. (1996). Contingent reinforcement of group participation versus abstinence in a methadone maintenance program. *Experimental and Clinical Psychopharmacology, 4*, 315-321.

- Jaudes, P. K., Ekwo, E., & Voorhis, J. V. (1995). Association of drug abuse and child abuse. *Child Abuse & Neglect, 19*, 1065-1075.
- Jefferson, A. (2006). Breaking down barriers – examining health promoting behaviour in the family. Kellogg’s family health study 2005. *Nutrition Bulletin, 31*, 60-64.
- Jeffery, R. W., Hennrikus, D. J., Lando, H. A., Murray, D. M., & Liu, J. W. (2000). Reconciling conflicting findings regarding postcessation weight concerns and success in smoking cessation. *Health Psychology, 19*, 242-246. doi: 10.1037//0278-6133.19.3.242
- Jessup, J. V., Lowenthal, D. T., Pollock, M. L., & Turner, T. (1998). The effects of endurance exercise training on ambulatory blood pressure in normotensive older adults. *Geriatric Nephrology & Urology, 8*, 103-109.
- Johnson, J. G., Cohen, P., Kasen, S., & Brook, J. S. (2002). Childhood adversities associated with risk for eating disorders or weight problems during adolescence or early adulthood. *American Journal of Psychiatry, 159*, 394-400.
- Jones, H. E., Haug, N., Silverman, K., Stitzer, M., & Svikis, D. (2001). The effectiveness of incentives in enhancing treatment attendance and drug abstinence in methadone-maintained pregnant women. *Drug and Alcohol Dependence, 61*, 297-306.
- Kaminer, Y., Blitz, C., Burlison, J. A., Kadden, R. M., & Rounsaville, B. J. (1998). Measuring treatment process in cognitive-behavioral and interactional group

- therapies for adolescent substance abusers. *Journal of Nervous and Mental Disease*, 186, 407-413.
- Kaminer, Y., & Burleson, J. A. (1999). Psychotherapies for adolescent substance abusers: 15-month follow-up of a pilot study. *American Journal on Addictions*, 8, 114-119.
- Kaminer, Y., Burleson, J. A., Blitz, C., Sussman, J., & Rounsaville, B. J. (1998). Psychotherapies for adolescent substance abusers: A pilot study. *Journal of Nervous and Mental Disease*, 186, 684-690.
- Kaminer, Y., Burleson, J. A., & Goldberger, R. (2002). Cognitive-behavioral coping skills and psychoeducation therapies for adolescent substance abuse. *The Journal of Nervous and Mental Disease*, 190, 737-745.
- Kay, A., Taylor, T. E., Barthwell, A. G., Wichelecki, J. & Leopold, V. (2010). Substance use and women's health. *Journal of Addictive Diseases*, 29, 139-163. doi: 10.1080/10550881003684640
- Kennedy, M. A., Ip, K., Samra, J., & Gorzalka, B. B. (2007). The role of childhood emotional abuse in disordered eating. *Journal of Emotional Abuse*, 7, 17-36.
- Kitzmann, K. M., Dalton, W. T., Buscemi, J. (2008). Beyond parenting practices: Family context and the treatment of pediatric obesity. *Family Relations*, 57, 13-23.
- Kirby, K. C., Marlowe, D. B., Festinger, D. S., Lamb, R. J., & Platt, J. J. (1998). Schedule of voucher delivery influences initiation of cocaine abstinence. *Journal of Consulting and Clinical Psychology*, 66, 761-767.

- Kohl, H. W., Dunn, A. L., Marcus, B. H., & Blair, S. N. (1998). A randomized trial of physical activity interventions: Design and baseline data from Project Active. *Medicine and Science in Sports and Exercise, 30*, 275-283.
- Kolko, D. J., Seleyo, J., & Brown, E. J. (1999). The treatment histories and service involvement of physically and sexually abusive families: Description, correspondence, and clinical correlates. *Child Abuse and Neglect, 23*, 459-476.
- Koslowsky, M., Scheinberg, Z., Bleich, A., Mark, M., Apter, A.,...Solomon, Z. (1992). The factor structure and criterion validity of the short form of the Eating Attitudes Test. *Journal of Personality Assessment, 58*, 27-35. doi: 10.1207/s15327752jpa5801_3
- Larsen, D. L., Attkisson, C. C., Hargreaves, W. A., & Nguyen, T. D., (1979). Assessment of client/patient satisfaction: Development of a general scale. *Evaluation of Program Planning, 2*, 197-207.
- Leeb, R. T., Paulozzi, L. J., Melanson, C., Simon, T. R., & Arias, I. (2008). Child maltreatment surveillance: Uniform definitions for public health and recommended data elements. Atlanta, GA: Centers for Disease Control and Prevention: National Center for Injury Prevention and Control.
- Liddle, H. A., Dakof, G. A., Diamond, G. S., Parker, G. S., Barrett, K., & Tejada, M. (2001). Multidimensional family therapy for adolescent substance abuse: Results of a randomized clinical trial. *American Journal of Drug and Alcohol Abuse, 27*, 651-687.

- Liddle, H. A., Rowe, C. L., Dakof, G. A., Ungaro, R. A., & Henderson, C. E. (2004). Early intervention for adolescent substance abuse: Pretreatment to posttreatment outcomes of a randomized clinical trial comparing multidimensional family therapy and peer group treatment. *Journal of Psychoactive Drugs, 36*, 49-63.
- Lindsay, A. C., Sussner, K. M., Greaney, M. L., & Peterson, K. E. (2009). Influence of social context on eating, physical activity, and sedentary behaviors of Latina mothers and their preschool-age children. *Health Education & Behavior, 36*, 81-96. doi: 10.1177/1090198107308375
- Lissau, I., & Sorensen, T. I. (1994). Parental neglect during childhood and increased risk for obesity in young adulthood. *Lancet, 343*, 324-327.
- Locke, T. F., & Newcomb, M. D. (2003). Child maltreatment, parental alcohol/drug-related problems, and global parental dysfunction. *Professional Psychology: Research & Practice, 34*, 73-79.
- Lounds, J. J., Borkowski, J. G., & Whitman, T. L., (2004). Reliability and validity of the Mother-Child Neglect Scale. *Child Maltreatment, 9*, 371-381.
- Lutzker, J. R., & Rice, J. M. (1984). Project 12-ways: Measuring outcome of a large in-home service for treatment and prevention of child abuse and neglect. *Child Abuse & Neglect, 8*, 519-524.
- Mahoney, J. J., Kalechstein, A. D., De La Garza, R., & Newton, T. F. (2008). Presence and persistence of psychotic symptoms in cocaine-versus methamphetamine-

dependent participants. *American Journal of Addictions*, 17, 83-98. doi:
10.1080/10550490701861201

Mainous, A. G., Diaz, V. A., & Geesey, M. E. (2008). Acculturation and health lifestyle among Latinos with diabetes. *Annals of Family Medicine*, 6, 131-137. doi:
10.1370/afm.814

Miech, R. A., Kumanyika, S. K., Stettler, N., Link, B. G., Phelan, J. C., & Chang, V. W. (2006). Trends in the association of poverty with overweight among US adolescents, 1971-2004. *Journal of the American Medical Association*, 295, 2385-2393.

Miller, T. D., Balady, G. J., Fletcher, G. F. (1997). Exercise and its role in the prevention and rehabilitation of cardiovascular disease. *Annals of Behavioral Medicine*, 19, 220-229.

Milner, J. S. (1986). *The Child Abuse Potential Inventory: Manual* (2nd ed.) Webster, NC: Psytec.

Moos, R. H., & Moos, B. S. (1984). *Family Environment Scale Manual*. Palo Alto, CA: Consulting Psychologists Press.

Munsch, S., Roth, B., Michael, T., Meyer, A. H., Biedert, E., Roth, S.,...Margraf, J. (2008). Randomized controlled comparison of two cognitive behavioral therapies for obese children: Mother versus mother-child cognitive behavioral therapy. *Psychotherapy and Psychosomatics*, 77, 235-246.

- Neale, A., Abraham, S., Russell, J. (2009). "Ice" use and eating disorders: A report of three cases. *International Journal of Eating Disorders*, 42, 188-191. doi: 10.1002/eat.20587
- Nelson, D. E., Bland, S., Powell-Griner, E., Klein, R., Wells, H. E., Hogelin, G., & Marks, J. S. (2002). State trends in health risk factors and receipt of clinical preventive services among US adults during the 1990s. *Journal of the American Medical Association*, 287, 2659-2667.
- Olivan, G. (2003). Catch-up growth assessment in long-term physically neglected and emotionally abused preschool age male children. *Child Abuse & Neglect*, 27, 103-108.
- Ondersma, S. J., Winhusen, T., & Lewis, D. F. (2010). External pressure, motivation, and treatment outcome among pregnant substance-using women. *Drug and Alcohol Dependence*, 107, 149-153. doi: 10.1016/j.drugalcdep.2009.10.004
- Ozdemir, A., & Yilmaz, O. (2008). Assessment of outdoor school environments and physical activity in Ankara's primary schools. *Journal of Environmental Psychology*, 28, 287-300.
- Peddle, N., Wang, C. T., Diaz, J., & Reid, R. (2002). Current trends in child abuse prevention and fatalities: The 2000 fifty state survey. Working Paper #808. Chicago, IL: Prevent Child Abuse America.

- Pederson, C. L., & Wilson, J. F. (2009). Childhood emotional neglect related to posttraumatic stress disorder symptoms and body mass index in adult women. *Psychological Reports, 105*, 111-126. doi: 10.2466/PR0.105.1.111-126
- Petry, N. M. & Martin, B. (2002). Low-cost contingency management for treating cocaine- and opioid-abusing methadone patients. *Journal of Consulting and Clinical Psychology, 70*, 398-405.
- Petry, N. M., Tedford, J., Austin, M., Nich, C., Carroll, K. M., & Rounsaville, B. J. (2004). Prize reinforcement contingency management for treating cocaine users: How long can we go, and with whom? *Addiction, 99*, 349-360.
- Piran, N., & Robinson, S. R. (2006). Associations between disordered eating behaviors and licit and illicit substance use and abuse in a university sample. *Addictive Behaviors, 31*, 1761-1775.
- Piran, N., & Robinson, S. R. (2005, April). *The association between disordered eating and licit and illicit substance use/abuse: A community-based investigation*. Paper presented at the Academy for Eating Disorders International Conference on Eating Disorders, Montreal, Quebec.
- Pisetsky, E. M., Chao, Y. M., Dierker, L. C., May, A. M., & Striegel-Moore, R. H. (2008). Disordered eating and substance use in high-school students: Results from the Youth Risk Behavior Surveillance System. *International Journal of Eating Disorders, 41*, 464-470.

- Polhamus, B., Dalenius, K., Mackintosh, H., Smith, B., & Grummer-Strawn, L. (2009). *Pediatric Nutrition Surveillance 2008 Report*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Atlanta, GA.
- Preston, K. L., Silverman, K., Umbricht, A., DeJesus, A., Montoya, I. D., & Schuster, C. R. (1999). Improvement in naltrexone treatment compliance with contingency management. *Drug and Alcohol Dependence, 54*, 127-135.
- Rawson, R. A., Huber, A., McCann, M. J., Shoptaw, S., Farabee, D., Reiber, C., & Ling W. (2002). A comparison of contingency management and cognitive-behavioral approaches during methadone maintenance for cocaine dependence. *Archives of General Psychiatry, 59*, 817-824.
- Reams, R., & Friedrich, W. (1994). The efficacy of time-limited play therapy with maltreated preschoolers. *Journal of Clinical Psychology, 50*, 889-899.
- Robbins, M. S., Szapocznik, J., Dillon, F. R., Turner, C. W., Mitrani, V. B., & Feaster, D. J. (2008). The efficacy of structural ecosystems therapy with drug-abusing/dependent African American and Hispanic American adolescents. *Journal of Family Psychology, 22*, 51-61.
- Robinson, T. N. (1999). Reducing children's television viewing to prevent obesity: A randomized controlled trial. *Journal of the American Medical Association, 282*, 1561-1567.

- Rodondi, N., Pletcher, M. J., Liu, K., Hulley, S. B., & Sidney, S. (2006). Marijuana use, diet, body mass index, and cardiovascular risk factors (from the CARDIA study). *American Journal of Cardiology*, *98*, 478-484.
- Rodriguez, C. M., & Green, A. J. (1997). Parenting stress and anger expression as predictors of child abuse potential. *Child Abuse and Neglect*, *21*, 367-377.
- Rohde, P., Ichikawa, L., Simon, G. E., Ludman, E. J., Linde, J. A., Jeffery, R. W., Operskalski, B. H. (2008). Associations of child sexual and physical abuse with obesity and depression in middle-aged women. *Child Abuse & Neglect*, *32*, 878-887. doi: 10.1016/j.chiabu.2007.11.004
- Roozen, H. G., Boulogne, J. J., van Tulder, M. W., van den Brink, W., De Jong, C. A. J., & Kerkhof, A. J. F. M. (2004). A systematic review of the effectiveness of the community reinforcement approach in alcohol, cocaine and opioid addiction. *Drug and Alcohol Dependence*, *74*, 1-13.
- Sacks, J. A. Y., Drake, R. E., Williams, V. F., Banks, S. M., & Herrell, J. M. (2003). Utility of the time-line follow-back to assess substance use among homeless adults. *The Journal of Nervous and Mental Disease*, *191*, 145-153.
- Sallis, J. F., Haskell, W. L., Wood, P. D., Fortmann, S. P., Rogers, T., Blair, S. N., & Paffenbarger, R. S., Jr. (1985). Physical activity assessment methodology in the five-city project. *American Journal of Epidemiology*, *121*, 91-106.

- Sallit, J., Ciccazzo, M., & Dixon, Z. (2009). A cognitive-behavioral weight control program improves eating and smoking behaviors in weight-concerned female smokers. *Journal of American Dietetic Association, 109*, 1398-1405. doi: 10.1016/j.jada.2009.05.009
- Sanders, M. R. (2003). Triple P – positive parenting program: A population approach to promoting competent parenting. *Australian e-Journal for the Advancement of Mental Health, 2*, 1-17.
- Santisteban, D. A., Coatsworth, D. J., Perez-Vidal, A., Kurtines, W. M., Schwartz, S. J., LaPerriere, A. & Scapocznik, J. (2003). Efficacy of brief strategic family therapy in modifying Hispanic adolescent behavior problems and substance use. *Journal of Family Psychology, 17*, 121-133.
- Schaeffer, C. M., Alexander, P. C., Bethke, K., & Kretz, L. S. (2005). Predictors of child abuse potential among military parents: Comparing mothers and fathers. *Journal of Family Violence, 20*, 123-129. doi: 10.1007/s10896-005-3175-6
- Secades-Villa, R., Garcia-Rodriguez, O., Higgins, S. T., Fernandez-Hemida, J. R., & Carballo, J. L. (2008). Community reinforcement approach plus vouchers for cocaine dependence in a community setting Spain: Six-month outcomes. *Journal of Substance Abuse Treatment, 34*, 202-207.
- Silverman, K., Higgins, S. T., Brooner, R. K., Montoya, I. D., Cone, E. J., Schuster, C. R., & Preston, K. L. (1996). Sustained cocaine abstinence in methadone

maintenance patients through voucher-based reinforcement therapy. *Archives of General Psychiatry*, 53, 409-415.

Silverman, K., Svikis, D., Wong, C. J., Hampton, J., Stitzer, M. L., & Bigelow, G. E. (2002). A reinforcement-based therapeutic workplace for the treatment of drug abuse: Three-year abstinence outcomes. *Experimental and Clinical Psychopharmacology*, 10, 228-240.

Silverman, K., Wong, C. J., Higgins, S. T., Brooner, R. K., Montoya, I. D., Contoreggi, C.,...Preston, K. L. (1996). Increasing opiate abstinence through voucher-based reinforcement therapy. *Drug and Alcohol Dependence*, 41, 157-165.

Silverman, K., Wong, C. J., Umbricht-Schneiter, A., Montoya, I. D., Schuster, C. R., & Preston, K. L. (1998). Broad beneficial effects of cocaine abstinence reinforcement among methadone patients. *Journal of Consulting and Clinical Psychology*, 66, 811-824.

Sisson, R. W., & Azrin, N. H. (1986). Family-member involvement to initiate and promote treatment of problem drinkers. *Journal of Behavior Therapy and Experimental Psychiatry*, 17, 15-21.

Sobell, M. B., Sobell, L. C., Klajner, F., Pavan, D., & Basian, E. (1986). The reliability of the timeline method of assessing normal drinker college students' recent drinking history: Utility for alcohol research. *Addictive Behaviors II*, 149-162.

- Spence, J. C., Cutumisu, N., Edwards, J., Raine, K. D., & Smoyer-Tomic, K. (2009). Relation between local food environments and obesity among adults. *BioMed Central Public Health, 9*, 192-198. doi: 10.1186/1471-2458-9-192
- Spitzer, R. L., Williams, J. B., Gibbon, M., & First, M. B. (1992). The structured clinical interview for the DSM-III-R (SCID): I. History, rationale, and description. *Archives of General Psychiatry, 49*, 624-629.
- Springer, K. W., Sheridan, J., Kuo, D., & Carnes, M. (2003). The long-term health outcomes of childhood abuse. *Journal of General Internal Medicine, 18*, 864-870.
- Stewart, S. H., Brown, C. G., Devoulyte, K., Theakston, J., & Larsen, S. E. (2006). Why do women with alcohol problems binge eat? Exploring connections between binge eating and heavy drinking in women receiving treatment for alcohol problems. *Journal of Health Psychology, 11*, 409-425.
- Stolley, M. R., & Fitzgibbon, M. L. (1997). Effects of an obesity prevention program on the eating behavior of African American mothers and daughters. *Health Education & Behavior, 24*, 152-164.
- Stuart, R. B. (1971). A three-dimensional program for the treatment of obesity. *Behavior Research & Therapy, 9*, 177-186.
- Substance Abuse and Mental Health Services Administration. (2008). *Results from the 2007 National Survey on Drug Use and Health: National Findings*, Office of

Applied Studies, NSDUH Series H-34, DHHS Publication No. SMA 08-4343.
Rockville, MD.

Szapocznik, J., Kurtines, W. M., Foote, F. H., Perez-Vidal, A., & Hervis, O. (1983).

Conjoint versus one-person family therapy: Some evidence for the effectiveness of conducting family therapy through one person. *Journal of Consulting and Clinical Psychology, 51*, 889-899.

Szapocznik, J., Kurtines, W. M., Foote, F. H., Perez-Vidal, A., & Hervis, O. (1986).

Conjoint versus one-person family therapy: Further evidence for the effectiveness of conducting family therapy through one person with drug-abusing adolescents. *Journal of Consulting and Clinical Psychology, 54*, 395-397.

Tarren-Sweeney, M. (2006). Patterns of aberrant eating among pre-adolescent children in foster care. *Journal of Abnormal Child Psychology, 34*, 623-634.

Tate, S. R., McQuaid, J. R., & Brown, S. A. (2005). Characteristics of life stressors predictive of substance treatment outcome. *Journal of Substance Abuse Treatment, 29*, 107-115. doi: 10.1016/j.jsat.2005.05.003

Thompson, S. J (2000). Outcomes for adolescents using runaway and homeless youth services. *Journal of Human Behavior in the Social Environment, 3*, 79-97.

Tsiros, M. D., Sinn, N., Brennan, L., Coates, A. M., Walkley, J. W., Petkov,

J.,...Buckley, J. D. (2008). Cognitive behavioral therapy improves diet and body

- composition in overweight and obese adolescents. *American Journal of Clinical Nutrition*, 87, 1134-1140.
- Tudor-Locke, C., Ham, S. A., Macera, C. A., Ainsworth, B. E., Kirtland, K. A., Reis, J. P., & Kimsey, C. D., Jr. (2004). Descriptive epidemiology of pedometer-determined physical activity. *Medicine and Science in Sports and Exercise*, 36, 1567-1573.
- Udwin, O. (1983). Imaginative play training as an intervention method with institutionalized preschool children. *British Journal of Educational Psychology*, 53, 32-39.
- U.S. Department of Health and Human Services (2006). Child Maltreatment 2006: Reports From the States to the National Child Abuse and Neglect Data System. Washington, DC: US Govt. Printing Office.
- Van Etten, M. L., Higgins, S. T., Budney, A. J., & Badger, G. J. (1998). Comparison of the frequency and enjoyability of pleasant events in cocaine abusers vs. non-abusers using a standardized behavioral inventory. *Addiction*, 93, 1669-1680.
- Vocks, S., Tuschen-Caffier, B., Pietrowsky, R., Rustenbach, S. J., Kersting, A., & Herpertz, S. (2010). Meta-analysis of the effectiveness of psychological and pharmacological treatments for binge eating disorder. *International Journal of Eating Disorders*, 43, 205-217. doi: 10.1002/eat.20696
- Waldron, H. B., & Turner, C. W. (2008). Evidence-based psychosocial treatments for adolescent substance abuse. *Journal of Clinical Child & Adolescent Psychology*, 37, 238-261.

- Walker, C. A., & Davies, J. (2010). A critical review of the psychometric evidence base of the Child Abuse Potential Inventory. *Journal of Family Violence, 25*, 215-227.
doi: 10.1007/s10896-009-9285-9
- Walker, E. A., Gelfand, A., Katon, W. J., Koss, M. P., Von Korff, M., Bernstein, D., & Russo, J. (1999). Adult health status of women with histories of childhood abuse and neglect. *The American Journal of Medicine, 107*, 332-339.
- Wang, Y. (2001). Cross-national comparison of childhood obesity: The epidemic and the relationship between obesity and socioeconomic status. *International Journal of Epidemiology, 30*, 1129-1136.
- Warren, M., Frost-Pineda, K., & Gold, M. (2005). Body mass index and marijuana use. *Journal of Addictive Diseases, 24*, 95-100.
- Weinstock, J., Barry, D., & Petry, N. M. (2008). Exercise-related activities are associated with positive outcome in contingency management treatment for substance use disorders. *Addictive Behaviors, 33*, 1072-1075.
- Whitaker, R. C., Phillips, S. M., Orzol, S. M., & Burdette, H. L. (2007). The association between maltreatment and obesity among preschool children. *Child Abuse & Neglect, 31*, 1187-1199.
- Wilfey, D. E., Welch, R. R., Stein, R. I., Spurrell, E. B., Cohen, L. R., Saelems, B. E.,...Matt, G. E. (2002). A randomized comparison of group cognitive-behavioral therapy and group interpersonal psychotherapy for the treatment of overweight individuals with binge-eating disorder. *Archives of General Psychiatry, 59*, 713-721.

- Williamson, D. F., Thompson, T. J., Anda, R. F., Dietz, W. H., & Felitti, V. (2002). Body weight and obesity in adults and self-reported abuse in childhood. *International Journal of Obesity, 26*, 1075-1082.
- Wilson, G. T. (1984). Weight control treatments. In J. D. Matarazzo, S. M. Weiss, J. A. Herd, N. E. Miller, and S. M. Weiss (Eds.) *Behavioral health: A handbook of health enhancement and disease prevention*. New York: John Wiley & Sons.
- Wolfe, D. A., Sandler, J., & Kaufman, K. (1981). A competency-based parent training program for child abusers. *Journal of Consulting and Clinical Psychology, 49*, 633-640.

APPENDIX A

TABLES

Table 1.

<i>Pre-Treatment & Post-Treatment Assessment Results</i>		
Measure	Pre-Treatment	Post-Treatment
Child Abuse Potential Inventory Raw Scores (Clinical cut-offs in parentheses)		
Abuse Potential (215)	203	39
Problems with Family (18)	38*	7
Distress (152)	94	0
Unhappiness (23)	0	0
Problems with Child and Self (11)	0	0
Problems with Others (20)	24*	3
Rigidity (30)	47*	29
Inconsistency (6)	7*	2
Random Responding (6)	1	3
Lie (8)	12*	15*
Eating Attitudes Test – 26 Raw Scores (Higher scores illustrate more awareness)		
Dieting Subscale	1	4
Bulimia/Food Preoccupation	0	0
Oral Control	0	3
Total	2	7
Healthy Lifestyle Questionnaire Raw Scores (Higher scores illustrate greater frequency)		
Client Frequency	19	24
Child Frequency	22	27

Note. * Indicates a score is clinically elevated.

Table 1 continued.

Pre-Treatment & Post-Treatment Assessment Results

Measure	Pre-Treatment	Post-Treatment
Parent Stress Index Percentile Scores (Higher percentiles illustrate more of trait)		
Difficult Child	1 st	1 st
Defensive Responding	70 th	1 st
Parental Distress	30 th	1 st
Parental Child Dysfunction	35 th	1 st
Total Stress	10 th	1 st
Family Environment Scale Percentile Scores (Higher percentiles illustrate more of trait)		
Conflict	27 th	4 th
Cohesion	81 st	93 rd
Parent Satisfaction with Child Scale (Percent Satisfaction Reported)		
Communication	100	100
Relationship with Parent	100	100
Reaction Positive Attention	100	100
Overall Happiness	100	100
TimeLine Follow Back (during 120 days previous to assessment date)		
Days of Methamphetamine Use	3	0
Drinks of Alcohol	6	7
Child in DFS Custody	63	0
Urinalysis Drug Screens		
Methamphetamine	Not Present	Not Present

Note. * Indicates a score is clinically elevated.

Table 1 continued.

Pre-Treatment & Post-Treatment Assessment Results

Measure	Pre-Treatment	Post-Treatment
Current Mental Health Diagnoses as per SCID (criteria met in past 4 mos.)		
Stimulants Abuse	Present	Not Present
Family Support Scale (Raw Scores) (Higher scores illustrate more support)		
My Parents	2	5
Spouse's Parents	5	NA
Relatives	NA	5
Spouse's Relatives	5	5
Spouse	5	1
Friends	5	5
Spouse's Friends	5	5
Children	4	5
Other Parents	NA	5
Co-workers	NA	5
Parent Groups	NA	5
Social Groups	5	5
School	5	5
Professional Helpers	5	5
Professional Agencies	5	5
Church Members	4	5
Physician	NA	5

Note. * Indicates a score is clinically elevated.

Table 1 continued

Pre-Treatment & Post-treatment Assessment Results

Measure	Pre-Treatment	Post-Treatment
Early Childhood Intervention Program	NA	5
Life Satisfaction Scale (Percent Satisfaction Reported)		
Friendship	100	100
Family	0	100
Safety	100	100
Spirituality/Religion	100	100
Things I do for Fun	100	100
Appearance	80	100
Sex/Dating	0	70
Ability to Avoid Drugs	100	100
Ability to Avoid Alcohol	84	100
Transportation	50	100
Control in Life	100	100
Overall Satisfaction	100	100

Note. * Indicates a score is clinically elevated.

Table 2

Ongoing Monthly Assessment Results

Measure	#1	#2	#3	#4	#5	#6
Weight	134	131	136	136	138	135
Body Fat						
Mass (lbs)	43	40		45	46.5	47.5
Percentage	32.1	30.4		32.9	33.9	35.3
Life Satisfaction Scale						
Friendships	100	100	100		100	100
Family	100	100	100		100	100
School	100	0	20		100	100
Spirituality/Religion	50	60	70		80	60
Safety	100	100	100		100	100
Employment	100	0	80		100	100
Things I do for Fun	80	80	100		100	100
My Appearance	60	70	90		70	100
Sex Life/Dating	10	70	70		60	50
Ability to avoid Drugs	100	100	100		100	100
Ability to avoid Alcohol	100	100	100		100	100
Availability of Transportation	100	60	90		100	100
Amount of Control	100	100	100		100	100
Overall Satisfaction	100	80	100		100	100
Parent-Satisfaction with Child						
Communication			100		100	100
Relationship			100		100	100
Reaction to Attention			100		100	100
Development			100			100
Overall			100		100	100

Table 3

Ongoing Assessment of Intervention Helpfulness & Compliance

Intervention	Client Helpfulness			Client Compliance		
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>
Program Orientation	7.00	.00	3	6.00	.00	3
Treatment Plan	6.00	N/A	1	6.00	N/A	1
Basic Necessities	6.00	N/A	1	6.00	N/A	1
Behavioral Goals	6.12	.64	8	5.75	.89	8
Stimulus Control	6.00	.63	6	6.00	.63	6
I've Got a Great Family	6.50	.71	2	6.00	.00	2
Self-Control	7.00	N/A	1	7.00	N/A	1
Catch my Child Being Good	6.00	.00	2	6.00	.00	2
Positive Practice	6.00	N/A	1	7.00	N/A	1
Child Compliance Training	6.00	.00	2	6.00	1.41	2
Arousal Management	6.00	.00	2	5.00	.00	2
Positive Request	6.33	.58	3	5.67	.58	3
Home Safety & Beautification	6.00	N/A	1	6.00	N/A	1
Total	6.21	.55	33	5.91	.68	33

VITA

Graduate College
University of Nevada, Las Vegas

Holly Beth LaPota

Degrees:

Bachelor of Science, Psychology, 2006
Emporia State University

Publications:

Allen, D.N., Donohue, B., Sutton, G., Haderlie, M., & **LaPota, H.** (2009). Application of a standardized assessment methodology within the context of an evidence-based treatment for substance abuse and its associated problems. *Behavior Modification, 33*, 618-654.

Donohue, B., Allen, D.A., & **LaPota, H.** (2009). Family Behavior Therapy for Substance Abuse and Associated Problems. In D. Springer & A. Rubin (Eds.), *Clinicians Guide to Evidence-Based Practice: Substance Abuse Treatment for Youths and Adults*. New York: Springer Publishing Co.

Donohue, B., Allen, D.N., Romero, V., Hill, H.H., Vasaeli, K., **LaPota, H.**, Tracy, K., Gorney, S., Abdel-Al, R., Caldas, D., Herdzik, K., Bradshaw, K., Valdez, R., & Van Hasselt, V.B. (2009). Description of a standardized treatment center that utilizes evidence-based clinic operations to facilitate implementation of an evidence-based treatment. *Behavior Modification, 33*, 411-436.

Donohue, B., Azrin, N, Allen, D.N., Romero, V., Hill, H.H., Tracy, K., **LaPota, H.**, Gorney, S., Abdel-al, R., Caldas, D., Herdzik, K., Bradshaw, K., Valdez, R., & Van Hasselt, V.B. (2009). Family Behavior Therapy for substance abuse and other associated problems: A review of its intervention components and applicability. *Behavior Modification, 33*, 495-519.

Donohue, B., Romero, V., Herdzik, K., **LaPota, H.**, Abdel-Al, R., Allen, D. A., Azrin, N. H., & Van Hasselt, V. B. (2009). Concurrent treatment of substance abuse, child neglect, bipolar disorder, post-traumatic stress disorder, and domestic violence: A case examination involving Family Behavior Therapy. *Clinical Case Studies*.

Thesis Title: Initial Development of a Healthy Living Curriculum within
Family Behavior Therapy for Substance Abuse

Thesis Examination Committee:

Chairperson, Brad Donohue, Ph.D.
Committee Member: Daniel N. Allen, Ph.D.

Committee Member: Cortney S. Warren, Ph.D.
Graduate Faculty Representative: Chad Cross, Ph.D.