8-17-2011

Treating the concerned family members of alcohol and drug users : a randomized study

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TREATING THE CONCERNED FAMILY MEMBERS OF ALCOHOL AND DRUG USERS: A RANDOMIZED STUDY

BY

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DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy

Psychology

The University of New Mexico
Albuquerque, New Mexico

December, 2010

DEDICATION

This dissertation is dedicated with loving appreciation to my wonderful husband and daughter.

ACKNOWLEDGEMENTS

I would like to express my gratitude to the faculty, friends, and family members who helped me complete this project. I am incredibly fortunate to have worked with such a wonderful group of faculty members, and I am exceptionally grateful for their insight, experience, knowledge, and guidance. To begin, I would like to thank my dissertation chair, Barbara McCrady. Working with Barbara, as an undergraduate at Rutgers University, inspired me to pursue a PhD in clinical psychology. I am extraordinarily grateful to Barbara for her mentorship and support over the years. She has been such a wonderful role model to me and I feel incredibly fortunate for her role as dissertation chair in my final period of graduate school. Additionally, I would like to thank Bill Miller, who guided me through much of my graduate school years. Bill was an incredible mentor, and I am grateful for his encouragement to follow my heart and study what I love. I thank Bill for helping me design this study and for serving as my chair during the first years of this project. I feel fortunate to have worked with two wonderful dissertation chairs throughout this project and thank both for their unique contributions and wisdom.

I thank Bob Meyers for his ongoing clinical supervision, his insight into the dynamics of CRAFT families and his enthusiasm for this project. Bob's sense of humor and persona provided the motivation to keep working at times when this project seemed overwhelming. Scott Tonigan has been an invaluable source of encouragement for me on this project. His unending support, statistical guidance, and infusion of jelly beans pushed me through some of the more difficult times in this project. Furthermore, I thank Jane Smith and Michael Bogenschutz for their insight and expertise. I am thrilled and

fortunate to have worked with such a wonderful dissertation committee. For their assistance on this project, I am also incredibly grateful to Julia Austin, Matt Euler, Tim Hoyt, Kathryn Lenberg, Laura Lundy, Lindsey Barela, William Campbell, Abear Nassar, CJ Pyeatt, and Leah Vermont.

Finally, I thank my husband for his love and encouragement. He has been by my side through my Bachelor's degree, Master's degree, Comprehensive Examinations, and dissertation. He encouraged me when I felt overwhelmed, celebrated in my accomplishments and stepped in when I needed extra support. I also thank my parents, grandmothers, and wonderful in-laws. I am incredibly fortunate to have such an amazing and supportive family that has truly been the backbone of my education. I am exceedingly grateful for everyone's love, support, assistance, and encouragement.

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ABSTRACT

The Community Reinforcement and Family Training (CRAFT) approach is an empirically-supported treatment for the concerned significant others (referred to as CSOs) of treatment-refusing substance users (referred to as identified patients or IPs). Previous studies have examined the efficacy of CRAFT when delivered via individual therapy. The goal of the current study was to examine two less-costly alternatives to the individual CRAFT approach. Forty concerned family members of treatment-refusing alcohol and drug users were randomized to either Group CRAFT or a Self-Directed CRAFT condition in which CSOs received a CRAFT self-help book. In both conditions, free treatment was available to substance users who agreed to enter treatment within a six-month treatment window. Two sets of hypotheses were tested: (1) that CSOs in both the Group and Self-Directed CRAFT conditions would engage their loved ones into treatment and report increases in CSO, family, and IP functioning from the baseline to the

three and six-month follow-up interviews; and (2) that participants in the Group condition would demonstrate greater increases in these three domains and would have higher engagement rates than CSOs in the Self-Directed condition.

Results indicated that both conditions were successful in engaging treatment-refusing IPs into treatment, with no statistically significant difference between Group and Self-Directed CRAFT. Of the CSOs in the Group CRAFT condition, 60% engaged their loved one into treatment, compared to 40% in Self-Directed CRAFT. Of the CSOs in the Group condition who received at least one session of group therapy, 71% engaged their IP into treatment. CSOs in both conditions reported significant improvements in family cohesion and conflict, IP substance-related consequences, and IP total days of substance use at the three and six-month follow-up. Effect sizes comparing the engagement rates of previous individual CRAFT studies with the current Group CRAFT engagement rates were in the small range (.05 - .13) and effect sizes comparing individual CRAFT and Self-Directed CRAFT engagement rates were in the small to moderate range (.23 - .31).

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Scope of Problem

In 2006, 20.4 million Americans, or 8.3% of the population, reported that they were current users of illicit drugs and 17 million Americans or 6.9% of the population age 12 and older reported that they were heavy drinkers (drinking five or more drinks on the same occasion, on five or more days within the past 30 days; Substance Abuse and Mental Health Services Administration, 2007). Family members of substance users often suffer numerous consequences such as violence, theft, verbal aggression, and embarrassment (Orford, Rigby, Miller, Tod, Bennett, & Velleman, 1992). Consequently, family members frequently call treatment agencies in an effort to get help for themselves, as well as their loved one. According to Foote, Szapocznik, Kurtines, Perez-Vidal and Hervis (1985), 85% of those contacting a drug abuse treatment center "could not be helped because they (the client and/or family) never entered therapy. Typically, one concerned family member would contact the center but would be unable to convince the rest of the family to enter therapy" (p.63). As a result, family members of treatment-refusing drug users often are referred to Al-Anon/Nar-Anon or the Johnson Institute Intervention, the two approaches that have dominated family interventions in the field of addictions (Fernandez, Begley, & Marlatt, 2006). Programs such as these may provide support for the family members, but they often lack empirical evidence for engaging unmotivated individuals who are abusing alcohol and drugs into treatment, a common goal for the family members of substance users. While empirically supported treatment interventions for family members do exist, they are vastly underutilized in treatment settings. Thus, concerned family members who would like to help their loved ones

usually do not have access to treatments that have empirical support for engaging their loved ones into treatment. The overall purpose of this study was to find cost-effective alternatives for concerned family members of treatment refusing substance users.

Inclusion of Family Members in Treatment

The inclusion of family members in the treatment process has seen a slow transition from earlier years in which family members of substance users were thought to be either suffering from psychopathology themselves (Edwards, Harvey, & Whitehead, 1973; Whalen, 1953) or unconsciously maintaining their loved one's substance use to prevent their own decompensation (Googins & Casey, 1987). As a result, the spouses of substance users were thought to be "sick" and in need of treatment; therefore, their participation in their loved one's recovery was not encouraged.

In the 1950s, Joan Jackson posited that family members were not psychologically maladjusted; rather their behavior was simply a response to the stress of living with a person with an alcohol use disorder (Jackson, 1954). Research has since supported Jackson's ideas and treatment interventions have moved toward including family members in the treatment process as a way of assisting the substance user. Moreover, programs have been designed specifically for family members of substance users who refuse treatment. These programs vary widely in their philosophy, approach, and their ability to engage substance abusing family members into treatment. For instance, approaches such as family therapy, unilateral family therapy, and the community reinforcement and family training (CRAFT) program address family dynamics and communication, whereas Al-Anon suggests that family members detach from the substance user and focus on themselves. Treatment interventions such as the Johnson

Institute Intervention (Johnson, 1973, 1986), the Pressures to Change Approach (Barber & Crisp, 1995), and CRAFT (Meyers, Smith & Lash, 2005; Smith & Meyers, 2004) seek to engage substance using family members into treatment, albeit with dramatically different approaches.

Al-Anon and Nar-Anon. Al-Anon and Nar-Anon are twelve-step programs designed to offer support to friends and family members of individuals with an alcohol or drug use disorder. The Al-Anon/Nar-Anon program encourages family members to accept that they are powerless over their loved one's substance use. Family members are instructed to lovingly detach from their substance-using family member (Al-Anon Family Groups, 1986). Hence, the focus of Al-Anon/Nar-Anon is on improving the well-being of family members, not the engagement of the drinker or drug user into treatment. Treatment studies in which participants were randomly assigned to Al-Anon and Nar-Anon based treatment programs have provided some information regarding the self-help group's impact on concerned family members.

Dittrich and Trapold (1984) conducted a study in which 23 wives of untreated problem drinkers were randomly assigned to receive an immediate or delayed group therapy based largely on Al-Anon principles. Treatment consisted of eight weeks of group therapy. At the end of treatment, participants in the Al-Anon based group reported significant improvements in anxiety, depression and self-concept. When women in the wait-list condition were provided with treatment, they demonstrated similar improvements in functioning. The husbands' functioning was not reported in this study. Results suggest that the Al-Anon based group therapy was an effective method of improving the overall life functioning of the spouses of untreated problem drinkers.

Barber and Gilbertson (1996) randomized 45 women and three men whose partners were treatment-refusing problem drinkers to either: (1) individual unilateral therapy (Thomas & Ager, 1993; Thomas & Santa, 1982; Thomas, Santa, Bronson & Oyserman, 1987; Yoshioka, Thomas, & Ager, 1992), a program in which the spouses of alcohol users were taught how to engage their loved one into treatment; (2) group unilateral therapy; (3) no treatment control group; or (4) Al-Anon groups. Only participants in the unilateral therapy conditions were successful in changing the behavior of the problem drinkers. Nonetheless, participants in the individual unilateral therapy condition and the Al-Anon groups reported fewer personal problems as a result of treatment.

Miller, Meyers and Tonigan (1999) and Meyers, Miller, Smith and Tonigan (2002) found that family members of treatment refusing alcohol and drug users who participated in Al-Anon or Nar-Anon facilitation therapy showed improvements in depression, physical symptoms, anger, anxiety, and family functioning; however, they engaged fewer than 30% of their loved ones into treatment. This low engagement rate can likely be attributed to Al-Anon's focus on the well-being of the family member and the need to detach from the substance user, rather than on the substance user's alcohol and drug use or motivation to enter treatment.

The Johnson Institute Intervention. The Johnson Institute Intervention is a therapeutic technique aimed at engaging problem drinkers or drug users into treatment. The intervention consists of three or four sessions in which families are taught the Johnson Institute view of the nature of substance use disorders and prepared for a confrontational meeting with a substance abusing loved one. During this group meeting,

family members and friends confront the substance user about the consequences they have experienced as a result of their loved one's alcohol or drug use. Family members and friends also discuss the actions they will take if their loved one does not enter treatment (Johnson, 1973, 1986).

In a study examining the results of the Johnson intervention, Liepman, Nirenberg, and Begin (1989) found that of the seven families who completed at least one intervention with a family member of individuals regarded to be alcoholic, 86% of the confronted alcoholics entered an alcohol detoxification program compared to 17% of the families who did not follow through with the planned intervention. In addition, confronted alcoholics had longer lengths of abstinence: confronted alcoholics were continuously abstinent for an average of 11 months in comparison to an average of 2.8 months for nonconfronted alcoholics. Although the findings of this study lend support to the efficacy of the Johnson Institute Intervention, the findings are limited by the small number of families who completed the intervention. Only seven families in this study carried out the intervention, whereas 17 families refused to confront their family member, indicating that many families may not feel comfortable with this type of approach.

In a retrospective analysis of intervention approaches, Loneck, Garrett, and Banks, (1996a) compared treatment entry and completion rates among 331 participants in five naturalistic (non-random) conditions: (1) Johnson Intervention; (2) coerced referral; (3) noncoerced referral; (4) unrehearsed intervention; and (5) unsupervised intervention. Participants in the coerced referral condition had been told they had to enter treatment or they would suffer a specific consequence (for example, they would have to go to jail); participants in the noncoerced referral condition reported no such ultimatum. The

unrehearsed intervention condition was similar to a Johnson Intervention except that the family members and friends did not receive formal training in how to proceed with the intervention, nor did they rehearse the intervention. Rather, friends and family members participated in an impromptu intervention with their loved one. The unsupervised intervention condition provided family members and friends of alcohol or drug users with 3-5 training sessions in how to conduct a Johnson Intervention but participants confronted their loved one without a therapist present.

Substance users in the full Johnson Intervention condition were more likely to enter treatment than participants in the other conditions. Of participants who entered treatment, individuals in the Johnson Intervention group and the coerced referral group were equally likely to complete treatment and were more likely to complete treatment than the noncoerced referral group, the unrehearsed intervention group, or the unsupervised intervention group (Loneck et al., 1996a). Treatment completion rates for the five retrospectively identified methods of referral were: Johnson Intervention 54%, coerced referral 74%, noncoerced referral 48%, unrehearsed intervention 38%, and unsupervised intervention 39%. Despite the greater propensity of individuals in the Johnson Intervention group to enter and complete treatment, these individuals were significantly more likely to relapse during treatment than individuals in the coerced referral group, the unrehearsed intervention group, and the unsupervised intervention group (Loneck, Garrett, & Banks, 1996b). Participants in the Johnson Intervention had the highest rate of relapse (78%), followed by the noncoerced referral (64%), unsupervised intervention (45%), coerced referral (40%), and unrehearsed intervention (37%). In sum, the Johnson Intervention was slightly more successful in engaging

substance users into treatment than the unrehearsed, unsupervised and noncoerced referrals; however, individuals who entered treatment via the Johnson Intervention had the highest rate of relapse during treatment.

The Pressures to Change Approach. The Pressures to Change Approach (Barber & Crisp, 1995) works with the partners of heavy drinkers to reduce their loved ones' drinking and engage the drinker into treatment. This approach incorporates an intervention meeting similar to the Johnson Institute Intervention if other, less confrontational approaches are unsuccessful at engaging the drinker into treatment. The Pressures to Change Approach trains the partners of heavy drinkers in five levels of increasing pressure with the ultimate goal of engaging the drinker into treatment. In Level One, the concerned partners are provided with feedback about their loved one's drinking and education on how drinkers modify their alcohol use. In Level Two, partners are asked to monitor their loved one's drinking so that they can be aware of their loved one's high risk drinking times and situations. Partners are then asked to plan activities that are incompatible with drinking at these high-risk drinking times and if possible, the nondrinking activities should serve the same function as drinking. In Level Three, concerned partners are asked to respond to their loved one's drinking by removing potential reinforcers such as sex, conversation, and other fun activities when their loved one is drinking. At this point, the partners may ask their drinker to enter treatment if they feel that their loved one may respond positively to the request. In Level Four, the pressure for the drinker to change his or her behavior is increased and the concerned partners are asked to contract with the drinker for periods of abstinence and moderation. In Level Five, partners are asked to identify individuals who have been impacted by the

drinker's alcohol use and who would be willing to participate in a confrontational meeting. Concerned friends and family members are asked to write a testimonial that includes their love for the drinker, feedback about how the drinker has adversely affected them, and a request for the drinker to seek help. The concerned family members and friends then read their testimonials to the drinker in a group meeting in the hopes of engaging the problem drinker into treatment.

Barber and Crisp (1995) tested the efficacy of the Pressures to Change Approach in a study in which 23 partners of heavy drinkers were randomized to one of three treatment conditions: (1) individual instruction for Pressures to Change; (2) group instruction for Pressures to Change; (3) or a wait-list control group. To be eligible for the study, partners had to be in "ongoing contact" with the drinker, the drinker had to meet criteria for alcohol dependence as assessed by the Short Michigan Alcohol Screening Test (Selzer, Vinokur, & van Rooijen, 1975; completed by the concerned partner), and the drinker had to be unwilling to enter treatment or reduce his or her alcohol use. Participants participated in five to six Pressures to Change treatment sessions. Of the 16 participants randomized to individual or group instruction (n = 8 in each condition), seven drinkers (43.75%) made appointments with providers to discuss treatment options and three (18.75%) reduced their drinking (via collateral report from the concerned partner). None of the partners (n = 7) referred to the wait-list control group made appointments with treatment providers or reduced their drinking. The two Pressures to Change conditions did not differ from each other in terms of treatment engagement or their partner's drinking, but they did differ significantly from the wait-list control group.

A Relational Intervention Sequence for Engagement. The "A Relational Intervention Sequence for Engagement" (ARISE; Garrett et al., 2008) approach was developed as a less confrontational alternative to the Johnson Institute Intervention. The ARISE approach is a manual-guided method that works with the family members and close friends of substance users to engage the substance user into treatment. The approach seeks to involve as many members of the substance user's social network as possible, as well as the substance user if he or she is willing to participate. Thus, the substance user is included in the treatment process and invited to all treatment sessions. There are three stages in the ARISE approach.

The first stage of the ARISE intervention begins with a call from a concerned loved one. The call lasts 10-20 minutes during which the ARISE intervention is explained to the caller. The caller is asked to invite as many friends and family members as possible to a future ARISE meeting. A meeting for friends and family members is planned and the substance user is invited to attend the meeting. During the meeting, the substance user is asked to enter treatment (if in attendance). If the substance user does not agree to attend treatment in Stage I, the clinician and family proceed to Stage II. The second stage consists of 1-5 sessions in which a strategy to engage the substance user into treatment is detailed, additional friends and family members are asked to participate in the intervention, and consequences for the substance user's behavior are discussed. These meetings are not kept from the substance user, rather the substance user is asked and encouraged to attend the treatment sessions. If the substance user does not enter treatment during Stage II, the clinician and family proceed to the third stage of the

ARISE intervention. Stage III is more confrontational than the previous two stages and consists of a modified Johnson Intervention.

The efficacy of the ARISE approach was examined in a study in which all family members or friends who called about this intervention were admitted into the study (Landau et al., 2004). Thus, there were no specific inclusion or exclusion criteria. Due to the lack of inclusion criteria in this study it is difficult to ascertain whether the substance user was truly resistant to entering treatment. The study admitted 110 concerned loved ones. Almost all of the concerned others were family members (94.7%) and the majority were female (68.8%). The ARISE method engaged 78% (n = 86) of the substance users into treatment and an additional 4.5% (n = 5) of the substance users engaged in a self-help program during the six-month treatment window. More than half of the substance users engaged into treatment or self-help during Stage I (55%); an additional 26% engaged in Stage II, and 2% were engaged in Stage III. The days to engagement ranged from 1-137 days, with a mean of seven days for treatment engagement and 13.7 days for self-help engagement. The average clinician effort for engagement across all three stages was 1.6 phone calls for an average of 16.9 minutes and 1.2 face-to-face sessions. The average total time spent by ARISE clinicians and facilitators was 1.46 hours (Landau et al., 2004).

Family Therapy

In the 1970's family therapy was introduced as a therapeutic intervention for individuals with alcohol and drug problems. Szapocznik, Kurtines, Foote, Perez-Vidal, and Hervis (1983) posited that the entire family did not need to be present in therapy in order to facilitate changes within the family. To test this hypothesis, they conducted a

study in which 37 Hispanic families of adolescent drug abusers were randomly assigned to one of two treatment conditions: conjoint family therapy (CFT) or one-person family therapy (OPFT). In CFT, the entire family was present for most of the therapy sessions. CFT sought to change the family's pattern of dysfunctional interactions into more productive ways of interacting within the family. The main premise in OPFT was that if one family member changed their behavior, the other family members would subsequently modify their behavior. Both the CFT and OPFT treatment conditions consisted of 12 treatment sessions. Both therapeutic modalities in this study resulted in improvements in family functioning, although the adolescent drug abusers in the OPFT condition had a greater improvement in drug abuse, as measured by the Psychiatric Status Schedule. However, without a control group, it is impossible to ascertain whether the changes in family members' functioning were due to the treatment conditions.

In a second study examining the efficacy of one-person family therapy (Szapocznik, Kurtines, Foote, Perez-Vidal, & Hervis, 1986), 35 Hispanic families were randomly assigned to 15 sessions of CFT or OPFT. The results of the current study indicate that CFT and OPFT were equally effective in improving the adolescent drug abusers' drug use and family functioning. Families in both conditions showed a significant improvement from the baseline interview in family functioning at six and 12 months after the end of treatment.

Unilateral Family Therapy

Unilateral family therapy, a type of therapeutic intervention developed by Thomas and Santa (1982), treats the family members of problem drinkers who refuse treatment. This model of therapy works with one or more family members in an attempt to help

them cope with feelings of anxiety, distress, depression, and emotional overinvolvement that may be related to living with a problem drinker. Other objectives of this intervention are to improve marital and family functioning. In addition, family members are instructed to encourage the problem drinker to seek treatment, as well as to reinforce nondrinking behavior.

In a pilot study of unilateral family therapy, Thomas, Santa, Bronson, and Oyserman (1987) treated the spouses of problem drinkers. Unilateral family therapy was comprised of six components: (1) treatment orientation, (2) clinical assessment, (3) spouse role induction, which consisted of alcohol education, marital relationship enhancement, reducing spouse enabling, and decreasing behaviors such as nagging, complaining, and threatening; (4) abuser-directed intervention, which worked with the family members to try to persuade the problem drinking partners to reduce or terminate their drinking; (5) spouse-directed intervention, which sought to improve the non-drinking spouse's well-being; and (6) maintenance, which consisted of spouse support and spouse-mediated relapse prevention.

Participants were 25 spouses of treatment-refusing alcohol users. The spouses were randomized to six months of treatment, four months of treatment, or delayed treatment. Fifteen spouses were assigned to receive treatment for a period of 4 to 6 months and 10 did not receive treatment. Individuals in the nontreatment group were to receive treatment at the end of the study, but Thomas et al. (1987) reported that 7 of the 10 participants in this group had limited treatment contact with the project for clinical purposes. Problem-drinking partners of spouses who received unilateral treatment had a 53% reduction in alcohol consumption, whereas partners of spouses who did not receive

treatment had a slight increase in drinking. They also found that in addition to a decrease in drinking, couples in which the non-drinking partner participated in treatment had a reduction of general life distress. Other positive changes for the treatment group were increased affectional expression and sexual satisfaction. This study is limited by its small sample size and the overall study design in which the nontreatment group received a clinical intervention.

Thomas, Yoshioka, Ager, and Adams (1990) conducted a study in which spouses were randomly assigned to one of two conditions: Immediate (n = 27) or Delayed (n = 28) treatment. Treatment consisted of six months of unilateral therapy. Fourteen spouses whose substance using loved one refused to give consent for their spouse to receive treatment comprised a No-Treatment condition. Thomas et al. (1990) found that after spouses agreed to participate in the study, the problem drinkers significantly reduced their alcohol intake. At 12 months following treatment, 79% of the problem drinkers had either entered treatment, reduced their drinking, or both. In addition, spouse enabling, measured by the Spouse Enabling Inventory and drinking-related influence behaviors, measured by the Sobriety Influence Inventory, were reduced significantly. Furthermore, marital satisfaction and psychological and life distress significantly improved following treatment. The findings of this study may be confounded by the substance users' consent for their spouse to participate in treatment. Substance users' who provided consent for their spouse to enter treatment may have been willing to modify their drinking in contrast to substance users' who refused to give consent for their spouse to participate.

Community Reinforcement and Family Training

The Community Reinforcement and Family Training (CRAFT) approach is similar to unilateral family therapy in that it treats concerned significant others (CSOs) of substance abusers in order to engage the substance abusing loved one (referred to as the identified patient, IP) in treatment. The main goals of CRAFT are to work with the CSO to reduce the IP's substance use, engage the IP into treatment and increase CSO functioning. There are eight main components in CRAFT: (1) enhance CSO motivation for treatment; (2) examine the antecedents and consequences of the IP's substance use via a functional analysis; (3) consider domestic violence precautions for the CSO; (4) improve CSO communication skills; (5) encourage CSO reinforcement of specific IP behaviors; (6) encourage the CSO to implement negative consequences for IP substance using behavior; (7) enrich the CSOs' lives with enjoyable activities; (8) rehearse and plan how to invite the IP to enter treatment (Meyers, Smith & Lash, 2005). There have been six CRAFT studies that have treated the CSOs of alcohol and drug abusing IPs.

CRAFT with CSOs of problem drinkers. Miller, Meyers, and Tonigan (1999) conducted a randomized clinical trial in which 90 CSOs of treatment refusing problem drinkers were randomly assigned to one of three different individual-therapy intervention strategies: Al-Anon facilitation, Johnson Institute Intervention, or CRAFT. The Al-Anon facilitation intervention consisted of up to 12 sessions, each lasting no longer than 60 minutes. During the Al-Anon facilitation intervention the basic Al-Anon philosophy was discussed, for example, that the CSO must detach from the IP and focus on their own well-being. The Johnson Institute Intervention (six sessions of two hours each) prepared family members to confront their loved one. CSOs were asked to express their feelings

regarding their loved one's drinking and drug related consequences and pressure their loved one to enter treatment. The CRAFT condition consisted of 12 sixty-minute sessions in which CSOs discussed the positive and negative consequences of the IP's abstinence, and learned contingency management strategies to reinforce abstinence, ways to improve communication skills, positive nondrinking activities that could replace drinking activities, and how the CSO should respond if confronted with a dangerous situation. Therapists were nested within each of the three conditions.

The CSOs completed an average of 11.4 sessions (95%) in the Al-Anon facilitation condition, 10.7 sessions (89%) in the CRAFT condition, and 3.18 sessions (53%) in the Johnson Institute Intervention condition. Treatment engagement rates within 12 months for the three conditions were: 20% for the Al-Anon facilitation, 35% for the Johnson Institute Intervention, and 67% for the CRAFT intervention, with the CRAFT condition engaging significantly more alcohol users than the other conditions. CSO functioning and relationship satisfaction, as measured by the Beck Depression Inventory, State-Trait Anger Expression Inventory, Family Cohesion Scale, Family Conflict Scale, and Relationship Happiness Scale, were significantly improved from intake to the three and six-month follow-up session for all treatment groups, with no differences among the three treatment conditions or for CSOs of engaged versus unengaged IPs.

CRAFT with CSOs of drug users. In a single group evaluation study of the effectiveness of CRAFT for family members and friends of drug users (Meyers, Miller, Hill, & Tonigan, 1999), 62 CSOs participated in the CRAFT program. CSOs completed, on average, 87% of offered treatment sessions. During the six-month study, 74% of the

CSOs successfully engaged their loved one into treatment. IPs who entered treatment significantly reduced their alcohol and drug use; there were not significant decreases for unengaged IPs based on CSO report of IP functioning. Nonetheless, CSOs' own functioning improved regardless of whether the IP entered treatment. More specifically, CSOs had significant reductions from intake to 3 and 6-month follow-ups on measures of depression, anxiety, and anger. There were significant increases in general relationship happiness, as measured by the Relationship Happiness Scale. In addition, the conflict subscale of the Family Environment Scale decreased significantly from the intake session to three-month follow-up interview.

In a randomized trial of CRAFT with the family members of drug using IPs, 90 CSOs were randomly assigned to one of three conditions: CRAFT, CRAFT plus Aftercare, or Al-Anon and Nar-Anon (Al-Nar) facilitation (Meyers, Miller, Smith & Tonigan, 2002). CSOs randomized to the CRAFT and CRAFT plus Aftercare interventions were offered 12 possible individual therapy sessions. The CRAFT interventions taught motivational strategies, communication skills, positive-reinforcement training, and how to approach the IP about entering treatment. CSOs in the CRAFT plus aftercare condition were invited to attend CRAFT Aftercare groups for up to six months after they finished their individual treatment. The Al-Nar facilitation intervention introduced Al-Anon and Nar-Anon and explained the philosophies of the support groups to CSOs and, in addition, helped the CSO to engage the IP in treatment during individual therapy sessions with the CSO. CSOs completed an average of 10.61 (88.42%) of 12 sessions, with no differences among the three intervention groups. Treatment engagement rates were 59% in CRAFT, 77% in CRAFT plus Aftercare, and 29% in the

Al-Nar Facilitation. The CRAFT conditions did not significantly differ from one another; therefore the CRAFT conditions were combined and compared to the Al-Nar Facilitation condition. The CRAFT conditions engaged significantly more IPs into treatment than Al-Nar Facilitation. The results of this study indicate that both CRAFT interventions were significantly more successful in engaging IPs into treatment than the Al-Nar facilitation condition; however the CRAFT plus Aftercare condition did not differ significantly from the CRAFT alone condition.

In a fourth CRAFT study, Kirby, Marlowe, Festinger, Garvey, and LaMonaca (1999) randomly assigned 32 concerned family members or significant others of drug abusers (FSOs) to either a CRAFT individual therapy intervention (referred to as community reinforcement training or CRT) or 12-step self-help group. The CRT intervention consisted of 14 hours of individual sessions that focused on communication training, increasing positive interactions, non-reinforcement of drug use, engaging in outside activities, and handling dangerous situations. Conjoint sessions that included the drug user or other concerned family members also were available on an as-needed basis. An Al-Anon experienced counselor led the self-help intervention group. Participants met for a 90-minute group session once a week for ten weeks. Topics covered in the self-help group sessions included how to detach from the drug abuser, the CSOs' powerlessness over their loved one's substance use, and discussion of the 12 steps and traditions of Al-Anon. Family members and significant others in the CRT group completed significantly more counseling sessions than those in the self-help group; 85.7% of participants in the CRT group completed the full course of counseling whereas 38.8% of the self-help group completed the full treatment course. In addition, 64% of family members and significant

others in the CRT group had their loved one enter treatment in comparison to 17% of those in the self-help group. The treatment engagement rates differed significantly between the two conditions. Following treatment, participants in both groups reported significantly fewer problems, as well as improvements in mood and social functioning.

CRAFT with CSOs of adolescent drug users. CRAFT also has been found to be effective in engaging treatment refusing adolescents into treatment. Waldron, Kern-Jones, Turner, Peterson, and Ozechowski (2007) provided 12 sessions of individual CRAFT therapy to the parents of treatment-refusing adolescent drug users. The average age of the adolescents in this study was 16.6 years (*SD* = 1.3) with a range of 14-20 years. All parents were offered crisis sessions in addition to the 12 CRAFT sessions on an as-needed basis. The 42 parents in this sample attended an average of 9.9 (*SD* = 3.7) sessions of CRAFT. Parents engaged 71% of the adolescents into treatment. Parents reported significant improvements in depression, anxiety, and family environment, regardless of whether or not their child entered treatment.

Group CRAFT. In a small study, Dominguez (1993) compared group CRAFT (referred to as Reinforcement Training) with traditional (Al-Anon focused) group therapy. CSOs (n = 26) who attended at least one treatment session were included in all data analyses. Both the CRAFT group and the traditional group were scheduled for seven 90-minute group sessions over the course of 12 weeks. Participants in the CRAFT group attended a mean of 5.85 (*SD* = .90) sessions whereas participants in the traditional group attended a mean of 4.54 (*SD* = 1.81) sessions, which was significantly fewer.

CSOs in the CRAFT group reported significantly fewer physical symptoms compared to participants in the traditional group at the three-month follow-up. A

significant difference was not found at the six-month follow-up due to an improvement in physical symptoms in the traditional group. CSO reports of depression approached significance between the treatment conditions at the three-month follow-up, with the traditional group reporting more symptoms than participants in the CRAFT group. In terms of CSO reports of IP drinking, participants in the CRAFT group reported approximately a 29% reduction in alcohol by the end of treatment, whereas participants in the traditional group reported approximately a 15% reduction in alcohol consumption. These differences were not statistically significant. Both treatment conditions reported increases in alcohol consumption at the six-month follow-up, such that the IP's drinking returned to the baseline levels. The conditions did not differ significantly in terms of IP engagement. Two CSOs in the CRAFT group (15.38%) engaged their loved one into treatment while none of the CSOs in the traditional group successfully engaged their IP into treatment. This study does not support the efficacy of the CRAFT intervention in terms of IP treatment engagement; however, the findings do indicate that CSOs in the group CRAFT condition reported improvements in physical symptoms, depression, and temporary improvements in the IP's drinking. Several limitations of this study must be mentioned. First, this study is limited by its small sample size. In addition, the same therapist conducted both traditional and CRAFT groups, thus it is not clear whether the findings are attributable to therapist expectancies. Furthermore, the sessions were not monitored for treatment adherence so it is unclear how different the two conditions were in terms of the treatment materials provided. In addition, treatment for the IP was not rapidly available in this study, which also could have contributed to the difficulty in engaging the IPs into treatment.

Group Therapy

Substance use disorders. Group therapy is the most common treatment for substance use disorders (National Institute on Drug Abuse, 2003), partly because of its convenience and low-cost. Group therapy can be a positive source of peer support, to reduce clients' feelings of isolation, and to provide real-life examples of people in recovery (Alcoholism and Drug Abuse Weekly, 2005). Studies comparing the efficacy of group therapy to individual therapy for the treatment of substance abuse have found that both treatment modalities yield similar outcomes (e.g., Graham, Annis, Brett, & Venesoen, 1996; Marques & Formigoni, 2001; Schmitz et al., 1997).

Graham, Annis, Brett, and Venesoen (1996) assigned 192 patients with some type of substance use disorder to 12 weekly sessions of relapse prevention delivered in individual or group format. At the 12-month follow-up, the two conditions did not differ significantly in alcohol or drug use. However, participants in the group condition reported a greater increase in social support from friends.

In a similar study, Schmitz, Bordnick, Kearney, Fuller, and Breckenridge (1997) randomly assigned 32 cocaine-dependent patients to 12 sessions of either group or individual relapse prevention. Participants in the group therapy condition reported using cocaine on fewer days during treatment than participants in the individual relapse prevention condition. Nonetheless, the two conditions did not differ in drug use at 12 and 24 weeks posttreatment.

Marques and Formigoni (2001) conducted a study that further supports the efficacy of group therapy. They randomly assigned 155 patients who were alcohol and/or drug dependent to 17 sessions of either individual or group cognitive-behavioral therapy.

At the 12-month follow-up, participants in both conditions reported decreases in alcohol consumption and substance-related problems. Participants in the group therapy condition reported slightly higher levels of alcohol consumption both at baseline and post-treatment than participants in the individual therapy condition. However, when baseline levels of drinking were used as a covariate, the between-group difference disappeared. Thus the two conditions reported similar reductions in alcohol consumption over time.

Panas, Caspi, Fournier, and McCarty (2003) examined treatment outcomes for more than 7,000 clients treated in 63 publicly funded substance abuse outpatient treatment programs as reported in the Massachusetts Substance Abuse Information System. Client participation, primarily in group therapy rather than individual therapy, was positively associated with treatment completion and treatment goal achievement.

Group therapy seems to be an effective intervention for reducing drug use and increasing social support and treatment retention. Although the testing of group CRAFT has been limited, other studies have examined the efficacy of a group cognitive-behavioral therapy approach.

Group cognitive-behavioral therapy for other disorders. A recent study examined the feasibility and efficacy of cognitive-behavioral group therapy for patients with mild cognitive impairment and their significant others (Joosten-Weyn Banningh, Kessels, Olde Rikkert, Geleijns-Lanting, & Kraaimaat, 2008). In this study, 23 patients with mild cognitive impairment and their significant others attended separate groups (a patient group and a significant others group) for 90 minutes, followed by a 30 minute session with the two groups combined into one group. Of the 46 participants (23 patients and 23 significant others), 30 attended all group sessions, seven never attended any

sessions, and seven missed two or more sessions. The high treatment compliance in this study suggests that group therapy for patients and significant others is a viable treatment design. Following treatment, patients reported an increase in the acceptance of their illness as measured by the Illness Cognition Questionnaire from the baseline interview and a trend for an increase in marital satisfaction as measured by the Maudsley Marital Questionnaire. Without a control group, it is impossible to ascertain if the patient improvements were due to the group treatment intervention; however this study does indicate that significant others are willing to attend groups on behalf of their loved one. In addition, it is unclear if the significant others benefited from group participation since they were not assessed at any point in the study.

Dodding, Nasel, Murphy, and Howell (2008) tested a group therapy intervention for patients with anxiety and/or depression and a significant other of their choice. In this study, patients and a significant other attended up to six group therapy sessions, which consisted of psychoeducation, cognitive behavioral therapy, assertiveness communication, relaxation training, and narrative therapy. The focus of the group was on mutual support between the patient and significant other, rather than viewing the significant other as a therapist, coach or teacher. Participants were 25 individuals (including both significant others and the patient) who attended at least one group session. More than half (52.4%) of the participants attended all six group therapy sessions. Following treatment, patients reported significant improvements in anxiety, depression, and stress levels as measured by the Depression Anxiety Stress Scale from the pretreatment interview. Significant others did not report improvements in these domains; however, they reported symptoms in the normal range at the pretreatment

interview. Patients also reported significant improvements in the psychological health and the living environment scales of the World Health Organization Quality of Life Assessment. Again, significant others did not report pre-post improvements on this scale. While the significant others did not report improvements in the current study, the patients demonstrated improvements following the group treatment intervention. This study further supports the notion that significant others are willing to attend group sessions for their loved one.

In sum, group therapy has been found to be effective for patients with a variety of disorders, although it is unclear if or how concerned significant others benefit from their participation in groups. Nonetheless, research studies indicate that concerned significant others are willing to attend treatment sessions either with or for their loved ones.

Bibliotherapy

Bibliotherapy or self-directed therapy is defined as a therapeutic intervention that is presented to clients in written format. The written material may range from a brief brochure to an in-depth self-help manual. Bibliotherapy approaches are designed so that the clients can modify their behavior on their own, with the help of the written material (Apodaca & Miller, 2003). A recent meta-analysis of 22 studies using bibliotherapy as a treatment intervention for problem drinkers found moderate support for the efficacy of this approach in terms of reducing at-risk or harmful drinking (Apodaca & Miller, 2003). A pre-post effect size of .80 was found for bibliotherapy with self-referred problem drinkers, and .65 for drinkers identified through a health screening. Comparisons of bibliotherapy versus no treatment for self-referred problem drinkers yielded an average effect size of .31.

The efficacy of bibliotherapy for problem drinkers emerged in a study conducted by Miller (1978) in which self-referred problem drinkers were randomly assigned to (1) aversive counterconditioning using self-administered electrical stimulation; (2) behavioral self-control training; or (3) a controlled drinking composite that included blood alcohol awareness training and self-monitoring information. At the end of treatment, participants in all conditions decreased their drinking, with no main effect for treatment. At the end of treatment, clients were randomly chosen to receive a self-help manual entitled, "How to Control Your Drinking" (Miller & Muñoz, 1976). At the three-month follow-up, participants who had received the self-help manual had significantly lowered their alcohol consumption as well as their peak blood alcohol concentration relative to those not receiving the book. When the remaining participants were given the self-help manual, they demonstrated similar reductions in drinking.

Miller, Taylor, and West (1980) examined the efficacy of bibliotherapy in comparison to individual BSCT treatment sessions. The authors randomly assigned 45 participants to one of four treatment conditions: (1) bibliotherapy; (2) six sessions of behavioral self-control training (BSCT); (3) BSCT plus 12 sessions of relaxation, communication, and assertion training; (4) BSCT plus 12 sessions of individually tailored broad-spectrum treatment modules. All treatment conditions resulted in significant decreases in drinking. However, participants in the bibliotherapy condition reported more hours per week of intoxication than participants in the BSCT conditions. Hence, bibliotherapy seems to address some aspects of problem drinking but the more intensive BSCT resulted in broader reductions in drinking.

In a later study, Miller, Gribskov, and Mortell (1981) randomly assigned problem drinkers to receive either behavioral self-control training (BSCT) or a self-help condition, which included self-monitoring cards and brief telephone contact with therapists, and a self-help guidebook. Both conditions significantly reduced their weekly alcohol consumption, peak BAC, and average daily BAC. In sum, bibliotherapy when combined with behavioral techniques such as self-monitoring as well as brief therapist contact resulted in significant reductions in alcohol consumption. Moreover, participants in the bibliotherapy condition fared as well as participants who received more intensive treatment.

Self-help BSCT also has been compared to group and individual BSCT treatment sessions. Miller and Taylor (1980) randomly assigned problem drinkers to receive one of four treatment interventions: (1) self-help manual of BSCT; (2) 10 sessions of therapist-directed individual BSCT; (3) individual BSCT plus relaxation training; or (4) BSCT plus relaxation training delivered in group therapy. At the 3 and 12-month follow-ups, participants in all conditions significantly reduced their alcohol consumption, with no significant effects for treatment assignment. This study indicates that self-help manuals can be as effective as both individual and group therapy interventions.

Based on the results of the previous studies, Harris and Miller (1990) designed a study to investigate the effect of client motivation and self-monitoring. They randomized 34 problem drinkers to receive (1) bibliotherapy; (2) BSCT; (3) wait-list for outpatient BSCT; or (4) wait-list for outpatient BSCT plus self-monitoring cards. The bibliotherapy and BSCT conditions demonstrated similar reductions in drinking, however, the wait-list conditions did not reduce their drinking until they began treatment. Thus, bibliotherapy

and individual therapy resulted in equally effective findings; however participants did not begin to modify their drinking until they began treatment.

Schmidt and Miller (1983) examined the efficacy of a multidimensional depression treatment program for patients with depression. In this study, 56 partipants were randomized to recive (1) individual therapy; (2) small group therapy (n = 5-6 participants); (3) a large group (n = 11); (4) bibliotherapy; (5) or wait-list control. After eight weeks of therapy, symptoms of depression significantly decreased for the individual, group, and bibliotherapy participants with no significant differences between these conditions.

Skutle and Berg (1987) randomly assigned 48 early-stage problem drinkers to one of four treatment conditions: (1) bibliotherapy behavioral self-control training (BSCT); (2) therapist directed BSCT group therapy; (3) coping skills training in group therapy; or (4) a group therapy combination of BSCT and coping skills training. At the 3, 6 and 12-months follow-up, participants in all conditions significantly decreased their alcohol consumption. In addition, participants in all conditions reported that their number of life problems decreased significantly. In sum, bibliotherapy, individual therapy, and group therapy all resulted in similar outcomes as measured by a significant decrease in alcohol consumption and overall life distress.

Sobell, Sobell, Leo, Agrawal, and Johnson-Young (2002) randomly assigned 825 participants who responded to a media advertisement to one of two interventions: (1) motivational enhancement/personalized feedback in which participants received advice/feedback pertaining to their drinking levels, high-risk situations, and motivation for change; or (2) bibliotherapy/drinking guidelines, which consisted of two pamphlets

that provided information about the effects of alcohol, as well as guidelines on low-risk drinking. At the 12-month follow-up, both conditions reported significant reductions in drinking, with no significant differences found between the two intervention groups. This study further supports the efficacy of bibliotherapy as an intervention for problem drinkers. When individuals are provided with information on how to reduce their drinking, they often are able to successfully to do so on their own without the formal help of a therapist.

Finally, CRAFT has been examined in a self-help workbook format for the CSOs of treatment-resistant problem gamblers (Hodgins, Toneatto, Makarchuk, Skinner, & Vincent, 2007). In this study, 186 CSOs were randomized to one of three conditions: (1) a control condition that received an information packet with treatment resources; (2) a self-help workbook condition in which participants received a workbook based on the CRAFT approach designed for engaging problem gamblers into treatment and the control package provided to participants in the first condition; or (3) a self-help workbook plus telephone support in which participants received the workbook, control package and a clinical therapist who contacted the participant two times to provide support and assistance with the CRAFT strategies.

The majority (82%) of the CSOs in this study were female, with an average age of 45 years (*SD* = 12.2). About half (56%) of the CSOs were spouses with the remainder of the sample comprised of children (18%), siblings (7%), boy/girlfriend (6%), parent (6%), or friend/other family member (8%). Results indicated that gamblers of CSOs in the control group gambled significantly more days than participants in the two workbook conditions. The three conditions did not significantly differ from each other in terms of

treatment engagement. Interestingly, 17% of the gamblers in the control condition, 15% of those in the workbook condition, and 14% of the CSOs in the workbook plus telephone condition engaged into treatment within the six-month treatment window. A limitation of this study is the poor telephone support rates. Of the CSOs assigned to this condition, 55% received both scheduled calls, 22% received one call, and 22% did not receive any calls. It is difficult to ascertain whether the low engagement rates in this study are due to the limited treatment contact as indicated by the poor telephone support rates. The low engagement rates may also be attributed to the lack of rapid, free treatment for gamblers. CSOs were provided with information regarding treatment resources but navigating the treatment process may have been difficult for gamblers who were willing to consider entering treatment. Finally, CRAFT has not been tested previously with a gambling population and it may be necessary to modify the CRAFT approach for use with this population.

In sum, bibliotherapy seems to be a viable intervention for problem drinkers. In addition, self-help CRAFT for the CSOs of problem gamblers resulted in reductions in gambling among IPs. Although bibliotherapy CRAFT has not yet been evaluated with the CSOs of treatment refusing substance users, research studies with other populations suggest that this could be an effective approach for CSOs since it has been found to be particularly effective with self-referred, motivated clients.

The Present Study

Research studies consistently indicate that CRAFT is an empirically-supported treatment approach for the family members of treatment-refusing alcohol and drug users. CSOs who participate in CRAFT treatment sessions report improvements in

psychological functioning, family relationships, and the IPs' substance use. In addition, CRAFT has been found to engage between 64 - 74% of treatment-refusing substance users into treatment. Nonetheless, CRAFT is rarely used in treatment agencies, possibly because the individual-therapy nature of the CRAFT approach does not lend itself to adoption in treatment agencies that largely rely on group approaches to cut costs. Thus, the overall goal of this study was to test the feasibility and efficacy of two low-cost alternatives to the traditional CRAFT approach, Group CRAFT and Self-Directed CRAFT. This study consisted of two phases of treatment. In Phase I, CSOs of treatment-refusing substance users were provided with the CRAFT intervention. In Phase II, IPs who agreed to enter treatment were offered 12 treatment sessions at no cost.

Specific hypotheses. The aim of this study was to examine the effectiveness of two potentially cost-effective alternatives to the individual CRAFT interventions: Group CRAFT and Self-Directed CRAFT. Three hypotheses were tested: (1) Group CRAFT participants were expected to have higher IP engagement rates than Self-Directed CRAFT participants due to the increased therapist attention and support available to CSOs in the CRAFT group. (2) Participants in both conditions were expected to report improvements in CSO functioning, family functioning, and IP functioning from the baseline to the three and six-month follow-up interviews. (3) A time x condition interaction in which the Group CRAFT participants reported greater increases in CSO functioning, family functioning, and IP functioning was expected at the three and six-month follow-ups due to the increased therapist attention and support available to CSOs in the CRAFT groups.

Method

Phase I

Participants. Participants were 40 CSOs of treatment refusing alcohol and drug users. CSOs were recruited via advertisements in major metropolitan newspapers and fliers located in emergency rooms, family practice clinics, coffee shops, restaurants, and grocery stores. Inclusion criteria for CSOs were: (1) concern about and having direct knowledge of alcohol or drug problems of an IP who was either a first-degree relative (parent, child, or sibling), intimate partner (married or unmarried, heterosexual or homosexual), or close friend; (2) residence within a 90-mile radius of the research site; (3) contact with the IP on at least 40% of the past 90 days, with no anticipated change (e.g., separation) in the next 90 days; (4) age of at least 18 years (both the CSO and IP); (5) evidence (from the CSO) that the IP met the Structured Clinical Interview for the Diagnostic Statistical Manual (DSM) Disorders-IV (SCID) criteria for Psychoactive Substance Use Disorders for one or more of the following: alcohol, amphetamine, cannabis, cocaine, hallucinogen, opioid, PCP, sedative, hypnotic, or anxiolytic; (6) willingness to participate in the study; (7) ability to provide informed consent.

Exclusion criteria for the CSOs were: (1) the CSO met SCID DSM-IV criteria for any current Substance Dependence diagnosis; (2) the CSO currently met SCID DSM-IV criteria for Schizophrenia or any other Psychotic Disorder and it was judged by the interviewer that the presence of the psychosis or other condition impaired the ability of the CSO to understand and participate in the intervention; (3) evidence that the IP had received treatment (other than detoxification) for drug problems in the prior three months, was mandated by the courts to receive treatment, or was currently willing to

accept treatment; (4) CSO had insufficient reading ability to comprehend the self-help book and self-assessment packet (approximately 8th grade reading level), as measured by the Slossen Oral Reading Test (1963).

Telephone referrals received from any source were interviewed by project staff to determine initial eligibility using an IRB-approved pre-screening form. CSOs found to be ineligible were referred to a local substance abuse treatment agency, the University of New Mexico Psychology Clinic, Al-Anon or other appropriate resources within the community. Those meeting eligibility criteria were scheduled for a baseline interview as soon as possible, usually within 48 hours of initial contact.

The baseline interview began with a review of the nature and conditions of the study, and a formal review of the elements of the informed consent document to screen for reading ability and to ensure comprehension of the informed consent. After evaluating reading ability and comprehension, the interviewer administered screening instruments to determine formal eligibility. These included:

(1) SCID (First, Spitzer, Gibbon & Williams, 1995) DSM-IV sections on drugs, alcohol, and psychosis screening section, administered first to the CSO for him/herself, then again to the CSO (sections on drug and alcohol use) to obtain information regarding the IP (determination of diagnostic inclusion and exclusion criteria) to determine if the CSO and IP met criteria for current substance use disorder.

(2) Treatment history for the CSO and IP (following the categories used in the Form-90; Miller, 1996) to determine if the IP sought formal treatment in the previous three months.

Participants who met eligibility criteria and signed the informed consent document for participation in the study completed the baseline interview in which CSO functioning, the CSO-IP family environment, and IP functioning were measured via structured interviews and self-report instruments.

Measures. A summary of the assessment instruments administered to CSOs at the baseline, three-month and six-month follow-up interviews can be found in Table 1.

CSO functioning.

Demographics. CSO demographic data were assessed through the Center on Alcoholism, Substance Abuse, and Addictions (CASAA) Demographic Interview 2.2 (http://casaa.unm.edu/inst/DemographicInterview2_2.pdf). This questionnaire queries CSO age, ethnicity, living environment, marital and employment status, as well as family income. The interview also included a Confidential Information Locator Form to obtain the names and contact information for up to three people who did not live with the CSO but who could locate the CSO, in the event that study personnel could not make contact with the CSO. A follow-up demographics questionnaire was administered to CSOs at the three and six-month follow-up interview to determine if the CSOs had relocated, changed their contact information, or had a change in their relationship or employment status.

Form-90. The Form-90 alcohol (Miller, 1996) and drug (Westerberg, Tonigan, & Miller, 1998) questionnaire was administered to CSOs to assess CSO alcohol, drug use, employment, incarceration, and utilization of health services in the 90 days prior to the interview. The Form-90 is a structured interviewer-administered instrument in which a calendar with holidays and important events is used to facilitate accurate recall of drinking and drug use history. The Form-90 Drug (Form 90-D; Westerberg et al., 1998)

has good to excellent test-retest agreement on measures of psychosocial functioning such as institutional days (ICC = .95), jail days (ICC = .99), medical care days (ICC = .74) and work days (ICC = .60). In terms of measures of illicit drug use, the Form-90D has good to excellent test-retest reliability on cocaine use (ICC = .75), opiate use (ICC = .80), marijuana use (ICC = .79) and tranquilizer use (ICC = .73). The test-retest reliability for inhalants is poor (ICC = .02). Reliability measures of other drug use (hallucinogens and sedatives) for this measure have yet to be determined. Interviewers also queried about alcohol use (frequency and drinks per drinking day) when administering the Form-90. These variables, derived from the Form 90-Alcohol, have excellent test-retest reliability. For instance, total alcohol consumption has an ICC of .61, drinks per drinking day has an ICC of .55, percent abstinent days has an ICC of .76, and percent heavy days use has an ICC of .60 (Tonigan, Miller, & Brown, 1997).

Beck Depression Inventory (BDI-II; Beck, Steer, & Garbin, 1988). The BDI-II was administered to assess CSO symptoms of depression. The BDI consists of 21 items and responses are scored from 0 to 3, with a maximum score of 63. A total BDI score of 0-13 indicates no or minimal depression, scores of 14-19 indicate mild depression, scores of 20-28 indicate moderate depression and scores of 29 or greater signify severe depression. Internal consistency for the BDI ranges from .73 to .92 with a mean of .86. Test-retest reliabilities for this instrument range from .48 to .86. The BDI has demonstrated good validity, indicating that it is correlated with other measures of depression (Beck, Steer, & Brown, 1996). The Cronbach alpha for the BDI measure in the current study was .91.

CASAA Efficacy Scale. The Efficacy Scale is an unpublished 9-item measure (http://casaa.unm.edu/inst/DrugEfficacyScale.pdf) that was administered to CSOs to assess their confidence in substance abuse treatment in general, as well as how likely they felt the current treatment would be to engage their loved one into treatment. Responses are scored from 0 to 4 (0 = not very good chance, 1 = small chance, 2 = a fairly good chance, 3 = a good chance, 4 = a very good chance). Total efficacy scores can range from 0-36 with higher scores indicating a greater sense of efficacy regarding substance abuse treatment and in particular, how likely their loved one was to enter treatment. Sample items include "How good are the chances that this program will help you?" and "What are the chances that you will be able to engage your loved one into treatment?" There are no published studies examining the psychometric properties of the CASAA Efficacy Scale. The Cronbach alpha for this measure in the current study was .91.

Health and Daily Living Form: Physical Symptoms (Moos, Cronkite, Billings, & Finney, 1984). CSO physical symptoms were assessed via the Physical Symptoms Checklist from the Health and Daily Living Form. The Health and Daily Living Form is a measures of life stressors and coping responses. It consists of indices: individual functioning, stressful life circumstance, social network resources and help-seeking. The Physical Symptoms Checklist is one measure included in the individual functioning index. Overall, the Health and Daily Living Form has demonstrated good construct validity in that it is correlated with similar measures of stressful life circumstances and available resources (Moos, Cronkite & Finney, 1984). This measure assesses the presence of 26 different physical symptoms in the previous 12 months. Higher scores indicate more physical health symptoms. The Physical Symptoms Checklist

demonstrated good internal consistency (α = .80) in a sample of depressed patients and in a sample of community adults. The mean number of symptoms reported was 5.50 (*SD* = 3.17) in the sample of depressed patients; it was 2.25 (*SD* = 2.54) in a sample of community adults (Moos, Cronkite, & Finney, 1990). The Cronbach alpha for the Physical Symptoms scale in the current study was .84.

State Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg & Jacobs, 1983) was administered to CSOs to measure anxiety severity pre and post-treatment. The STAI is comprised of two scales, each with 20 items, which measure state and trait anxiety. Items that measure trait anxiety ask questions regarding how the respondents feel "right now…at this moment." State items measure how the respondents "generally" feel. Higher scores indicate greater state and trait anxiety. The STAI has been widely used as a measure of anxiety and has demonstrated good internal consistency and test-retest reliability for both scales (Barnes, Harp, & Jung, 2002). The STAI is correlated with other measures of anxiety (Stanley, Novy, Bourland, Beck, & Averill, 2001). The Cronbach alpha was .41 for the state subscale and .34 for the trait scale in the current study.

State Trait Anger Expression Inventory version 2 (STAXI-2; Spielberger, 1988) was used to measure CSO anger and anger expression. The STAXI is a 57-item measure that consists of six scales: (1) State Anger, (2) Trait Anger, (3) Anger Control, (4) Anger Expression-In, (5) Anger Expression-Out, and (6) Anger Expression (general). Each item is scored on a four-point scale from "almost never" to "almost always." Higher scores indicate greater levels of anger or anger expression. The STAXI subscales have demonstrated good internal consistency and construct validity. The internal consistency

for the total STAXI scale ranges from .73 - .95 and from .73 - .93 for the subscales. The validity of the STAXI-2 has been supported from comparisons to other measures of anger such as the Hostility and Overt Hostility subscales of the Minnesota Multiphasic Personality Inventory (MMPI; Butcher, Graham, Ben-Porath, Tellegan, & Dahlstrom, 2001) and the Eysenck Personality Questionnaire (Eysenck & Eysneck, 1975) subscales of Psychoticism and Neuroticism (Spielberger, 1988). The internal consistency for the STAXI subscales ranged from .69 - .92 in the current study (State Anger α = .92, Trait Anger α = .75, Anger Control α = .80, Anger Expression-In α = .81, Anger Expression-Out α = .75, and Anger Expression-general α = .69).

Twelve-Step Participation Questionnaire (TSPQ; Tonigan, Miller, & Connors, 1997). The TSPQ assesses lifetime 12-step meeting attendance. The TSPQ is based on the AA Involvement Questionnaire (AAI; Tonigan, Connors & Miller, 1996), a measure of 12-step affiliation and attendance. The AAI has demonstrated high internal consistency (α = .85) and high (α = .90 and above) scale test-retest reliability. The TSPQ includes all items from the AAI, as well as additional items querying AA, Al-Anon and other 12-step attendance in the previous 90 days, past year, and lifetime. Sample items include "Have you ever celebrated a 12-step birthday" or "Have you ever been a 12-step sponsor?" The Twelve-Step Participation Follow-up Questionnaire was administered to CSOs at the three and six-month follow-up to determine the CSO's 12-step attendance and affiliation in the 90 days prior to the interview.

Family functioning.

Family Environment Scale (FES; Moos & Moos, 1986). The FES was used to measure the characteristics and quality of the CSO-IP familial relationship. The FES is a

90-item self-report measure of relationship characteristics and family system maintenance dimensions. The subscales of the FES are Cohesion, Expressiveness, Conflict, Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, Moral-Religious Emphasis, Organization, and Control. The internal consistency of the subscales ranges from α = .61 to .78 and the 2-month test-retest reliabilities range from α = .68 to .86. Six of the FES subscales have demonstrated strong validity when compared to other measures of family functioning in a sample of alcohol-dependent families (Sanford, Bingham, & Zucker, 1999). The Cohesion subscale was highly related to the Family Adaptability and Cohesion Evaluation Scale (FACES; Olson, Portner & Bell, 1982) questionnaire. The Conflict subscale was strongly related to the Conflict Tactics Scale (Straus, 1979), a measure of family conflict. The Intellectual-Cultural subscale was highly correlated with family socio-economic status, the California Q-sort (Block 1961, 1971), Home Observation for Measurement of the Environment Scale (HOME; Caldwell & Bradley, 1984), and education status. The Active-Recreation subscale was correlated with items from the Hassles and Uplifts Scale (Kranner, Coyne, Schaefer, & Lazarus, 1981) and the Neuroticism-Extroversion-Openness Personality Inventory (NEO-PI; Costa & McCrae, 1985). The Moral-Religious subscale was strongly related to self-reports of church attendance and items from the Hassles and Uplifts Scale (Kraner et al., 1981). The Organization scale was highly correlated with the Safe and Clean subscales of the HOME assessment questionnaire (Caldwell & Bradley, 1984). In the current study, the internal consistency of the Cohesion subscale was .70 and the Conflict subscale internal consistency coefficient was .69.

IP functioning.

Form-90. The Form-90 Drug (Miller, 1996; Collateral Informant version) was administered to the CSOs for the 90-day period prior to the interview in order to gauge the IP's alcohol and drug use, employment, and utilization of health care services. Psychometric data for collateral use of this measure are not available; however this instrument has been completed by collaterals in previous studies (e.g. Meyers et al., 1999, 2002; Miller et al., 1999). Collateral report of substance use has been found to be a reliable way to measure IP alcohol and drug use. Previous studies indicate that spouses and individuals who are in frequent contact with the IP tend to have higher agreement with IPs regarding substance use than non-spouse relatives (Connors & Maisto, 2003; O'Farrell, Fals-Stewart, & Murphy, 2003; Sobell, Agrawall, & Sobell, 1997). CSOs' report of IP percent days abstinent from each category of drugs (including alcohol), as well as IP percent days abstinent from all illicit drugs, illicit use of licit drugs, and alcohol were calculated. IP percent light/moderate and heavy drinking days also were calculated. Heavy drinking was defined as drinking more than four drinks on a single day for men and more than three drinks on a single day for women (National Institute on Alcohol Abuse and Alcoholism, 2009).

Inventory of Drug Use Consequences (InDUC). The InDUC for Significant Others (InDUC-SO; Tonigan & Miller, 2002) is a 35-item questionnaire that was completed by the CSO to assess negative consequences related to the IP's alcohol and drug use in the previous three months. The InDUC consists of five scales that measure the IP's consequences in the following domains: impulse control, social responsibility, physical consequences, interpersonal consequences, and intrapersonal consequences.

Participants are asked to respond on a four-point scale (0=never, 1=once or a few times, 2=once or twice a week, 3=daily or almost daily), indicating the frequency of each event. Four InDUC subscales (all except the intrapersonal scale) have good test-retest reliability (Tonigan & Miller, 2002). Gillapsy and Campbell (2006) demonstrated test-retest reliability estimates for the InDUC that ranged from .64 - .86 for the individual subscales and .94 for the Total InDUC scale. Tonigan and Miller (2002) determined that four of the ICCS for the InDUC subscales ranged from .68 - .92 while the Intrapersonal subscale had an ICC of .33. The InDUC has demonstrated strong convergence with measures of frequency of alcohol and drug use and has moderate convergence with measures of psychological distress and symptoms of depression (Gillaspy & Campbell, 2006). Psychometric data for collateral use of this measure are not available; however this instrument has been completed by collaterals in previous studies (e.g. Meyers et al., 1999, 2002; Miller et al., 1999). Research indicates that collateral reports of IP consequences are in agreement with IP self-reports of consequences (Connors & Maisto, 2003; Sobell, Agrawall, & Sobell, 1997). The total InDUC score was used in the current study. The Cronbach alpha for the InDUC total score in this study was .89.

Treatment comprehension.

CRAFT Knowledge Check. At the three and six-month follow-up interview, the CRAFT Understanding Quiz was administered to assess CSO knowledge of CRAFT techniques. This 12-item questionnaire was developed for the current study to assess if CSOs read and understood the principles and skills specified in the self-help CRAFT manual. Participants answered true or false to each item. Participants received one point for each correct item. The questions were based on the content of the self-help CRAFT

manual. Sample true-false items include "A *Road Map of Substance Use* consists of the various drugs available on the street " and "Rewards are an important way to make sobriety more appealing than drug use." Examination of the internal consistency of the items included in the CRAFT Knowledge Check indicated that five items did not have any variation between participants, meaning that all participants answered the item the same way (with the correct answer). The Cronbach alpha for the remaining seven items was -.12. The low internal consistency for this measure is likely due to the restricted range of responses in the current sample. CSOs tended to respond correctly for most items, thus there was very little variability among responses.

Procedure. In Phase I, CSOs were the sole source of data regarding IP functioning and substance use, since not all IPs sought treatment and entered Phase II of the study. Immediately following the Phase I intake assessment, 40 CSOs were assigned to Group CRAFT (n = 20) or Self-administered CRAFT (n = 20) using a computerized urn randomization program balanced for four selected CSO or IP characteristics to balance the two conditions on factors hypothesized to influence key outcome variables, based on previous CRAFT studies: (1) CSO relationship with the IP (spousal versus other familial relationship); (2) prior CSO 12-step exposure; (3) prior IP formal treatment for drug problems (4 or less treatments in lifetime versus 5 or more treatments); (4) CSO age (less than 50 years of age versus 50 years or older).

Intervention Manual. All CSOs were given the CRAFT self-help manual, "*Get your loved one sober: Alternatives to nagging, pleading, and threatening*" (Meyers & Wolfe, 2004). The CRAFT self-help manual is written at an 8th grade level. This book focuses on key components of CRAFT and instructs CSOs on how to implement new

behaviors into their repertoire. The CRAFT self-help manual also instructs CSOs how to approach the subject of treatment with their loved one. This manual describes in lay terms the main components of CRAFT - how to contingently respond to IP behavior, increase communication skills, and improve the CSOs' own well-being.

Group CRAFT. The CRAFT Groups were closed and did not begin until there were at least four CSOs randomized to the group condition. Five independent groups (n = 4 in each group) were offered up to 12 sessions of Group CRAFT therapy. Groups met weekly for one-hour. The group content was based on the CRAFT skills and techniques found in Smith and Meyers (2004) and the CRAFT self-help manual (Meyers & Wolfe, 2004). CSOs in the Group condition received the CRAFT self-help manual at the beginning of the first group session.

As part of the Group CRAFT treatment intervention, CSOs were told that they could have a substantial impact on the loved one's drug use, as well as their decision to enter treatment. Throughout the therapy sessions, CSOs were taught skills to help reduce the IP's drug use, engage the IP into treatment, and improve the CSO's quality of life. The 12 sessions focused on: (1) problems related to the IP's drug use; (2) prior CSO reactions to the IP's drug use; (3) teaching CSOs contingency management to reinforce sober behavior, extinguish drug use, and avoid interfering with negative consequences of drug use; (4) increasing positive communication; (5) instructing CSOs on how they could increase their social support, reward their successes and protect themselves from violence from the IP.

Self-Help CRAFT. CSOs randomized to the self-administered CRAFT intervention received a copy of the CRAFT self-help manual (Meyers & Wolfe, 2004)

immediately following the baseline interview. CSOs were instructed to read the CRAFT manual and were given a contact number in the event that their IP decided to enter treatment.

Treatment integrity. The two co-therapists in the Group CRAFT intervention both had a Masters degree in psychology and were experienced with the CRAFT approach. Both had been formally trained in CRAFT by Dr. Meyers. The co-therapists had weekly meetings with Dr. Meyers in which treatment sessions were reviewed, problems were discussed and future therapy sessions were planned. All group sessions were audio-taped to facilitate close supervision by Dr. Meyers.

Follow-up. CSOs were asked to complete a three and six-month follow-up interview. The follow-up interview timeframe for CSOs in the Group condition was based on the first group treatment session; the follow-up interview for CSOs in the Self-Directed condition was based on the date of the baseline interview (the point at which they received the self-help manual). Follow-up assessments were conducted by undergraduate research assistants who received extensive training and supervision in interviewing from the principal investigator. The RAs were masked as to which treatment the participants received. Participants were paid $30 for each follow-up interview.

Phase II

All CSOs were given a rapid-access telephone number and pager number to call when the IP was willing to consider treatment. The window for referral of the IP to treatment through the current study was six months from the start of the CSO's treatment. A pager system was available during late evening and weekend hours, permitting 24-hour

access to the treatment team. When such calls were received, every effort was made to schedule the IP for consultation within 48 hours, ideally on the same or next day. At this appointment the IPs were informed of: (1) the rapid availability of free treatment through the clinical trial and of alternative treatment programs in the community; and (2) the conditions of informed consent. No additional exclusion criteria were employed; all IPs referred from Phase I were eligible for Phase II. If the IP provided signed informed consent, a pre-treatment evaluation was conducted.

Measures. All CSO baseline measures were repeated for IPs who entered treatment, with the exception of the CRAFT Understanding Quiz and the Efficacy Scale. In addition, the Drug Abstinence Efficacy Scale was administered to all IPs who completed a baseline interview. For details on the instruments administered to IPs at the baseline interview and three-month follow-up, please refer to Table 2.

Drug Abstinence Efficacy Scale. The Drug Abstinence Self-Efficacy Scale was adapted from the Alcohol-Abstinence Self-Efficacy Scale (AASE; DiClemente, Carbonari, Montgomery, & Hughes, 1994) for use with drug using populations by changing the terminology from "alcohol" to "drug" behaviors. The AASE assesses the construct of self-efficacy in the context of abstinence from alcohol in typical drinking situations. It also assesses temptation for drinking in typical drinking situations. The measure consists of 40 items, 20 items for the efficacy construct and 20 items for the temptation construct. All items are measured on a five-point Likert scale in which answers may range from 0 = not at all to 5 = extremely. This measure has demonstrated good internal consistency and construct validity.

Procedure.

Phase II treatment: Community Reinforcement Approach (CRA). In most instances, the first treatment session immediately followed the assessment interview. If this was not possible, the first treatment session was scheduled at the assessment interview. IPs who agreed to attend treatment were offered up to 12 sessions of the community reinforcement approach (CRA; Meyers & Smith, 1995). IPs were considered to be engaged in treatment after they completed an intake interview and at least one treatment session. The treatment focused on determining client antecedents and consequences to drinking through the use of functional analysis; remaining abstinent from alcohol and drugs through sobriety sampling; and behavioral skills training such as communication skills, problem-solving, drug refusal, identifying high-risk situations, and restructuring negative thoughts. When indicated, CRA therapists counseled clients on job skills and the incorporation of new social and recreational activities. In the event that medical/psychiatric problems became apparent, referrals were provided to outside agencies.

Treatment integrity. CRA therapists were graduate students who had received training in this approach. They were not the same therapists who provided the CRAFT treatment. Therapists in the CRA condition received extensive supervision from Dr. Meyers and other faculty within the Psychology Department at the University of New Mexico.

Follow-ups. IPs who entered Phase II of treatment were asked to complete a three-month follow-up interview. The interviews were conducted by undergraduate research assistants. IPs were paid $30 upon completion of the follow-up interview.

Data management procedures. The principal investigator trained a group of undergraduate research assistants in data entry procedures. All forms and interviews were double entered into an SPSS file. Any discrepancies were detected electronically and resolved by referring to the original hard copy file.

Statistical analysis plan.

Primary analyses. The primary analyses examined (1) the extent to which IPs entered and remained in treatment; (2) pre/post changes in CSO functioning; (3) pre/post changes in the CSO-IP relationship; and (4) pre/post changes in IP drug use as reported by the CSO. The between group contrasts of Group CRAFT and Self-Directed CRAFT were of primary interest.

IP treatment engagement. To determine the effect of CSO condition assignment on IP treatment engagement, a 2x2 (Group CRAFT, Self-Directed CRAFT x Engaged, Unengaged IPs) chi square analysis was utilized. In addition, a logistic regression, controlling for IP severity at baseline was utilized. The dependent variable in the logistic regression model was IP engagement.

CSO functioning. Five separate repeated measures ANOVAs were conducted to assess the relative effectiveness of Group CRAFT and Self-Directed CRAFT. In each analysis, treatment assignment was the between-subjects factor and the within-subjects factor had two levels: baseline and the three or six-month follow-up. The analyses were conducted separately for the three and six-month follow-ups because of our small sample size. To protect against inflated Type 1 error, all omnibus tests (main and interactive) were tested against an alpha of .01 (.05/5 = .01). The five measures of CSO functioning were: symptoms of depression (Beck Depression Inventory), anger (State Trait Anger

Inventory), anxiety (State Trait Anxiety Inventory), self-esteem (Efficacy Scale), and health complaints (Physical Symptoms).

Family environment. Repeated measures ANOVAs were conducted to assess the relative effectiveness of group CRAFT and self-administered CRAFT on the CSOs' family environment. Two of the FES subscales, Cohesion and Conflict, were analyzed in a separate ANOVA. The two-level between subject factor was CSO treatment assignment and the within-level factor coincided with the three and six-month follow-ups. All omnibus tests were tested against an alpha of .005 (.05/2 = .025).

IP functioning. Repeated measures ANOVAs were conducted to determine the differential change for those IPs who did or did not engage in treatment and for CSO treatment condition. The within-level factor coincided with the three and six month follow-up, but was entered separately for each follow-up period. The between subjects factor was IP engagement. To protect against inflated Type 1 error, all omnibus tests were gauged against an alpha of .010 (.05/5). IP functioning was measured by percent days drug use, percent days heavy drinking, mean drinks per drinking day, and percent hospitalizations (as measured by the Form-90), and IP drug-related consequences (from the InDUC).

Comparison with previous CRAFT research. To compare the relative improvement of CSOs in this study with previous work, meta-analytic procedures recommended by Hunter, Schmidt, and Jackson (1982) were conducted to determine whether the distribution of observed effect sizes on various CSO measures of functioning (in this study and earlier ones) varied systematically or simply by chance fluctuation. This was achieved by use of the Q statistic, which estimates the degree to which observed

effects sizes are homogenous and, in fact, are drawn from a single population of effect size.

Phase II analyses of IP functioning. To better understand the characteristics of IPs who engaged into treatment as part of this study, IP demographic and substance use data were examined. Due to the small number of IP follow-ups completed (56%) at the Phase II three-month follow-up interview, posttreatment data will not be reported.

Results

Phase I

Sample characteristics. A total of 125 individuals contacted the project for more information on the CRAFT study. Of the 125 calls, 75 individuals completed an eligibility screening over the phone, yielding 46 eligible who were willing to schedule an intake interview. Reasons for ineligibility included: the IP was willing to enter treatment (31%), the CSO did not have enough contact with the IP (28%), the CSO did not live within 90 miles of the research site (17%), the caller was the IP (17%), the IP was under the age of 18 (3.5%), or the IP was court-ordered to enter treatment (3.5%). Of the 46 scheduled interviews, 40 CSOs completed an intake interview. See Figure 1 for details regarding recruitment and enrollment in the CONSORT diagram. The sample was predominately female (85%), with a mean age of 51.13 (*SD* = 11.65) years. The CSOs ranged in age from 26-76 years. With regard to ethnicity, 65% of the participants were white, 30% were Hispanic, 2.5% were Native American and 2.5% reported they were of mixed ethnic backgrounds. Half (50%) of the participants were employed full-time, 17.5% worked part-time, 25% were unemployed or retired, and the remaining 7.5% were either homemakers, full-time students, or disabled. Almost half (45%) of the participants

were married, 35% were divorced, and 20% were never married. On average, the CSOs had 15.86 years of education (*SD* = 3.04) and a mean family income of $51,515 (*SD* = 32,285). Table 3 summarizes demographic characteristics of the sample by treatment condition. The two conditions did not significantly differ on demographic characteristics, although the difference between the two conditions for CSO full-time employment approached significance χ^2 (1, n = 40) = 3.60, p = .06.

CSOs reported that they had known the IPs, on average, for 27.85 years (*SD* = 11.84). The CSOs had contact with the IPs on 73.18 (*SD* = 27.77) of the prior 90 days at the baseline interview. The CSOs' relationship to the IP was: parent (62.5%), spouse (12.5%), sibling (7.5%), child (2.5%), friend (2.5%), girlfriend/boyfriend (7.5%), or other (5%).

Baseline analyses.

CSO functioning. Descriptive statistics for the two treatment conditions are reported in Table 4. At $p < .05$, the conditions differed prior to treatment only on CSO report of IP opiate use in the 90 days prior to the baseline interview with higher rates of use reported in the Self-Directed condition. Other key outcome variables did not differ significantly between the two conditions prior to the treatment intervention.

CSOs reported an average of 12.18 (*SD* = 9.08) on the BDI scale at the baseline interview. More than half (n = 26) of the participants had BDI scores of 13 or lower, indicating no or minimal depression. Six participants had scores of 14-19 indicating mild depression. Five participants had BDI scores that fell into the moderate depression range (scores of 20-28) and three participants reported symptoms of severe depression (scores of 29 or higher).

CSOs reported relatively few physical symptoms at the baseline interview. The average number of symptoms was reported was 4.83 (*SD* = 4.13). The average state anxiety score was 37.05 (*SD* = 12.46) and the average trait anxiety score was 38.83 (*SD* = 9.32). The anxiety scores are only slightly higher than the average scores for working men and women and fell below the range of scores for those diagnosed with anxiety disorders (range: 47-61). The average total anger score as measured by the STAXI was 27.53 (*SD* = 12.17), a relatively low score for expression of anger.

The average cohesion score from the Family Environment Scale was 5.87 (*SD* = 2.30). This score falls between the norms for normal (mean=6.73, *SD* = 1.47) and distressed families (mean = 5.25, *SD* = 2.13). The average conflict score was 3.28 (*SD* = 2.18), which is slightly higher than the norms for normal families (mean=3.18, *SD* = 1.91).

IP functioning. All IPs met diagnostic criteria (via CSO collateral report) for either alcohol or drug abuse or dependence and many met criteria for both alcohol and drug abuse dependence. Of the IPs meeting criteria for an alcohol use disorder, 60% (n = 24) met criteria for alcohol dependence and 2.5% (n = 1) met criteria for alcohol abuse. Similarly, 65% (n = 26) of the IPs met criteria for drug dependence and 2.5% (n = 1) met criteria for drug abuse. In addition, 32.5% (n = 13) of the IPs met criteria for both alcohol and drug dependence.

According to the CSO report of IP use, the IPs used illicit drugs and/or alcohol on an average of 80.89 (*SD* = 27.93) of the 90 days prior to the baseline interview. The CSOs reported that the IPs used alcohol an average of 54.39 (*SD* = 39.94) of the 90 days prior to CSO treatment entry, with the CSOs reporting that the IPs drank heavily an average of 48.22 (*SD* = 42.01) days. The mean drinks per drinking day by the IP was

7.33 (*SD* = 6.33). The most frequently used drugs by the IP (as reported by the CSO) were marijuana, cocaine, and opiates. See Table 4 for information regarding IP use in the 90 days prior to CSO treatment entry.

CSO participation. CSOs randomized to the group condition were offered 12 one-hour group therapy sessions. Groups were closed and did not begin until four CSOs were randomized to the group condition. Due to the delay in the start of groups, CSO waited an average of 28.15 (*SD* = 14.27) days between their intake interview and the first group therapy session. Three CSOs did not attend any group sessions of the 12 planned one-hour group therapy sessions. This may be due to the time between the CSO intake interview and the start of treatment. The three CSOs who did not attend any group therapy sessions waited an average of 40.33 (*SD* = 20.50) days compared to 26.00 (*SD* = 16.59) days for CSOs who attended at least one treatment session.

When examining all of the CSOs randomized to the group condition, CSOs completed an average of 6.90 (*SD* = 4.06) group treatment sessions or 57.5% of sessions offered. Of the CSOs who attended at least one group session, the average number of group treatment sessions completed is 8.12 (*SD* = 3.02) or 68% of sessions offered. As part of the CRAFT protocol, other family members were invited to participate in group sessions, although they were not considered participants in the current study. Three CSOs brought a loved one (two brought spouses and one CSO brought his adult daughter) to all sessions attended. See Table 5 for a description of the average number of treatment sessions attended in each CRAFT group by the intent to treat and the treated samples.

At the three-month follow-up period, 85% (n = 17) of CSOs in Group condition

completed the three-month interview and 90% (n = 18) of the CSOs in the Self-Directed condition completed the three-month follow-up. At the six-month follow-up 70% (n = 14) of the CSOs in the Group condition completed the follow-up interview and 85% (n = 17) of the participants in the Self-Directed condition completed the follow-up interview. Of the CSOs in the Group condition, 70% completed both a three and six-month follow-up interview; 85% of the CSOs in the Self-Directed condition completed both a three and six-month follow-up.

To determine whether the CSOs read and understood the self-help manual, the CRAFT Understanding Quiz was administered to CSOs in both conditions at the three and six-month follow-up. There was not a significant difference between CSO comprehension of the CRAFT principles at either the three $t(2, 30) = -.14$, $p = .89$ or six-month follow-up $t(2.29) = -.46$, $p = .65$. Based on the CSOs' scores in the Group (mean = 10.60, *SD* = .99) and Self-Directed Conditions (mean = 10.65, *SD* = .93), there was an overall understanding of CRAFT. At the six-month follow-up, the mean scores did not significantly increase from the three-month follow-up $F(1, 29) = .465$, $p = .50$. At six-months, Group participants had an average score of 10.64 (*SD* = .93) and Self-Directed participants had an average score of 10.82 (*SD* = 1.19).

Treatment engagement. The primary outcome in this study was the number of IPs who engaged into treatment in each of the two conditions during the six-month window. Of the CSOs in the Group condition, 60% (n = 12) successfully engaged their loved one into treatment and 40% (n = 8) of the CSOs in the Self-directed condition successfully engaged their loved one into treatment. This difference was not statistically significant, χ^2 (1, n = 40) = 1.61, $p = .20$. Three CSOs randomized to the Group

condition attended no group sessions, thus they never received the intended treatment nor did they receive a copy of the self-help manual. These CSOs were not successful at engaging their loved one into treatment. If they are removed from the analysis, the entry rate for the Group condition increases to 70.59% (n = 12). Excluding those who attended no group sessions, the difference between the Group (71%) and Self-Directed (40%) conditions approaches significance, χ^2 (1, n = 37) = 3.53, p = .06. Of the 20 IPs who engaged in treatment during the six-month treatment window, 16 entered treatment through the current study while four IPs entered treatment from other sources offered in the community. See Table 6 for details. For IPs who entered treatment through the current study, the mean number of days between the start of CSO treatment and IP treatment engagement was 32.47 (*SD* = 27.56). The mean days until IP treatment engagement did not differ between the two conditions $F(1, 14) = .86$, $p = .37$. The mean number of days until IP treatment entry was 37.89 (*SD* = 25.24) for Group CRAFT CSOs and 24.33 (*SD* = 31.23) for Self-Directed CSOs. Group CRAFT CSOs attended an average of 5.33 (*SD* = 3.91) sessions before their IP engaged into treatment.

The effect size for the treatment engagement rates between the two conditions was d = .20, with an adjustment for small sample size. When the three CSOs who did not attend any group sessions were removed from the analyses, the effect size was d = .30, again adjusting for small sample size. Both effect sizes are in the small range (Cohen, 1988). These findings indicate that the Group CRAFT condition was moderately more successful in engaging IPs into treatment than the Self-Directed CRAFT condition.

Post-hoc analyses were conducted to evaluate if engaged IPs differed from unengaged IPs at the CSO baseline interview. A one-way analysis of variance was

utilized with IP engagement as the between subjects factor. The following dependent variables were examined: IP mean drinks per drinking day, IP percent days heavy drinking, IP percent days total alcohol and drug use, hospitalizations, and total substance-related consequences. Results indicate that the groups did not significantly differ prior to the CSO baseline interview. See Table 7 for details.

Post-hoc analyses were conducted to determine if CSOs of engaged IPs differed from CSOs of unengaged IPs at the baseline interview. A one-way analysis of variance was utilized with IP engagement as the between subjects factor. The dependent variables were: age, years known the IP and amount of contact with the IP. Results indicate that CSOs of engaged IPs did not significantly differ from CSOs of unengaged IPs at the CSO baseline interview. See Table 8 for details.

To examine if the CSO's relationship to the IP predicted IP treatment engagement, a 3x2 (partner, parent or other relationship to the IP x engaged, unengaged) post-hoc chi-square analysis was utilized. The CSO-IP relationship categories were collapsed into: (1) partner (including spouse/girlfriend/boyfriend); (2) parent and; (3) other (including siblings, children, other family members, and friends). Partners had the highest engagement rates (5/8 or 62.5%) followed by parents (13/25 or 52%) and other family members/friends (2/7 or 25.57%). Results indicate that engagement rates did not significantly differ for the three rlationship categories χ^2 (2, n = 35) = 1.83, p = .401.

Three-month follow-up analyses.

CSO functioning. To determine the impact of the interventions (Group CRAFT and Self-directed CRAFT) on CSO functioning, a repeated measures one-way analysis of variance was conducted for each of the five measures of CSO psychological functioning:

depression (BDI total score), efficacy, physical symptoms, anxiety (STAI trait scale), and anger (STAXI). The between-subjects factor was CSO treatment condition (Group therapy versus Self-Directed) and there were two within-subjects factors: baseline and the three-month follow-up. For a conservative estimate of statistical significance, all tests were tested against an alpha of .01 (.05/5). See Table 9 for details regarding effect sizes and tests of statistical signicance for measures of CSO, family and IP functioning at the three and six-month follow-up periods.

The decrease in CSO symptoms of depression from baseline to the three-month follow-up was not significant $F(1, 33) = 3.44$, $p = .073$, and the between-group effect was not significant $F(1, 33) = 1.66$, $p = .206$. CSO efficacy did not change significantly from the baseline to three-month follow-up $F(1,33) = .003$, $p = .957$ and there was a trend toward significance for the difference between the Group and Self-Directed conditions $F(1, 33) = 4.39$, $p = .044$, with participants in the Group condition reporting an increase in efficacy and participants in the Self-Directed condition reporting a decrease in efficacy from the baseline to the three-month follow-up interview. In addition, there was a trend toward significance for the time x group interaction for CSO efficacy $F(1, 33) = 5.83$, $p = .021$. Means and standard deviations for key measures of CSO functioning can be found in Table 10.

CSO report of physical symptoms did not change significantly over time $F(1, 32) = 2.98$, $p = .094$, nor was there a significant between-group difference in the Group and Self-Directed conditions $F(1, 32) = 2.84$, $p = .101$. There was not a within $F(1, 33) = .004$, $p = .951$ or between-group difference $F(1, 33) = 1.76$, $p = .193$ for CSO anxiety. Similarly, CSO anger did not significantly change from the baseline to the three-month

follow-up period $F(1,33) = .00$, $p = .995$, nor was there a between-group difference $F(1, 33) = .48$, $p = .492$.

*Family functioning***.** To assess changes in family functioning, a repeated-measures one-way analysis of variance was utilized. The dependent variables were two subscales of the Family Environment Scale: Cohesion and Conflict. The between subjects factor was CSO treatment condition and the two levels of the within subject factor were baseline and the three-month follow-up. To protect against an inflated Type 1 error, all omnibus tests were tested against an alpha of .025 (.05/2). The Family Cohesion subscale significantly increased from the baseline to the three-month follow-up $F(1, 33) = 7.76$, $p = .009$, but there was not a significant difference between treatment conditions $F(1, 33) = .058$, $p = .812$. In addition, the Family Conflict subscale significantly decreased from the baseline to the three-month follow-up $F(1, 33) = 5.89$, $p = .021$; however, there was not a significant between-groups difference $F(1, 33) = .09$, $p = .767$.

Post-hoc analyses were conducted to examine the eight additional subscales of the FES measures. To protect against an inflated Type 1 error, all omnibus tests were tested against an alpha of .006 (.05/8). The Expressiveness subscale did not decrease significantly from baseline to three-month follow-up $F(1,33) = 2.39$, $p = .132$, nor did it differ between treatment conditions $F(1,33) = 1.01$, $p = .323$. The Independence subscale did not significantly change from the baseline to the three-month follow-up $F(1,33) = 1.78$, $p = .191$, nor did it differ between treatment conditions $F(1,33) = 3.19$, $p = .083$. The Achievement-Orientation subscale did not differ from the baseline to the three-month follow-up $F(1,33) = .05$, $p = .832$; this scale did not differ between treatment conditions $F(1,33) = .12$, $p = .728$. The Intellectual-Cultural Orientation subscale did not

differ significantly from the baseline to the three-month follow-up $F(1,33) = .13$, $p = .721$, nor did it significantly vary between the treatment conditions $F(1,33) = .69$, $p = .411$. The Active-Recreational subscale did not significantly increase from the baseline to the three-month follow-up $F(1,33) = 4.78$, $p = .036$, and it did not differ between treatment conditions $F(1,33) = .022$, $p = .884$. The Moral-Religious subscale did not differ over time $F(1,33) = 1.42$, $p = .242$, nor did it differ between treatment conditions $F(1,33) = 1.09$, $p = .304$. The Organization subscale did not vary over time $F(1,33) = .82$, $p = .372$, nor did it differ between the treatment conditions $F(1,33) = 1.38$, $p = .713$. The Control subscale did not decrease from the baseline to the three-month follow-up $F(1,33) = 4.35$, $p = .045$ and it did not differ between treatment conditions $F(1,33) = 1.34$, $p = .255$. Descriptive information on the FES scales can be found in Table 11.

*IP functioning.*To determine if IP substance-related consequences as reported by the CSO changed over time, a repeated-measures one-way analysis of variance was utilized. The dependent variable was total consequences as measured by the InDUC. The between subjects factor was CSO treatment condition and the two levels of the within subject factor were baseline and the three-month follow-up. For a conservative estimate of statistical significance, all tests were gauged against an alpha of .01 (.05/5). There was a significant decrease in IP consequences as reported by the CSOs from the baseline to the three-month follow-up $F(1, 31) = 16.45$, $p = .000$. The between-groups difference was not significant $F(1,31) = .03$, $p = .860$.

Next we examined the change over time for the total IP alcohol and drug use days. A repeated-measure ANOVA as specified in the previous analysis was utilized for the analyses. There was a trend toward significance for IP total days substance use from

the baseline to the three-month follow-up $F(1, 30) = 6.84$, $p = .014$. There was not a significant difference between the treatment conditions $F(1, 30) = .90$, $p = .351$. IP percent days heavy drinking did not change over time $F(1, 30) = 2.76$, $p = .107$, nor was there a between-groups difference $F(1, 30) = .38$, $p = .541$. IP mean drinks per drinking day did not differ from the baseline to the three-month follow-up period $F(1, 21) = .001$, $p = .979$, nor did it differ significantly between treatment conditions $F(, 21) = .53$, $p = .476$.

Finally, a repeated measures ANOVA was utilized to examine if there was a differential change between CSO conditions on IP percent days hospitalized while covarying for baseline percent days hospitalized. There was not a significant change over time $F(1, 32) = 1.30$, $p = .263$, nor was there a significant difference between treatment conditions $F(1, 32) = .77$, $p = .388$. Descriptive information for key measures of IP functioning can be found in Table 12.

Six-month follow-up analyses.

*CSO functioning***.** To assess the impact of Group therapy and Self-Directed CRAFT on CSO functioning, we conducted five repeated measures one-way analysis of variance with each of the following dependent variables: depression (BDI total score), efficacy, physical symptoms, anxiety (STAI trait and state scores), and anger (STAXI). The model had one between-subjects factor representing the CSO treatment condition (Group versus Self-Directed CRAFT) and one within-subject time factor with two levels (baseline and six-month follow-up). For a conservative estimate of statistical significance and to protect against inflated Type 1 error, all tests were gauged against an alpha of .01 (.05/5). There was not a significant effect for time $F(1, 29) = 1.59$, $p = .217$,

nor was there a between group effect $F(1, 29) = 2.63$, $p = .115$ for CSO symptoms of depression. Effects were not observed on the efficacy variable, reflecting no significant changes in CSO efficacy over time $F(1, 29) = 1.33$, $p = .258$ or between treatment conditions $F(1, 29) = 3.50$, $p = .071$. Physical symptoms did not change over time $F(1, 29) = 3.49$, $p = .072$ nor was there a difference between treatment conditions $F(1, 29) = 2.90$, $p = .099$. CSO anxiety did not change over time $F(1, 29) = .542$, $p = .468$ nor did it vary between treatment conditions $F(1, 29) = 1.40$, $p = .247$. There was a trend toward significance for a reduction in CSO anger over time $F(1, 29) = 5.69$, $p = .024$ but there was not a between-groups difference $F(1, 29) = .37$, $p = .550$. For a summary of baseline, three-month and six-month measures of CSO functioning see Table 10.

*Family functioning***.** In order to assess changes in family functioning from the baseline to the six-month follow-up, a repeated-measures one-way analysis of variance was utilized to examine the Cohesion and Conflict subscales of the FES. The two levels of the within-subject factor were the baseline and six-month follow-ups. To protect against an inflated Type 1 error, all omnibus tests were gauged against an alpha of .025 (.05/2). See Table 11 for key measures of family functioning for the baseline and follow-up periods.

The increase in the Cohesion subscale from the baseline to the six-month follow- was significant $F(1, 29) = 8.67$, $p = .006$, but there was not a significant difference between treatment conditions $F(1, 29) = .10$, $p = .758$. There was a significant reduction in the Conflict subscale from the baseline to the six-month follow-up $F(1, 29) = 6.26$, $p = .018$; the between groups difference was not significant $F(1, 29) = .02$, $p = .892$. Post-hoc analyses examined the remaining eight subscales of the FES in which all tests

were gauged against an alpha of .006 (.05/8). The Expressiveness subscale did not change over time $F(1, 29) = 3.28$, $p = .081$, nor did it vary between treatment conditions $F(1, 29) = .97$, $p = .332$. The Independence subscale did not vary significantly over time $F(1, 29) = 3.45$, $p = .073$ nor did it vary between conditions $F(1, 29) = 2.30$, $p = .100$. The Achievement subscale did not change over time $F(1, 29) = .08$, $p = .785$ and it did not vary between treatment conditions $F(1, 29) = .00$, $p = .962$. The Intellectual-Cultural subscale did not change over time $F(1, 29) = .03$, $p = .864$ and it did not differ between treatment conditions $F(1, 29) = 1.10$, $p = .303$. The Activity-Recreation subscale did not change over time $F(1, 29) = 3.57$, $p = .069$ and did not vary by treatment condition $F(1, 29) = .00$, $p = .967$. The Moral Religious subscale did not change over time $F(1, 29) = 1.30$, $p = .263$ and there was not a between groups difference $F(1, 29) = .81$, $p = .869$. The Organization subscale did not change over time $F(1, 29) = .091$, $p = .765$, and did not vary between treatment conditions $F(1, 29) = .18$, $p = .678$. Finally, the Control subscale did not change over time $F(1, 29) = 3.53$, $p = .070$ nor did it vary by treatment condition $F(1, 29) = .52$, $p = .478$.

*IP functioning***.** A repeated-measures ANOVA was utilized to examine changes in IP substance-related consequences from the baseline to the six-month interview. All tests were gauged against an alpha of .01 (.05/5) for a conservative estimate of statistical significance. Results indicate that consequences did change over time $F(1, 25) = 13.45$, $p = .001$, but there was not a between-groups difference $F(1, 25) = .44$, $p = .515$. Next, we examined the IP total days alcohol and drug use and found that there was a significant time effect $F(1, 25) = 10.93$, $p = .003$ but the between groups effect was not significant $F(1, 25) = 1.30$, $p = .264$. There not a significant change over time in terms of IP heavy

drinking days $F(1, 25) = 2.49$, $p = .127$ In addition, there was not a between subjects difference for IP total days heavy drinking $F(1, 25) = .35$, $p = .558$. IP mean drinks per drinking day did not change from the baseline to the six-month interview $F(1, 15) = 1.35$, $p = .26$, nor was there a between group difference $F(1, 15) = .04$, $p = .85$. Finally, CSO report of IP percent days hospitalized did not change from the baseline to the six-month follow-up $F(1, 27) = .81$, $p = .377$, nor was there a between groups difference at the six-month follow-up $F(1, 27) = .81$, $p = .377$. See Table 12 for descriptive information regarding IP functioning at the six-month follow-up period.

IP functioning by engagement status. To determine if there was a difference between IPs who did and did not engage in treatment, we utilized a multivariate analysis of variance for each of the follow-up periods. The fixed factors were CSO treatment condition and IP treatment engagement. There were five dependent variables: IP total days substance use, days heavy drinking, mean drinks per drinking day, substance-related consequences, and hospitalizations. We found a significant main effect for IP engagement at the three-month follow-up for IP total days alcohol and drug use $F(1, 24) = 6.30$, $p = .021$ indicating that CSOs whose IPs engaged in treatment reported that their IPs had fewer total days alcohol and drug use. There were not any significant main effects or interactions at the six-month follow-up.

Comparison with previous CRAFT research. Meta-analysis procedures were used to compare the Group and Self-Directed CRAFT findings regarding IP engagement rates in this study with published, individual therapy CRAFT findings. We found that the effect sizes comparing the individual CRAFT studies' engagement rates with Group CRAFT were in the small range (range: .05 - .13; Cohen, 1988) and the effect sizes

comparing the individual CRAFT study engagement rates with Self-Directed CRAFT were in the small to moderate range (range: .07 – .31; Cohen, 1988). Please see Table 13 for the specific effect sizes. In all cases, the CRAFT individual therapy studies yielded more successful engagement rates than the Group or Self-Directed CRAFT findings. The effect sizes suggest that individual CRAFT therapy is more successful in engaging treatment resistant substance users into treatment when compared to group and self-directed CRAFT. Nonetheless, CSOs who participate in Group CRAFT demonstrated that they fared almost as well as the CSOs in individual CRAFT therapy. The effect sizes comparing Self-Directed CRAFT and individual CRAFT indicate that individual CRAFT generally is more advantageous regarding IP engagement rates than Self-Directed CRAFT.

Next, we examined whether the distribution of effect sizes on the CRAFT research studies was homogenous. We determined that the Individual CRAFT versus Group CRAFT studies had an average effect size of d = .086, Q (4) = .081, p = .99. The average effect size for the Individual CRAFT findings versus the Self-Directed CRAFT studies was d = .238, Q (4) = .62, p = .96.

Phase II

Demographics. Of the 20 IPs who entered treatment during the six-month treatment window, 16 did so as part of the current study. Of the sixteen IPs who entered Phase II treatment, 75% (n = 12) were male. Of the IPs, 43.8% (n = 7) were single (never married), 31.3% (n = 5) were legally married, 6.3% (n = 1) were cohabitating, 6.3% (n = 1) were separated but still married, and 12.5% (n= 2) were divorced. Half (n = 8) of the IPs lived with their spouse or family in their own house, 18.8% (n = 3) lived with their

parents in their parent's house, and 31.3% (n = 5) lived alone in their own house or apartment. Half of the sample (n = 8) reported that they worked full-time and half (n = 8) reported that they were unemployed.

The average age of IPs who entered treatment through this study was 35.69 (SD = 9.62). The breakdown of participant ethnicity was as follows: 62.5% (n = 10) were white, 12.5% (n = 2) reported that they were Hispanic, 6.3% (n = 1) were American Indian or Alaskan Native, and 18.8% (n = 3) reported that they were from an other or mixed ethnic group.

IP substance use. IP participants reported that they used alcohol or illicit drugs an average of 54.51 (*SD* = 35.74) days in the 90 days prior to treatment entry. See Table 14 for a summary of substances used prior to the IPs' entry into treatment.

All IPs received a diagnosis for substance abuse or dependence. A diagnosis of an alcohol use disorder was given to 68.8% (n = 11) of the IPs. One participant (6.3%) was diagnosed with hallucinogens dependence, two (12.5%) were diagnosed with cocaine abuse, five (31.3%) received a diagnosis of cocaine dependence, one (6.3) was diagnosed with opioid abuse and two (12.5%) with opioid dependence. In addition, four (25%) were diagnosed with stimulant dependence, one (6.3%) was diagnosed with marijuana abuse and three (18.8%) participants were diagnosed with marijuana dependence. One participant (6.3%) received a diagnosis of sedative dependence. IPs in the current study attended an average of 7.81 (*SD* = 4.97) of 12 possible treatment sessions.

Discussion

Rationale and Study Overview

Previous research studies have indicated that CRAFT is an effective approach for the family members and close friends of treatment refusing substance users. CRAFT studies have demonstrated that this approach is effective in engaging substance users into treatment, improving the psychological functioning of CSOs and the CSO-IP relationship, and decreasing the substance users' alcohol and drug use. Nonetheless, this approach is rarely used in treatment settings, possibly because CRAFT is typically delivered as individual therapy, an approach that is costly and less likely to be offered by treatment agencies. The primary objective of this study was to determine if the CRAFT intervention could be delivered in group therapy or via a self-directed manual and yield similar results to when CRAFT is delivered as individual therapy. We hoped that by testing less costly alternatives to the traditional CRAFT approach, CRAFT might be more likely to be adopted by treatment agencies, thus making this approach more available to the CSOs of treatment-refusing substance users. We hypothesized that participants in both the Group and Self-Directed CRAFT conditions would report increases in CSO, family, and IP functioning from the baseline to the three and six-month follow-up periods. We posited that Group CRAFT CSOs would yield greater increases in the aforementioned domains and would also have higher engagement rates than CSOs in the Self-Directed condition. Results indicate that CSOs in both Group and Self-Directed CRAFT conditions reported improvements in family functioning, and IP functioning. In addition, CSOs in Group and Self-Directed CRAFT were successful in engaging their

loved ones into treatment. There were no between group differences on key measures of CSO, family, IP functioning or IP treatment engagement.

Summary of Findings

IP treatment engagement. CSOs in both the Group and Self-Directed conditions were successful in engaging their loved ones into treatment, with no significant differences between the two conditions for IP engagement. While CSOs in the Group CRAFT condition did engage more IPs into treatment than CSOs in the Self-Directed condition, this difference was not statistically significant. CSOs in the Group CRAFT condition engaged 60% of their IPs into treatment, whereas CSOs in the Self-Directed condition engaged 40% of the loved one's into treatment. The Group CRAFT engagement rate increased to 71% when the three CSOs randomized to the Group condition who did not participate in a single treatment session were removed from the analyses. The engagement rates in the Group condition in the current study are consistent with previous individual-therapy CRAFT studies in which 64-74% of the IPs have engaged into treatment (Kirby et al., 1999; Meyers et al., 1999; Meyers et al., 2002; Miller et al., 1999; Waldron et al., 2007).

Effect sizes comparing Group CRAFT with previous individual CRAFT engagement rates were relatively small (range: .05 - .13) indicating that the two methods of CRAFT delivery yield similar engagement rates. Moreover, the Group CRAFT engagement rates in the current study are markedly different from those of Dominguez (1993) in which 15% of the CSOs in the Group CRAFT condition engaged their loved one into treatment. A key difference between the current examination of Group CRAFT, as well as other CRAFT studies, and the Dominguez (1993) CRAFT study is the rapid

availability of free treatment for IPs. The Dominguez study did not offer free treatment to IPs who engaged into treatment during the study period, thus suggesting that quick access to treatment may be an essential part of the CRAFT intervention. While free treatment may have been a motivating factor for IPs to enter treatment, the accessibility component seemed to be more pertinent in the current study. When IPs decided that they were willing to enter treatment, they or their CSO could call and set up an appointment. Often times their appointment was schedule within 24 hours, a rarity in most real-world substance abuse treatment agencies.

The engagement rates in the current study indicate that CSOs in the Self-Directed condition were fairly successful in engaging their loved ones into treatment. These results indicate that motivated CSOs can often engage their loved one into treatment without the formal help of a therapist. The Self-Directed CRAFT engagement rates in the current study were higher than therapist directed Al-Anon/Nar-Anon facilitation (20% engagement rate in Miller et al., 1999; 29% engagement rate in Meyers et al., 2002), the Johnson Institute Intervention (35% engagement rate in Miller et al., 1999), and Al-Anon based group therapy (17% engagement rate in Kirby et al., 1999). These findings suggest it is the content of the approach, rather than the format or quantity of time that drives engagement rates when working with family members of treatment-refusing substance users.

The Self-Directed engagement rates in the current study are not surprising given that CSOs tend to be highly motivated. In addition, the CRAFT self-help book clearly lays out ways in which CSOs can better understand their loved one's substance use patterns, reinforce positive IP behaviors, allow naturally occurring consequences of

substance use to occur, and approach the IP about entering treatment. Moreover, assessment reactivity (as in the case in alcohol research studies; Epstein, Drapkin, Yusko, Cook, McCrady & Jensen, 2005) may have further motivated and empowered CSOs to modify their behaviors. All CSOs completed an assessment battery of approximately three hours. The assessment interview queried IP substance use quantity and frequency, IP substance-related consequences, family relationships, and CSO functioning. Therefore, close examination of both CSO and IP behaviors, combined with the empowering nature of the CRAFT approach and the rapid availability of treatment may have all contributed to the engagement rates in the Self-Directed condition. While the engagement rates in the Self-Directed condition are encouraging and provide support for the Self-Directed CRAFT approach, we cannot infer that these findings would generalize to settings that do not include a lengthy assessment battery and the provision of free treatment for IPs.

Results of the current study indicate that IPs who entered treatment through the course of this study did not differ significantly from unengaged IPs in terms of CSO report of IP substance use and substance-related consequences at the baseline interview. In addition, CSOs of engaged versus unengaged IPs did not differ significantly at the baseline interview. Hence, IP severity of substance use and CSO characteristics did not predict treatment entry. Furthermore, the nature of the CSO-IP relationship did not predict treatment entry. Thus, the CSOs' relationship to the IP and IP severity of use did not influence the effectiveness of the CRAFT approach. This finding is somewhat unexpected give that two previous studies have found that parents were more likely to engage IPs than non-parent CSOs (Meyers et al., 1999; Miller et al., 1999).

CSO functioning. In previous CRAFT studies, CSOs have reported improvements in psychological functioning as a result of treatment. In addition, in studies in which CRAFT was compared to other forms of treatment for CSOs, participants reported improvements in psychological functioning regardless of treatment assignment (e.g., CRAFT, Al-Anon, Johnson Institute). These findings were not replicated in the current study. CSOs in Group CRAFT and Self-Directed CRAFT did not report significant improvements on key measures of psychological functioning at the three-month follow-up, with the exception of CSO symptoms of depression which approached significance at the three-month follow-up.

CSOs in both Group and Self-Directed CRAFT reported a decrease in symptoms of depression from the baseline to the three-month follow-up that approached significance. The decline in symptoms corresponds with the end of treatment, thus CSOs reported an increase in feelings of depression after the termination of treatment. This may be because the group condition provided the CSOs with behavioral skills training and social support, thus they were ending a therapeutic relationship and a system that provided them with direct support. In contrast, CSOs in the Self-Directed condition reported a gradual reduction in depression symptoms at both the three and six-month interviews.

Another possible explanation for the unexpected findings regarding CSO symptoms of depression is the between groups variation at baseline. CSOs randomized to the Self-Directed condition reported higher baseline levels of depression than CSOs in the Group condition, although these differences were not statistically significant. The CSOs in the Self-Directed condition reported symptoms of depression at the three-month follow-up that were only slightly higher than the Group CSOs' depression symptoms at the baseline

interview. Nonetheless, at the six-month follow-up, the symptoms of depression were virtually equal for CSOs in both conditions. These findings are difficult to interpret. The slight increase in Group CRAFT CSO depression corresponds with the end of treatment (at the three-month follow-up period). Thus, the slight increase in depression may correspond with the loss of therapist interaction and peer support. CSOs in the Self-Directed condition who demonstrated a slow reduction in depression over time may have been reporting more positive outcomes as they applied the principles of CRAFT in their life.

We found a significant interaction for CSO efficacy at the three-month follow-up. CSOs in the Group CRAFT condition reported an increase in efficacy whereas CSOs in the Self-Directed condition reported a decrease in efficacy at the three-month follow-up. There are a few possible interpretations of this finding. Group CRAFT CSOs may have reported increased efficacy because they were slightly more successful in engaging their loved ones into treatment. Furthermore, for those CSOs who did not yet engage their loved one into treatment, they may have increased efficacy after observing other CSOs in the CRAFT group engage their loved one into treatment.

CSOs in the Self-Directed condition reported slightly more physical symptoms and anxiety at baseline and this trend remained consistent throughout the study, with CSOs in the Self-Directed condition reporting on average, more physical symptoms and anxiety than CSOs in the Group condition. Report of CSO anger decreased over time and the decline from the baseline to the six-month follow-up approached significance.

Overall, the failure to find significant improvements in CSO psychological functioning was surprising. The lack of significant results may be due to the small

sample size that resulted in a lack of statistical power to detect small changes over time. CSO reports of depression symptoms at the baseline and three and six-month follow-ups are similar to previous CRAFT studies with much larger samples in which significant findings were found. The findings may also be attributed to the group treatment modality and the utilization of treatment. While CSOs in the Group condition were offered the same amount of treatment compared to CSOs in previous CRAFT studies, CSOs completed fewer sessions. For instance, CSOs in the current study attended 58% of offered treatment sessions whereas previous CRAFT studies have reported that CSOs attended 86 - 89% of offered treatment sessions (Kirby et al., 1999; Meyers et al., 1999; Miller et al., 1999).

In addition, it may be that the treatment effects were weakened due to the lack of one-on-one, client-focused therapy. While the groups followed a set protocol and specific CRAFT principles were addressed in each session, the discussion surrounding the principles were shared among group members, thus they were not completely centered on each client. Nonetheless, group members seemed to feel a shared camaraderie with each other, often reporting that they felt relieved to know that others shared in their angst. CSOs indicated that they often felt isolated and judged because of their substance using loved one and appreciated the support of others in the group. Moreover, CSOs in some groups spent time together outside of session and indicated that they would continue to do so after the conclusion of treatment. Despite the possible increase in social support, CSOs in the group condition did not report significant improvements in psychological functioning.

Family functioning. We measured CSO reports of family functioning via the Family Environment Scale. CSOs in the Group and Self-Directed CRAFT conditions did not significantly differ on any of the variables assessing family functioning. Results indicate that there were significant improvements on the Family Cohesion and Conflict subscales from the baseline to both the three and six-month follow-up periods. In addition, the Active-Recreational subscale increased from the baseline to the three-month follow-up period . While the change over time in the Active-Recreational scale was not significant after our Bonferroni correction, it does indicate that CSOs increased their participation in recreational activities, a key component of the CRAFT intervention.

IP functioning. According to CSO report, IPs significantly reduced their total days of drinking and drug use and had significantly fewer substance-related consequences at the three and six-month follow-up compared to the CSO baseline interview. While not significant, IP percent days heavy drinking increased for IPs of CSOs in the Group condition, but continued to decrease for IPs in the Self-Directed condition. There was a slight increase in CSO report of IP mean drinks per drinking day, but this difference was not significant. Although the increases in CSO report of IP substance use as measured by percent days heavy drinking and mean drinks per drinking day are surprising, there are a few possible interpretations of this finding. First, it may be that CSOs became more accurate in their reporting of IP drinking and drug use after treatment. Both the CRAFT groups and the self-help book emphasized rewarding abstinence, which requires that CSOs be observant of their loved one's behavior. CRAFT focuses on identifying triggers for use, patterns of substance use, and substance-related consequences. These techniques may encourage CSOs to be more observant of

the IPs behavior, particularly in regard to substance use quantity and frequency. Thus, CSOs may be more accurately reporting substance use at the follow-up interviews. Another possibility is that IPs did in fact, increase their drinking behavior.

Comparisons between Group and Self-Directed CRAFT. We hypothesized that Group CRAFT CSOs would report greater increases when compared to Self-Directed CRAFT in CSO functioning, family functioning, and IP functioning. This hypothesis was not supported. CSOs in Group and Self-Directed CRAFT did not differ significantly on any variables assessing CSO, family or IP functioning with the exception of CSO efficacy at the three-month follow-up period. These findings are consistent with previous CRAFT research comparing CRAFT to other CSO treatment approaches. Previous studies of CRAFT have found that CSOs improve in all conditions, regardless of treatment assignment (Kirby et al., 1999; Meyers et al., 1999; Meyers et al., 2002).

Treatment adherence. One aspect of the current study was to examine the feasibility of the CRAFT approach in a group format. In the current study, CSOs randomized to the Group condition completed, on average, 58% therapy sessions. CSOs who attended at least one group session completed an average of 68% of therapy sessions. Other CRAFT studies reported higher rates of CSO treatment attendance (86 – 89%; Kirby et al., 1999; Meyers et al., 1999; Miller et al., 1999). In addition, Dominguez (1999) reported that CSOs in the Group CRAFT condition attended 84% possible treatment sessions. The reduced rate of treatment attendance in the current study may be due to the decreased flexibility in group therapy. Previous CRAFT studies reported flexibility in scheduling individual sessions; however in the current study sessions were set at a fixed time each week. Nonetheless, the current findings indicate that Group

CRAFT is a viable approach and although CSOs attended fewer sessions than in previous studies, engagement outcomes were roughly comparable to previous CRAFT studies.

The current study utilized a closed group approach to enrollment. Thus, participants who were randomized to the group condition had to wait until there were enough CSOs randomized to this condition before group sessions could begin. Surprisingly, recruitment for CSOs was slow, thus some participants had to wait several weeks before they could begin attending groups. This delay may have contributed to the reasons that three CSOs who were randomized to this condition never attended a group session. Results indicate that the CSOs who did not attend any group sessions waited an average of 40 days until the start of treatment, whereas CSOs who attended at least one treatment session waited an average of 26 days. Future studies should test an open group approach to group enrollment so that CSOs enter the groups after they complete the assessment battery rather than waiting for enough CSOs to fill a group.

Comparison with previous CRAFT research. The average effect sizes when comparing Group CRAFT engagement rates with previous individual therapy CRAFT studies were in the small range, indicating that the current study findings regarding IP treatment engagement are quite similar to those in individual therapy. The average effect sizes comparing individual therapy engagement rates with Self-Directed CRAFT engagement rates were in the small to moderate range indicating that individual CRAFT is more successful in engaging IPs into treatment.

Previous examinations of group therapy when compared with individual therapy have determined that substance users in group therapy demonstrated improvements equal or superior to substance users participating in indivudal therapy (Graham et al., 1996;

Marques & Formigoni, 2001; Panas et al., 2003). Thus, we expected that Group CRAFT CSOs would demonstrate improvements in CSO, family, and IP functioning similar to improvements reported in previous CRAFT studies (Kirby et al., 199; Meyers et al., 1999; Meyers et al., 2002; Miller et al., 1999; Waldron et al., 2007). These trends were not replicated in the current study as CSOs demonstrated no improvements on measures of CSO functioning and few improvements on reports of IP functioning. Nonetheless, the failure to find significant improvements among Group CRAFT CSOs in the current study may be due to the lack of statistical power in the current sample.

Limitations

Although the results of this study support the efficacy of less costly alternatives to CRAFT, a few limitations must be noted. This study compared the efficacy of two CRAFT interventions and did not include a no-treatment control group, nor did it include individual CRAFT as a comparison. Thus, we cannot exclude the possibility that the findings were due to the extensive assessment battery (approximately three hours) or to the rapid availability of free treatment for CSOs. Accessing treatment is a major barrier for substance users. Low-cost or free treatment often requires extensive paperwork and most agencies have lengthy wait-lists and providing immediate free treatment eliminates that barrier. It also may be that the assessment offers a time to reflect on their loved one's substance use and possible patterns, as well as the CSOs typical response to these situations, resulting in behavior change even without further intervention. Hence, it may be that the effect of CRAFT is not entirely due to the specific therapeutic techniques.

Second, the use of a clinical supervisor for the CRAFT groups was the only measure to assess treatment integrity. It would have been preferable to have objective

coders listen and code the sessions to assess treatment integrity and quality, but was beyond the scope of the present study. Third, to facilitate study recruitment, CSOs of both alcohol and drug users were recruited and randomized to the two treatment conditions. CSOs of alcohol and drug users represent a heterogeneous population, which may confound our study findings. Finally, in order to be eligible for the current study, participants were required to have contact with the IPs at least 40% of time. On average, the CSOs in the current study had contact with IPs on 73% of days prior to treatment. One possible consequence of substance use is the loss of close family members and friends. Consequently, severe substance users who are incurring numerous consequences due to their alcohol and drug use may not have CSOs would be eligible for this type of treatment. Thus, our sample may not be representative of all substance users and their loved ones.

The current study utilized a small sample size, one that was underpowered to detect statistical significant differences between treatment conditions and over time. This combined with our conservative interpretation (adjusting for multiple tests using Bonferroni correction) may have limited our ability to interpret significant findings. Nontheless, despite our conservative interpretations of findings, differences were found on key domains of family and IP functioning over time.

Future Directions

The results of the current study indicate that Group CRAFT yielded engagement rates similar to individual CRAFT therapy. In addition, the Self-Directed CRAFT condition resulted in higher engagement rates than other methods of engaging IPs into treatment (e.g., Al-Anon facilitation, Johnson Intervention (Meyers, Miller, Smith &

Tonigan, 2002; Miller, Meyers, & Tonigan, 1999). These findings are promising and suggest future directions for research. Given that in the current study Group and Self-Directed CRAFT were not directly compared with individual therapy CRAFT, future research should examine the efficacy of the three CRAFT approaches in a single study. It also would be advantageous to utilize a larger sample, thus facilitating the ability to detect reliable differences between conditions and assessment periods.

Group CRAFT research. This study supports the use of a group approach for the CRAFT intervention. The current study utilized a closed group format. The advantage of the closed group approach is that all group participants begin and end treatment sessions at the same time. The disadvantage to a closed group, which became particularly pertinent in this study, was the somewhat lengthy period of time in which CSOs were required to wait for the next group to begin (Foote & Manuel, 2009). Despite aggressive recruitment efforts (advertisements in newspapers, flyers, contacts through local mental health specialists) there was still a lengthy wait time for CSOs. Three CSOs in the current study were randomized to the Group condition but did not attend a single group session. While we cannot specifically ascertain that the length of time was the reason for the CSOs' dropout, it is a potential possibility. Future studies should examine the efficacy of Group CRAFT via an open format. In addition, due to slow recruitment and subsequent group enrollment, the groups in the current study were rather small (n = 4 in each group). Future studies should examine the viability and efficacy of group CRAFT utilizing larger groups.

CRAFT participants have been largely represented by females in previous CRAFT studies (88 - 97%; Meyers et al. 1999; Meyers et al. 2002; Miller et al., 1999).

This trend was replicated in the current study in which 85% of the particpants were female. While not evident in the current study, males who are largely outnumbered by females in CRAFT groups may feel uncomfortable and unwilling to continue in group treatment. Furthermore, the current study recruited CSOs of both alcohol and drug users. The heterogeneity of the group in terms of their loved one's use did not seem to impede the progress of the group; however future studies may want to further examine group dynamics in the CRAFT approach, specifically as they relate to gender and CSO concern.

Self-Directed CRAFT research. Data from this study indicate that some CSOs can successfully engage their loved ones into treatment when provided with a CRAFT self-help book and the provision of free treatment for IP. Future research with larger samples should examine if specific CSO and IP factors such as CSO motivation and IP severity of use predict IP treatment entry. Self-Directed CRAFT may yield higher success rates with CSOs who are highly motivated to integrate the CRAFT approach into their life. Similarly, Self-Directed CRAFT may work best with IPs who have less severe patterns of substance use.

CRAFT in a stepped-care model of treatment. The current findings lend support for a stepped care model of treatment. Stepped care "is a dynamic, performance-based procedure in which individuals not responding to an initial level of treatment that is the least intensive are then provided a more intensive treatment" (Borsari, Tevyaw, Barnett, Kahler & Monti et al. 2007, p. 131). Stepped care models are cost-effective in that they provide the minimum amount of care necessary to evoke a behavior change. This approach has been used in the treatment of substance use disorders and has been associated with reductions in substance use (e.g. Kidorf, Neufeld, King, Clark, &

Brooner, 2007). The ARISE (Garrett et al., 2004) intervention is a stepped-care model for the family members of treatment-refusing individuals with an alcohol or drug use disorder, but differs from the CRAFT approach because of its confrontational style.

There are several advantages to a stepped care model. First, this treatment approach saves time and money for both clients and therapists (or treatment agencies). Many times, patients are able to recover on their own, without the help of a therapist or other professional. In the current study, 40% of CSOs in the Self-Directed condition engaged their treatment-refusing loved one into treatment after participating in an assessment interview, receiving the CRAFT self-help book, and having the rapid availability of treatment for their IP. This suggests that the CRAFT approach can work with little professional intervention for some CSOs who receive the CRAFT self-help book and have access to immediate treatment for their IP. For those CSOs who are not able to engage their loved one into treatment, a stepped care model in which Group CRAFT was made available to CSOs may then be able to engage their loved ones into treatment. Anecdotally, some CSOs in the current study were relieved when they were randomized to the Self-Directed condition. They indicated that they would rather "do it on their own" and not have to attend weekly groups. Thus, many may prefer to begin with the self-help book before accessing more intensive treatment options. An important if not essential component of a stepped-care model should include the rapid availability of treatment for IPs. Previous CRAFT studies in which the immediate access to treatment was not available (Dominguez, 1993; Hodgins et al., 2007P) yielded lower treatment engagement rates than CRAFT studies in which treatment for the IPs in immediate and provided as part of the larger CRAFT study (Meyers et al., 1999; Miller et

al., 1999; Meyers et al., 2002). A controlled trial of a stepped-care model for CRAFT would be an important next study.

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Figure 1. CONSORT (CONsolidated Standards of Reporting Trials) Diagram

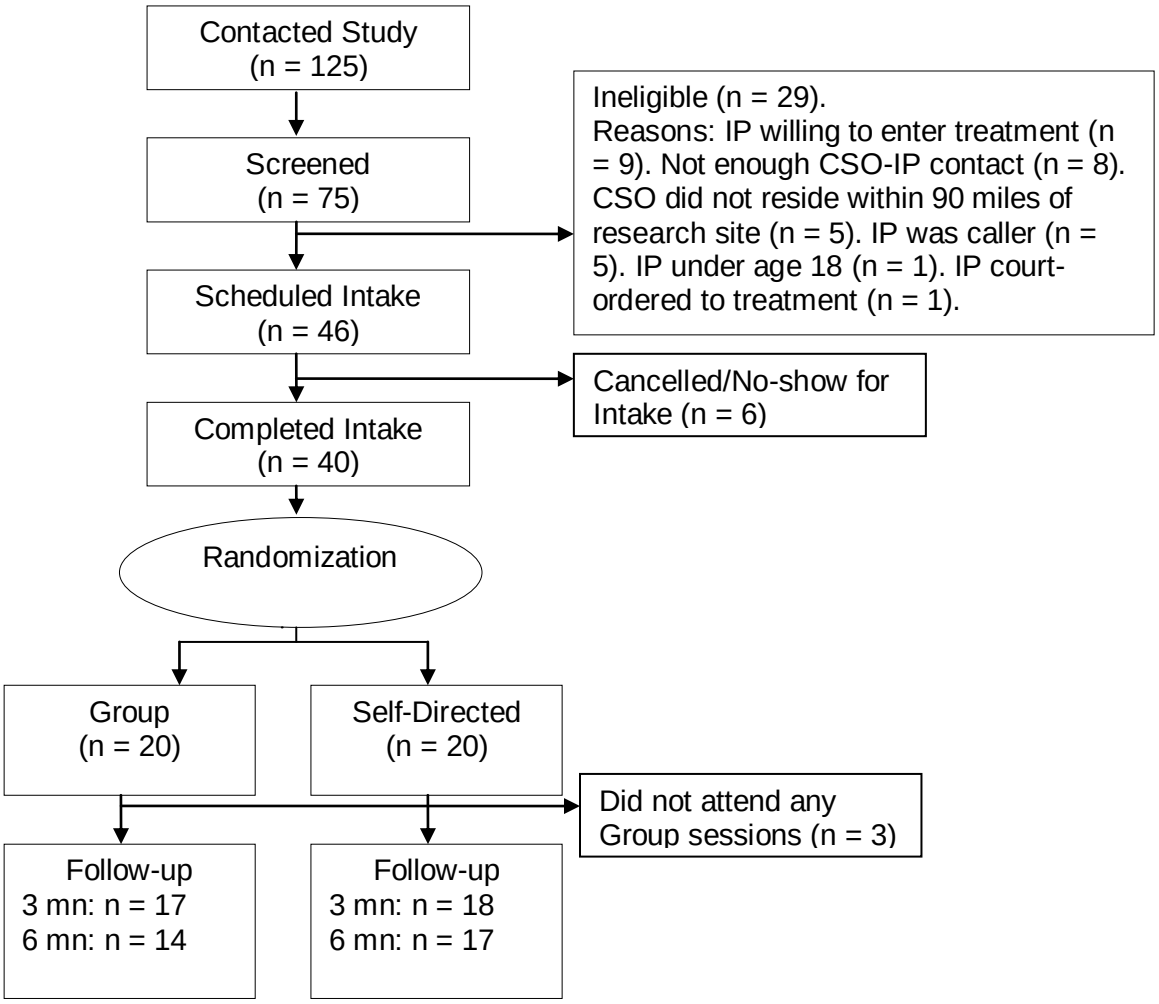

Table 1.

Phase I Assessment Instruments by Assessment Period

Instrument	**Baseline**	**3-month**	**6-month**
CASAA Demographic Questionnaire	X		
CASAA Demographic Questionnaire (follow-up version)		X	X
SCID – Substance Use and Psychotic sections (CSO version)	X		
SCID – Substance Use sections (IP version)	X		
Form – 90 Alcohol and Drug (CSO version)	X	X	X
Form-90 Collateral (Intake interview; IP version)	X	X	X
Inventory of Drug Use Consequences (InDUC; IP version)	X	X	X
Beck Depression Inventory	X	X	X
CRAFT Understanding Quiz		X	X
Efficacy Scale	X	X	X
Family Environment Scale	X	X	X
Physical Symptoms Inventory	X	X	X
State Trait Anger Expression Inventory	X	X	X
State Trait Anxiety Inventory	X	X	X
12-Step Participation Questionnaire (Intake version)	X		
12-Step Participation Questionnaire (Follow-up version)		X	X

Note. SCID = Structured Clinical Interview for the DSM-IV.

Table 2.

Phase II IP Assessment Instruments by Assessment Period

Instrument	**Baseline**	**3-month**
CASAA Demographic Questionnaire	X	
CASAA Demographic Questionnaire (follow-up version)		X
SCID – Substance Use	X	
Form – 90 Alcohol and Drug	X	X
Inventory of Drug Use Consequences (InDUC)	X	X
Drug Abstinence Self-Efficacy Scale	X	X
Beck Depression Inventory	X	X
Family Environment Scale	X	X
Physical Symptoms Inventory	X	X
State Trait Anger Expression Inventory	X	X
State Trait Anxiety Inventory	X	X
12-Step Participation Questionnaire (Intake version)	X	
12-Step Participation Questionnaire (Follow-up version)		X

Note. SCID = Structured Clinical Interview for DSM-IV.

Table 3.

CSO Demographic Characteristics

Variable	**Group**	**Self-Directed**
	N (%)	**N (%)**
Gender		
Female	15 (75%)	19 (95%)
Male	5 (25%)	1 (5%)
Ethnicity		
American Indian or Alaskan Native	1 (5%)	0 (0%)
Hispanic	5 (25%)	7 (35%)
White	13 (65%)	13 (65%)
Other	1 (5%)	0 (0%)
Employment Status		
Full-Time	7 (35%)	13 (65%)
Part-Time	6 (30%)	1 (5%)
Homemaker	0 (0%)	1 (5%)
Retired	3 (15%)	2 (10%)
Unemployed	3 (15%)	2 (10%)
Full-time Student	1 (5%)	0 (0%)
Disabled	0 (0%)	1 (5%)
Marital Status		
Single (never married)	4 (20%)	4 (20%)
Married	8 (40%)	10 (50%)
Divorced	8 (40%)	6 (30%)

Table 4.

Intake Data by Treatment Condition

	Group			Self-Directed					
Measure	N	Mean	SD	N	Mean	SD	t-statistic	df	p
CSO/Family Functioning									
Beck Depression Inv.	20	10.40	7.13	20	13.96	10.57	-1.25	38	.22
Efficacy Scale	20	20.75	6.94	20	17.30	6.78	1.59	38	.12
Family Environment Scale									
Cohesion	20	5.75	2.36	20	5.99	2.29	-.32	38	.75
Conflict	20	3.45	1.93	20	3.10	2.45	.50	38	.62
Physical Symptoms	20	3.85	3.17	20	5.80	4.79	-.90	38	.37
STAI: State Anxiety	20	35.16	11.27	20	38.95	13.56	.42	38	.67
STAI: Trait Anxiety	20	37.40	8.28	20	40.25	10.26	-.97	38	.34
STAXI: General (AX)	20	25.75	7.10	20	29.30	15.72	-1.08	38	.29
IP Functioning									
Form-90 (CSO report of IP substance use)									
Alcohol: Total Days	20	48.67	41.32	20	60.11	38.71	-.90	38	.37
Alcohol:Light/moderate	20	13.72	23.59	20	10.67	22.02	.42	38	.67
Alcohol: Heavy	20	34.95	43.44	20	49.44	41.17	-1.08	38	.29
Tobacco	20	60.00	50.26	20	65.83	46.03	-.38	38	.70
Marijuana	20	23.89	42.70	20	19.83	35.77	.33	38	.75
Tranquilizers	20	.00	.00	20	.00	.00	-	-	-
Sedatives	20	5.00	22.36	20	1.11	4.97	.76	38	.45

	Group			Self-Directed					
Measure	N	Mean	SD	N	Mean	SD	t-statistic	df	p
Steroids	20	.00	.00	20	.00	.00	-	-	-
Stimulants	20	16.89	36.43	20	.83	2.99	1.97	38	.06
Cocaine	20	12.28	28.09	20	11.56	26.73	.08	38	.93
Hallucinogens	20	.00	.00	20	.67	2.98	-1.00	38	.32
Opiates	20	.00	.00	20	19.78	37.60	-2.35	38	.03
Inhalants	20	.00	.00	20	.00	.00	-	-	-
Other Drugs	20	3.61	16.15	20	5.00	22.36	-.23	38	.82
Total Alcohol/Drug	20	84.22	27.17	20	77.56	28.99	.75	38	.46
Mean Drinks per Drinking Day	13	6.37	5.05	18	8.02	7.17	-.71	29	.48
Hospitalizations	20	.05	.22	20	0	0	1.00	38	.32
Inventory of Drug Use Consequences									
Physical	20	5.25	1.02	19	5.37	.68	-.42	37	.67
Interpersonal	19	8.58	1.74	19	8.84	1.61	-.48	36	.63
Intrapersonal	20	1.80	.52	19	1.84	.37	-.29	37	.78
Impulse Control	20	5.38	2.91	19	6.65	2.59	-1.45	37	.16
Social	20	6.20	1.32	19	5.74	1.33	1.09	37	.28
Total Consequences	20	27.16	6.41	19	28.44	5.42	-.67	36	.51

Note. STAI = State Trait Anxiety Inventory; STAXI = State Trait Anger Expression Inventory version 2; Form-90 reports of IP substance use are the CSO report of IP percent days use prior to the CSO intake interview and Hospitalizations refers to the

number of days hospitalized prior to the CSO intake interview. Higher scores on the Beck Depression Inventory, Family Environment Conflict and Control subscales, Physical Symptoms, STAI State and Trait anxiety, STAXI anger subscale, and the InDUC subscales indicate higher levels of distress.

Table 5.

Average Number of Treatment Sessions Attended in the CRAFT Condition

CRAFT Group	Sessions Attended: Intent to Treat Sample M (SD)	Sessions Attended: Treated Sample M (SD)
Group 1	8.75 (3.59)	8.75 (3.59)
Group 2	6.00 (4.32)	8.00 (2.00)
Group 3	6.75 (4.99)	9.00 (2.65)
Group 4	8.00 (5.42)	10.67 (1.15)
Group 5	5.00 (2.58)	5.00 (2.58)

Note. CSOs were offered 12 possible treatment sessions.

Table 6.

IP Engagement by CSO Treatment Condition

Variable	Group CRAFT (Intent to Treat) N = 20	Group CRAFT (Treated Sample) N = 17	Self-Directed CRAFT N = 20
No. engaged in Phase 2	10	10	6
% engaged in Phase 2	50%	59%	30%
No. engaged in other treatment	2	2	2
% engaged in other treatment	10%	12%	10%
Total engagement	60%	71%	40%

Note. The number and percentage of IPs engaged in Phase 2 refers to the free treatment offered to IPs as part of the current study.

Table 7.

CSO Report of IP Functioning by Engagement Status at Intake

Variable	Engaged M(SD)	Unengaged M(SD)	F	*p* value
Mean Drinks per Drinking Day	8.02 (7.32)	6.59 (5.22)	.386	.539
Percent Days Heavy Drinking	49.78 (44.10)	34.61 (40.34)	1.29	.264
Percent Total Alcohol and Drug Use	84.00 (27.41)	77.78 (28.81)	.490	.488
Total Consequences	29.39 (5.17)	26.37 (6.25)	2.60	.116
Percent Days Hospitalized	.00 (.00)	.05 (.22)	1.00	.324

Table 8.

CSO Descriptive Statistics by Engagement Status at Intake

Variable	Engaged M(SD)	Unengaged M(SD)	*F*	*p* value
CSO Age	52.90 (13.65)	49.35 (9.26)	.926	.342
Years Known IP	27.65 (12.19)	28.05 (11.80)	.011	.917
Contact with IP	73.90 (25.53)	72.39 (30.81)	.027	.870

Note. Contact with the IP indicates the percentage of days CSO had some contact with the IP.

Table 9.

Effect Sizes and Tests of Significance for Measures of CSO, Family, and IP Functioning

Measure	Effect Size (h^2)	Significant with Bonferroni Correction	Significant without Bonferroni Correction
BDI			
Time (3mn)	.094	-	-
Time (6mn)	.052	-	-
Between (3mn)	.048	-	-
Between (6mn)	.083	-	-
Efficacy			
Time (3mn)	.000	-	-
Time (6mn)	.044	-	-
Between (3mn)	.117	-	Yes
Between (6mn)	.108	-	-
Physical Symptoms			
Time (3mn)	.085	-	-
Time (6mn)	.107	-	-
Between (3mn)	.082	-	-
Between (6mn)	.091	-	-
STAI			
Time (3mn)	.000	-	-

Measure	Effect Size (h^2)	Significant with Bonferroni Correction	Significant without Bonferroni Correction
Time (6mn)	.018	-	-
Between (3mn)	.051	-	-
Between (6mn)	.046	-	-
STAXI			
Time (3mn)	.000	-	-
Time (6mn)	.164	-	Yes
Between (3mn)	.014	-	-
Between (6mn)	.012	-	-
Family Cohesion			
Time (3mn)	.190	Yes	Yes
Time (6mn)	.230	Yes	Yes
Between (3mn)	.002	-	-
Between (6mn)	.003	-	-
Family Conflict			
Time (3mn)	.152	Yes	Yes
Time (6mn)	.177	Yes	Yes
Between (3mn)	.003	-	-
Between (6mn)	.001	-	-
Percent Total Use			

Measure	Effect Size (h^2)	Significant with Bonferroni Correction	Significant without Bonferroni Correction
Time (3mn)	.186	-	Yes
Time (6mn)	.304	Yes	Yes
Between (3mn)	.029	-	-
Between (6mn)	.050	-	-
Percent Heavy			
Time (3mn)	.084	-	-
Time (6mn)	.091	-	-
Between (3mn)	.013	-	-
Between (6mn)	.014	-	-
Mean Drinks			
Time (3mn)	.000	-	-
Time (6mn)	.104	-	-
Between (3mn)	.024	-	-
Between (6mn)	.003	-	-
Consequences			
Time (3mn)	.347	Yes	Yes
Time (6mn)	.350	Yes	Yes
Between (3mn)	.001	-	-
Between (6mn)	.017	-	-

Measure	Effect Size (h^2)	Significant with Bonferroni Correction	Significant without Bonferroni Correction
Hospitalizations			
Time (3mn)	.039	-	-
Time (6mn)	.029	-	-
Between (3mn)	.023	-	-
Between (6mn)	.029	-	-

Note. Effect sizes presented are partial eta squared calculations of effect size accounting for variance between conditions and time periods. Partial eta squared interpretations are: > .05 is a small effect size, > .1 is a medium effect size and > .2 is a large effect size (Cohen, 1988).Effect sizes for Time refer to differences between Group and Self-Directed from the baseline to the three or six-month follow-up period. Between effect sizes refer to differences between Group and Self-Directed CRAFT at either the three or six-month follow-up period.

Table 10.

CSO Functioning at Intake and Follow-up Periods

Measures and time	N	Group Mean (*SD*)	Self-Directed Mean (*SD*)
BDI			
Intake	40	10.40 (7.13)	13.96 (10.57)
3-month	35	7.53 (5.51)	10.78 (12.53)
6-month	31	8.86 (6.15)	8.88 (6.92)
Efficacy			
Intake	40	20.75 (6.94)	17.30 (6.78)
3-Month	35	21.35 (6.58)	14.78 (7.13)
6-month	31	19.21 (5.71)	13.47 (6.21)
Physical Symptoms			
Intake	40	3.85 (3.17)	5.80 (4.79)
3-month	34	3.65 (3.35)	5.24 (4.37)
6-month	31	3.29 (3.22)	5.12 (4.30)
Anxiety (STAI)			
State			
Intake	40	35.16 (11.27)	38.95 (13.56)
3-month	35	34.59 (11.48)	41.51 (15.88)
6-month	31	34.71 (10.76)	35.12 (9.06)
Anger (STAXI)			
Intake	40	25.75 (7.10)	29.30 (15.72)

Measures and time	N	Group Mean (*SD*)	Self-Directed Mean (*SD*)
Three-month	35	26.65 (10.51)	28.94 (18.70)
6-month	31	23.71 (6.14)	23.94 (11.17)

Note. BDI = Beck Depression Inventory; STAI = State Trait Anxiety Inventory; STAXI = State Trait Anger Expression Inventory. Higher scores indicate higher levels of distress on the BDI, Physical Symptoms, STAI and STAXI.

Table 11.

Family Functioning at Intake and Follow-up Periods

Measure and Time	N	Group Mean (*SD*)	Self-Directed Mean (*SD*)
Cohesion			
Intake	40	5.75 (2.36)	5.99 (2.29)
3-month	35	6.82 (2.48)	7.17 (2.23)
6-month	31	7.47 (2.40)	7.41 (1.73)
Expressiveness			
Intake	40	5.40 (2.37)	4.85 (2.66)
3-month	35	6.00 (1.80)	5.33 (2.03)
6-month	31	6.14 (1.61)	5.88 (2.39)
Conflict			
Intake	40	3.45 (1.93)	3.10 (2.45)
3-month	35	2.59 (2.00)	2.50 (1.82)
6-month	31	2.00 (1.75)	2.24 (1.71)
Independence			
Intake	40	7.45 (1.19)	6.44 (1.93)
3-month	35	7.53 (1.50)	6.81 (1.92)
6-month	31	7.50 (1.83)	7.18 (.88)

Achievement			
Intake	40	5.05 (1.90)	5.50 (2.19)
3-month	35	5.06 (1.64)	5.22 (2.05)
6-month	31	5.36 (2.02)	5.41 (2.09)
IntellectualCultural			
Intake	40	6.45 (2.11)	5.95 (2.50)
3-month	35	6.59 (2.50)	6.22 (2.80)
6-month	31	6.79 (2.49)	6.18 (2.92)
Active-Recreation			
Intake	40	4.45 (2.93)	4.10 (2.43)
3-month	35	4.88 (3.06)	5.56 (2.91)
6-month	31	5.07 (2.87)	5.47 (2.72)
Moral-Religious			
Intake	40	4.74 (2.52)	5.32 (2.85)
3-month	35	4.71 (2.78)	5.89 (3.12)
6-month	31	5.07 (3.02)	5.88 (2.60)
Organization			
Intake	40	5.30 (2.68)	5.48 (2.20)
3-month	35	4.94 (3.13)	5.56 (1.95)
6-month	31	6.00 (2.60)	5.82 (2.46)

Control			
Intake	40	4.10 (2.00)	4.30 (1.75)
3-month	35	3.06 (2.19)	4.06 (2.49)
6-month	31	3.43 (1.99)	3.66 (2.51)

Note. Higher scores on Conflict and Control subscales indicate lower family functioning.

Table 12.

IP Functioning at Intake and Follow-up Periods

Measure and Time	N	Group Mean (*SD*)	Self-Directed Mean (*SD*)
Percent Total Days Alcohol/Drug Use			
Intake	40	84.22 (27.17)	77.56 (28.98)
3-month	32	71.18 (36.36)	58.63 (40.84)
6-month	27	62.43 (38.25)	52.36 (41.19)
Percent Days Heavy Drinking			
Intake	40	34.95 (43.44)	49.44 (41.17)
3-month	32	32.15 (40.58)	42.88 (39.88)
6-month	27	44.14 (44.68)	33.06 (41.79)
Mean Drinks per Drinking Day			
Intake	31	6.37 (5.05)	8.02 (7.17)
3-month	24	6.22 (6.65)	8.35 (6.44)
6-month	24	7.62 (7.54)	8.52 (7.87)
Total Consequences			
Intake	39	27.16 (6.41)	28.44 (5.42)
3-month	35	22.82 (6.50)	21.56 (9.81)
6-month	28	19.38 (9.79)	19.80 (10.53)

Note. Higher scores on the Total Consequences variable indicate greater IP substance-related consequences.

Table 13.

Meta-Analysis of Engagement Rates in CRAFT Studies

CRAFT Study	Group CRAFT Effect Size (d)	Self-Directed CRAFT Effect Size (d)
Kirby et al. 1999	.05	.23
Meyers et al. 1999	.07	.25
Meyers et al. 2002	.13	.31
Miller et al. 1999	.04	.24
Waldron et al. 2007	.11	.31

Note. Comparison CRAFT studies are published reports on the individual CRAFT therapy approach.

Table 14.

IP Report of Substance Use at IP Baseline Interview

Drug	Percent Days Substance Use Mean (*SD*)
Alcohol	44.03 (36.76)
Light/Moderate Alcohol	11.70 (23.21)
Heavy Alcohol	33.06 (36.97)
Mean Drinks per Drinking Day	5.60 (3.18)
Marijuana	44.03 (36.76)
Tranquilizers	.28 (1.11)
Stimulants	4.03 (8.27)
Cocaine	13.13 (31.99)
Opiates	9.03 (26.27)
Other	2.78 (11.11)