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INTRODUCTION TO SPECIAL ISSUE ON COMMUNITY REINFORCEMENT APPROACH AND
ON COMMUNITY REINFORCEMENT AND FAMILY TRAINING

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Cautilli's invitation for Smith to serve as guest editor for the Journal of Behavior Analysis in Health, Sports, Fitness, and Medicine provided an excellent opportunity to highlight strengths of the Community Reinforcement Approach (CRA). After a review of data and methods, the dimensions of subject and procedural generality for CRA and Community Reinforcement with Family Training (CRAFT) are specified.

I was really pleased when Joe Cautilli invited me to serve as Guest Editor for The Journal of Behavior Analysis in Health, Sports, Fitness, and Medicine's Special Issue on the Community Reinforcement Approach (CRA) and Community Reinforcement and Family Training (CRAFT). I always favor additional outlets for getting out the word on scientifically-supported behavioral treatments! In the substance abuse treatment domain, CRA has roots as far back as Hunt and Azrin (1973), and an impressive subsequent scope of accomplishment. Yet many substance abuse agencies are unfamiliar with, or lack adequate training resources for, CRA implementation. In Robert Meyer's more recently-developed, highly-successful CRAFT program, CRAFT therapists teach non-substance abusing family members to shape clean/sober approximations of entering treatment in their treatment refusing, substance abusing, loved one.

In selecting authors for this special issue, I elected to highlight the many creative directions in which researchers and clinicians alike have attempted to move CRA and CRAFT forward. These directions include ideas for treatment dissemination and diffusion, and adaptations of CRA and CRAFT for new clinical populations and treatment delivery formats. In the lead article, I introduce the research supporting CRA and CRAFT and provide an overview of the clinical procedures themselves (Smith, Campos-Melady, & Meyers).

A series of papers specific to CRA follows. The first (Purvis & Mac Innis) describes the successful diffusion of CRA in a

treatment agency in Nova Scotia, Canada. The authors take the reader through various CRA implementation stages, beginning with fund raising for training support and ending with methods for maintaining high quality therapeutic performances. The next paper, by Chestnut Health Systems (Garner, Barnes, & Godley), describes a federally-funded nation-wide comprehensive therapist training program for a version of CRA that targets adolescents (A-CRA). Next, researchers primarily from the Netherlands (Roozen, Evans, Wiersema, & Meyers) examine personality factors that interfere with an important component of CRA: accessing a high quality social-recreational environment. The last CRA paper (Gianini, Lundy, & Smith) outlines limits to current cognitive-behavioral treatments for Bulimia Nervosa, and suggests how CRA might supplement these programs.

The first CRAFT paper is an effectiveness study conducted in Santa Fe, N.M. (Dutcher, et al.). The robust success of CRAFT is demonstrated, despite a less homogeneous sample of concerned significant others (CSOs), and despite the reliance on an agency's regular clinical staff. The paper by researchers in Ohio (Brigham, et al.) describes a newly-funded grant proposal in which CRAFT is applied to CSOs to address the treatment retention of their loved ones after opiate detoxification. The final paper presents a highly successful adaptation of CRAFT to a group format (Foote & Manual). CRAFT procedures that were modified slightly to better suit a group format are discussed, and the unique advantages and challenges of delivering CRAFT to a group are outlined.

CRA AND CRAFT

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The Community Reinforcement Approach (CRA) and Community Reinforcement and Family Training (CRAFT) are two empirically-supported behavioral substance abuse programs. Whereas CRA is a treatment for the substance abuser, CRAFT is an intervention for the concerned family members or friends of treatment-refusing individuals with alcohol or drug problems. Both treatments are based on the belief that a person's "community" (family, friends, job, church, social activities) must reinforce and support a clean and sober lifestyle. This paper describes the scientific foundation for CRA and CRAFT, and provides an overview of their philosophy and their main procedures.

Key words: community reinforcement approach, CRA, community reinforcement and family training, CRAFT

COMMUNITY REINFORCEMENT APPROACH

Overview and Scientific Support

The Community Reinforcement Approach (CRA) is a stand-alone behavioral intervention for the treatment of people with substance use disorders. It is based on the idea that the substance user's "community" (composed of family, friends, romantic partners, co-workers, congregations, etc.) plays a significant role in recovery. Relying heavily on positive reinforcement and operant principles, a main goal of CRA is to change aspects of clients' environment and interactions with their communities such that a clean, sober lifestyle becomes more rewarding than substance use. Unlike many traditional therapies, in CRA this is accomplished through the use of behavioral and motivational procedures in which confrontation is specifically avoided (Hunt & Azrin, 1973).

Since its creation in the 1970's, CRA has been found to be one of the mostly highly effective treatments for substance use disorders. The earliest studies on CRA involved inpatients with alcohol dependence disorder. Hunt and Azrin (1973) compared

patients treated with CRA who were taught to identify and utilize positive reinforcers for remaining sober, with patients in a traditional 12-step program. Those in the CRA condition significantly reduced their drinking, and spent less time hospitalized and more time employed, than those in the 12-step condition. A second inpatient study comparing CRA to a 12-step program was conducted that introduced several modifications to the CRA treatment (Azrin, 1976). The main addition was a disulfiram (Antabuse) compliance program that entailed teaching the spouses of the drinkers how to communicate in a positive and supportive manner while administering the disulfiram. Patients in the CRA condition again fared much better than the 12-step participants at the 6-month follow-up, and 90% of the CRA patients were abstinent at two years.

The Community Reinforcement Approach has been found to be extremely effective in outpatient settings as well. In one study, clients treated with CRA and the disulfiram compliance component were abstinent an average of 97% of the days during the last month of the 6-month follow-up, whereas clients treated with a combination of a 12-step program and the

CRA disulfiram compliance training were abstinent an average of 74% of the days. For those clients who received a 12-step program and a prescription for disulfiram, an average of only 45% of the comparable days were abstinent (Azrin, Sisson, Meyers, & Godley, 1982). The strength of CRA's ability to help outpatients remain abstinent or reduce their use has been replicated with larger samples in general (Miller, Meyers, Tonigan, & Grant, 2001), and with homeless populations, while using a group format for treatment delivery (Smith, Meyers, & Delaney, 1998). Several meta-analyses of alcohol treatment outcomes using various methodologies consistently rank CRA above the vast majority of other treatments for alcohol use disorders, and show it to be one of the most effective and cost-effective treatments currently in use (Finney & Monahan, 1996; Holder, Longabaugh, Miller, & Rubonis, 1991; Miller et al., 1995; Miller, Wilbourne, & Hettema, 2003).

CRA has been found to be effective in treating illicit drug use as well. Oftentimes CRA successfully has been combined with contingency management programs that offer vouchers for clean urinalyses when treating cocaine-addicted individuals (Bickel, Amass, Higgins, Badger, & Esch., 1997; Higgins et al., 1993). A more recent study reported that long-term findings favored clients who had received at least some CRA as opposed to simply receiving vouchers for abstinence (Budney, Alan, Moore, Rocha, & Higgins, 2006). In addition, CRA (without contingency management) has improved abstinence rates in methadone-maintained treatment groups (Abbott, Weller, & Delaney, 1998).

CRA has also been specially adapted for adolescents (Godley et al., 2001) and has been found to be highly effective for this population as well. One study found that when adolescents (ages 18 and younger) from mixed ethnic backgrounds were given behavioral therapy similar to the Adolescent Community Reinforcement Approach (A-

CRA), they were significantly more successful at reducing substance use compared to those given supportive therapy (Azrin, Donohue, Besalel, & Kogan, 1994). The Cannabis Youth Treatment Experiment was a national study of 600 adolescents (12-18 years) with cannabis abuse or dependence. The study found that substance use decreased across all of the treatment conditions, including A-CRA, but A-CRA was significantly more cost effective than the other conditions (e.g., Motivational Enhancement Therapy with a Cognitive Behavioral component, Multidimensional Family Therapy; Dennis et al., 2004). CRA has even been found highly effective with a population of homeless youth for whom multiple severe substance use problems were the norm (Slesnick, Prestopnik, Meyers, & Glassman, 2007). In this study, although the CRA group had higher rates of initial substance use than the "treatment as usual" group, the CRA group participants used drugs significantly less at the conclusion of the 6-month follow-up period.

CRA is a time-limited treatment involving a "menu" of procedures. The treatment typically begins with a functional analysis of the substance using behavior. This functional analysis highlights the *positive* consequences of the problem behavior so that therapists can understand the factors that maintain clients' substance use, and the *negative* consequences so that possible motivators for change can be identified. Ultimately, healthy alternatives to the using behavior are identified that can compete with the substance use. After mapping-out the using behavior in this fashion, therapists can negotiate a period of sobriety with clients using "sobriety sampling". In essence, clients are invited to sample a reasonable and manageable "time-out" from substance use in order to experience the benefits of a sober lifestyle. But CRA does not focus exclusively on clients' substance using behavior. The Happiness Scale is used so that clients can identify multiple areas in which they would like to see change, and then therapists work

with clients to establish a variety of goals across different aspects of clients' lives. In order to help clients achieve these goals, therapists rely on behavioral skills training procedures, such as problem solving, communication skills, and drink/drug refusal. If clients are interested in obtaining a job, CRA's job counseling program is introduced, and if controlling anger is a problem, anger management is taught. Behavioral relationship therapy sessions are conducted when clients have a significant other who is willing to participate in treatment. CRA is very individualized despite being a menu-driven therapy, because the procedures that are selected are based on each client's unique needs and goals.

CRA Procedures

CRA Functional Analysis

There are two types of CRA functional analyses which serve similar but unique purposes: to determine both the client's antecedents or triggers for a behavior, and the behavior's positive and negative consequences for the client. The CRA Functional Analysis for Substance Use allows the therapist to gain a broader understanding of the context in which the client's substance use generally occurs. This core procedure usually is done within the first few sessions, but is often referred to throughout treatment. The necessary information is gathered through a semi-structured interview and recorded on a functional analysis form (see Figure 1). The client is asked to describe a commonly occurring substance use episode.

External triggers for substance use, listed in the first column of the functional analysis form, are environmental factors which typically accompany the client's substance use, including people, places, and times. Internal triggers (column 2) are the thoughts, feelings, and physical sensations the client often experiences just prior to

using. Together the external and internal triggers are viewed as high-risk factors which undoubtedly will remain a focus of treatment. The column situated in the middle of the form (column 3) allows for the clarification of the using behavior itself by inquiring about the kind of substance used, as well as the frequency of use, duration, and quantity.

External Triggers	Internal Triggers	Behavior	Short Term Positive Consequences	Long Term Negative Consequences
<p>1. <u>Who</u> are you usually with when you use?</p> <p>2. <u>Where</u> do you usually use?</p> <p>3. <u>When</u> do you usually use?</p>	<p>1. What are you usually <u>thinking</u> about right before you use?</p> <p>2. What are you usually <u>feeling physically</u> right before you use?</p> <p>3. What are you usually <u>feeling emotionally</u> right before you use?</p>	<p>1. What do you usually use?</p> <p>2. How much do you usually use?</p> <p>3. Over how long a period do you usually use?</p>	<p>1. What do you like about using with (<i>whom</i>)?</p> <p>2. What do you like about using (<i>where</i>)?</p> <p>3. What do you like about using (<i>when</i>)?</p> <p>4. What are some of the pleasant <u>thoughts</u> you have while you are using?</p> <p>5. What are some of the pleasant <u>physical feelings</u> you have while you are using?</p> <p>6. Over how long a period do you usually use?</p>	<p>1. What are the negative results of (behavior/activity) in each of these areas?</p> <p>a. Family members</p> <p>b. Friends</p> <p>c. Physical Feelings</p> <p>d. emotional feelings</p> <p>e. Legal situations</p> <p>f. School situations</p> <p>g. Job situations</p> <p>h. financial situations.</p> <p>i. Other situations.</p>

Figure 1. CRA Functional Analysis for Substance Using Behavior. From *Clinical guide to alcohol treatment: the community reinforcement approach* by R. J. Meyers & J. E. Smith, 1995, p. 34-35. Copyright 1995 by Guilford Press, New York. Adapted with permission.

The CRA functional analysis next focuses on the short-term positive consequences of the client's substance use (column 4). Since it is uncommon for therapists using traditional treatments to ask clients about the positive aspects of their substance use, this discussion often accentuates CRA's unique approach. Examples of short-term positive consequences of use include feelings of relaxation, increased social confidence, relief from boredom, and the ability to avoid negative thoughts or emotions. Given that these positive consequences of substance

use are considered to be factors which *maintain* the using behavior, one outcome of the functional analysis is to start the process of finding healthy behaviors that may offer the client some of the positive consequences initially associated only with substance use. The final step of the functional analysis is an exploration of the long-term negative consequences of substance use (column 5) in areas such as legal issues, relationships with friends and family, finances, and physical health. As noted, this information is important for identifying client reinforcers that have been damaged by the substance use, and which therefore might serve to motivate change.

CRA's second type of functional analysis is one that is used to increase engagement in an enjoyable, healthy behavior that the client is already participating in to some extent. This Functional Analysis for Pro-Social Behavior examines the antecedents that set the stage for the pleasant activity, as well as the consequences. Ideally the activity competes with the substance use behavior by occurring at high-risk times, and by offering some of the positive consequences initially associated with the substance use (e.g., positive feelings or relief from negative feelings). The functional analysis form is similar in structure to that for substance use behaviors, with the exception that the last two columns are reversed. Specifically, the negative consequences; the barriers that may interfere with choosing the behavior more often, are explored before the discussion of the many positive aspects of the healthy behavior. One purpose of the Functional Analysis for Pro-Social Behavior is to help the client work through any barriers so that the activity might be made more appealing and thus chosen over the substance use. The long-term positive consequences of the pro-social activity are referred to throughout treatment to enhance motivation.

Sobriety Sampling

Sobriety Sampling is one of the CRA procedures which highlights a philosophy that is in stark contrast to those of traditional substance abuse programs. CRA recognizes that the notion of long-term abstinence may seem daunting for clients who are just beginning treatment, and thus may serve as an impediment to treatment engagement. Rather than impose such overwhelming expectations, CRA therapists negotiate a time-limited "trial period" of sobriety. The client is encouraged to sample sobriety in order to experience some of the advantages of a life without alcohol or drugs. For example, a period of sobriety allows time for family and friends to gain confidence in the client again and offer their support, and for the client to try new pro-social, healthy behaviors. These and other rewards that result from sobriety may continue to act as motivators for the client to further pursue an abstinent lifestyle.

Once a client agrees to sample sobriety, the therapist initially chooses an overly ambitious goal for sobriety (e.g., 90 days). The client then "negotiates down" to a smaller yet still challenging time period. Regardless of whether the client settles on two or 60 days, it is necessary to make an appointment to see the client again before the time period runs out. This allows the therapist to trouble-shoot any problems and extend the abstinence contract. The final phase of Sobriety Sampling entails helping the client develop a specific plan to support abstinence. Triggers and risky situations are pulled from the functional analysis, and specific strategies for addressing them are devised. In subsequent sessions during the period of sobriety, the therapist reviews positive consequences experienced by the client, and implements problem-solving if threats to abstinence appear. The successful completion of periods of sober time increases clients' self-esteem and confidence in their ability to remain sober.

The Treatment Plan: Happiness Scale and Goals of Counseling

The CRA treatment plan is based on two instruments: the Happiness Scale and the Goals of Counseling form. The Happiness Scale (Figure 2) is a brief questionnaire which asks clients to rate their happiness on a 1-10 scale in multiple areas of their life, such as job/education, relationships, social life, spirituality, and money management. It demonstrates to the client that CRA does *not* focus exclusively on substance use, and that personal, individualized goals are important. Clients are asked to select a category on the Happiness Scale in which they would like to set some initial goals. They are encouraged to begin with a moderately rated area (as opposed to one with very low ratings) so that early success will be probable. Subsequent administrations of the Happiness Scale provide information about progress toward goals.

Each of the categories on the Happiness Scale is represented on the Goals of Counseling form (See Meyers & Smith, 1995, pp 98-99), which provides a structure so that goals can be outlined and plans can be specified for achieving them. Therapists assist clients in developing well-defined, measurable goals and step-by-step manageable strategies. For example, assume a client selects the “money management” category from the Happiness Scale; a category which he rated a ‘5’. The therapist would ask the client to specify what would have to change in his life in order for him to be able to rate “money management” a ‘6’ or ‘7’ in a few weeks. And this is where the goal setting would unfold. A reasonable goal might be to have \$25 saved by the end of the month. The strategy (i.e., the homework assignment) for accomplishing this would next be discussed. If the client believes that he wastes money without even being aware of it, the strategy for the first week might be to write down any money spent during the week so that problematic areas can be assessed. Potential obstacles that could interfere with successful goal completion would be identified and addressed. For instance, it would be worthwhile to have the

client imagine writing every expense down for the week, and to anticipate what might go wrong with the assignment (e.g., forgets to write down some expenses). Obstacles

HAPPINESS SCALE										
This scale is intended to estimate your <u>current</u> happiness with your life in each of the ten areas listed below. Ask yourself the following question as you rate each area:										
<i>How happy am I with this area of my life?</i>										
You are to circle one of the numbers (1-10) beside each area. Numbers toward the left indicate various degrees of unhappiness, while numbers toward the right reflect various levels of happiness. In other words, state according to the numerical scale (1-10) exactly how you feel <u>today</u> . Also try not to allow one category to influence the results of the other categories.										
	Completely Unhappy					Completely Happy				
Substance Use	1	2	3	4	5	6	7	8	9	10
Job or Education	1	2	3	4	5	6	7	8	9	10
Money Management	1	2	3	4	5	6	7	8	9	10
Social Life	1	2	3	4	5	6	7	8	9	10
Personal Habits	1	2	3	4	5	6	7	8	9	10
Romantic Relationships	1	2	3	4	5	6	7	8	9	10
Family Relationships	1	2	3	4	5	6	7	8	9	10
Emotional Life	1	2	3	4	5	6	7	8	9	10
Communication	1	2	3	4	5	6	7	8	9	10
Spirituality	1	2	3	4	5	6	7	8	9	10
General Happiness	1	2	3	4	5	6	7	8	9	10

Figure 2. Happiness Scale. From *Clinical guide to alcohol treatment: the community reinforcement approach* by R. J. Meyers & J. E. Smith, 1995, p. 95. Copyright 1995 by Guilford Press, New York. Adapted with permission.

should be fully addressed before the client leaves the session. The therapist would begin the next session by checking to see how the assignment went, and if the outcome was still in line with the client’s goals.

The Goals of Counseling plan is revisited throughout treatment, so that additional goals can be added and progress can be monitored. A main tenet of CRA is that satisfaction in other areas of life should begin to replace the need for substance use,

and both the Goals of Counseling and the Happiness Scale are integral components of the plan for building a rewarding lifestyle.

Communication Skills Training

Since the objective of CRA is to help the client build a rewarding lifestyle devoid of substance use, a focus on interpersonal relationships is important. When a client lacks the positive communication skills that are necessary to have successful interactions with others, the therapist teaches CRA's communication techniques. This begins with a discussion of how a positive communication style increases the chances that individuals will get what they want from others, and often improves the way others react toward them. The result is a reinforcing social environment and stronger relationships with friends and loved ones. The therapist next reviews the components of positive communication: be brief, be positive, refer to specific behaviors, state feelings, offer an understanding statement that takes the other person's point of view, take partial responsibility, and offer to help. Relevant examples of each component are offered as well. Finally, the therapist rehearses the skills with the client through role-playing and reverse role-playing. This gives the client a chance to practice these skills before attempting to employ them in real-world situations. The therapist offers constructive criticism, and the role-plays are repeated. Typically homework assignments are based on applying the newly-learned parts of good communication to a real-world situation.

A sample dialogue between a client and a CRA therapist follows in which communication-skills training is illustrated:

CLIENT: One thing that's hard is how my wife is always nagging me about going out with my friends from work. It's like I can't ever have any free time for myself.

THERAPIST: Is that something you fight about a lot?

CLIENT: We get into a huge argument every time. And I usually only go out once a week; Wednesdays. Believe it or not, a couple of us have gotten into bowling! It's fun.

THERAPIST: What do you usually say to your wife when you want to go bowling with your friends?

CLIENT: I don't know. I mean every time I bring it up she just gets mad at me. I don't know what else to do. I just tell her, "I'm going bowling. I have to have some time for myself and that's that".

THERAPIST: And how has that been working?

CLIENT: It *isn't* working. She just gets mad, and then I go out anyway. And then we're upset with each other the rest of the night.

THERAPIST: I think it might be useful to learn a different way of approaching your wife about this. Would you like to try a new of talking to her that might help you get what you want more easily?

CLIENT: I guess. I'm not sure what else I can do. I don't like fighting with her.

THERAPIST: Well, in CRA we use a style of communicating that makes your conversations with others a bit more positive. There are a couple of reasons you might want to try using these skills. First of all, positive communication will make other people more likely to listen to you, and it will be more likely that you'll get what you want out of the situation. Also, when you use positive communication it's "contagious"; others will start to respond to you positively as well. For example, you might not actually get into a fight with your wife about going out, and she might listen to

your perspective and begin to feel more comfortable with you bowling with friends from work.

CLIENT: That would be great. I can't imagine how that would work, but it sounds good.

THERAPIST: So we can give it a try?

CLIENT: Yeah, sure.

THERAPIST: Good. Let me get a little information first. Which co-workers do you bowl with?

CLIENT: Tom and James. I bet you're wondering if they drink.

THERAPIST: You're on to me!

CLIENT: Absolutely. No, they don't drink. There's not even a bar at this old bowling alley, so there's no temptation even.

THERAPIST: That's really good. I know you've been doing really well with abstaining and with finding new things to do. Have you talked to your wife about the fact that Tom and James don't drink?

CLIENT: I tried, but she doesn't believe me. I don't think she believes I'm really going bowling either.

THERAPIST: Well this sounds like a perfect conversation to work on. So, there are seven parts to good communication, but you'll pick just a few to practice. First of all, when you're making a request from someone, the request should be brief, positive, and specific. That means you state exactly what you want in a positive way, not what you *don't* want. For example, you wouldn't want to say, "I don't want you to nag me about going out with my co-workers anymore". Instead you might say something like, "I'd really like to go bowling with Tom and James from 6-9 PM this Wednesday." Does that make sense?

CLIENT: I think so. But I'm still not sure she'll believe that I'm just going bowling.

THERAPIST: Unfortunately we can't guarantee that she will – even if you use positive communication skills. But it does increase the chance that she'll listen to you without getting upset. OK. The next part of good communication is offering a feelings statement; saying how you feel. So you could add, "Bowling with these guys helps me relax after a tough day at work". What do you think?

CLIENT: I could say that, because it's true.

THERAPIST: Good. That brings me to the next part of positive communication, which is making an understanding statement. That means putting yourself in the other person's shoes. Like, why do you think your wife doesn't want you going out after work on Wednesdays?

CLIENT: She probably thinks I'll get drunk and then drive home, or I'll stay out all night like I used to.

THERAPIST: So can you think of something you could say to her that would make her feel like you understand how *she* feels? Maybe you could say something like, "I understand you're worried about me getting drunk after work or not coming home, but these new friends of mine don't drink." What do you think she might say to something like that?

CLIENT: I'm not sure. I don't think I've ever said it quite like that. I usually just tell her I'm going.

THERAPIST: So it's probably worth trying out. It also helps to add two more components: accept partial responsibility and offer to help. Accepting partial responsibility means that you acknowledge some of things you've done that have contributed to the situation. For example, you said before that your wife may not

believe that you're simply going bowling. Have you done anything in the past to make her question your word now?

CLIENT: Yes. I know why she'd think that.

THERAPIST: Can you think of something to say to your wife that would show you're accepting some of the responsibility for her lack of trust in you now?

CLIENT: Maybe I could say something like, "I know that I used to lie about who I was going out with or where I was going. But I've been doing really well. I haven't been drinking and I haven't been out with any friends in a long time."

THERAPIST: That's really good! You're catching on to this quickly! What do you think she'd say?

CLIENT: She might think that was OK. I'm not sure.

THERAPIST: Maybe offering to help would be something you could use too. Offering to help means suggesting something you could do to make the situation better. For example, do you think it would help if you called your wife in-between games at the bowling alley?

CLIENT: Maybe. That might help. We've never gotten that far in the conversation.

THERAPIST: Can you think of any other ideas about how you could help the situation?

CLIENT: Maybe she could meet Tom and James sometime. She doesn't know them, but if she knew they were good guys she'd probably see that I'm trying to change. Or I could invite her to stop by the bowling alley.

THERAPIST: Those are both excellent ideas. Now it's time to practice some of these ideas so you'll be ready to use them the next time you want to talk to your wife

about going out on Wednesdays. Who do you want to be first: yourself or your wife?

CLIENT: I don't care. I guess I'll just play myself.

THERAPIST: Sounds good. Now imagine that this is really happening right now. We discussed before that the best time to have a serious conversation with your wife was during dinner. Shall we go with that for a time?

CLIENT: Yes. And I'd better do it tonight.

THERAPIST: I'll start it off. And don't worry about using all seven of the communication components. Just try a couple of them. (*playing wife*): "I'm glad to see you're hungry tonight."

CLIENT (*in role-play*): "I am. And it's delicious. Hey, I wanted to talk to you about something. I know that in the past when I told you I was going out to play racquet ball or basketball I sometimes lied. And so I can see why you might not believe me now when I say that I'd like to go bowling tomorrow with a couple of friends."

THERAPIST (*playing wife*): "That's right; I don't always believe you. But you've talked about this bowling for a few weeks now. Your friends don't drink either?"

CLIENT (*in role-play*): "No. So it's pretty safe. You could come down and check it out for yourself if you'd like."

THERAPIST (*playing wife*): "Well I appreciate the offer, but I guess maybe I don't need to do that."

CLIENT (*in role-play*): "Suit yourself. It's an open invitation."

THERAPIST: Let's stop the role-play now. Good job! What did you like about your conversation?

At this point the therapist would see if the client recognized the components of a positive communication he had used (e.g., understanding statement, partial responsibility statement, offer to help, etc.). If not, the therapist would point these out, and then would make suggestions for improvements. The role-play would be repeated several times until the therapist and client both thought that the client could successfully deliver that communication at home.

Note that sometimes therapists start the role-play segment by doing a reverse role-play (with the therapist playing the client) so that the client can observe the therapist modeling a positive communication. Further, clients oftentimes develop empathy for the person they are playing in reverse role-plays. Regardless, homework assignments often are built upon these rehearsed conversations, so that clients can try using their new skills in their home environments. The therapist and client would review the results at the next session and discuss ways to improve.

Problem-Solving Skills

Many clients rely on substance using behavior as a coping strategy for problematic situations because they do not know how to constructively deal with challenges. The problem-solving procedure teaches the client to work through seemingly unmanageable problems in a structured, step-by-step manner. This CRA procedure is based on D’Zurilla and Goldfried’s (1971) approach: define the problem narrowly, generate as many potential solutions as possible, eliminate implausible solutions and select a potential solution, identify potential obstacles to the solution and create a strategy. During the next session the outcome of the solution is evaluated and modified if necessary. Once clients become familiar with this process they can begin to use it on their own outside of therapy. An example of the problem-solving procedure

being conducted with an adolescent follows. It begins with the introduction and rationale:

THERAPIST: I think this might be a good time for me to show you our problem-solving exercise, because you seem to be talking about a problem you’re having. You’ve mentioned a few times that you smoke marijuana to help deal with stress – right?

ADOLESCENT: I’m not sure I’d say that the *smoking* was the problem; getting caught was the problem.

THERAPIST: Fair enough. But would you agree that smoking marijuana to cope with stress has become part of the problem now, since if you continue to smoke you won’t be able to reach some of the goals you described – like getting off probation as soon as possible?

ADOLESCENT: Yes. I’d agree with that. I hate being on probation.

THERAPIST: It makes sense then to try to come up with other ways to deal with your stress besides smoking. If it’s OK with you then, I’d like to go through CRA’s problem-solving exercise. The purpose will be to demonstrate problem-solving skills that you’ll be able to use for all different kinds of problems as they come up.

Note that the therapist did not argue with the client over whether smoking marijuana was a problem in general. Instead the therapist referred to the problem created by using marijuana as a coping strategy, since it interfered with the client’s own goal of successfully getting off probation.

1. Define the problem narrowly.

THERAPIST: Here’s a problem-solving worksheet (see Figure 3) for you. You can see the steps as we cover them. Let’s look at the first step: Define the problem narrowly. It’s important for us to be as specific as we

can when we talk about the problem, because we're more likely to be able to come up with a successful solution if the problem isn't vague or overwhelming. So far we're talking about the general problem of using marijuana to cope with stress. Can you tell me a little more about that – like what types of stresses you're coping with, and when it seems to happen a lot?

ADOLESCENT: I don't know. It's just school; school really stresses me out. So I go home, or I go to my friend Perry's house, and smoke. There's nothing complicated about it.

THERAPIST: So the main time you're smoking to deal with your stress is right after school each day?

ADOLESCENT: Pretty much.

THERAPIST: OK. This is helpful, because we can narrow down the problem. Let's say that the problem is how to cope with stress right after school. Does that sound about right?

ADOLESCENT: Whatever. I guess.

THERAPIST: Feel free to correct me if I'm wrong.

ADOLESCENT: No....that's right.

Therapists often do not spend sufficient time narrowing down the problem. When this occurs, the next step (brainstorming) ends up being too unfocused and thus not particularly helpful. Furthermore, vaguely defined problems typically are experienced as overwhelming, whereas narrowly defined problems appear to be more manageable.

2. *Brainstorm possible solutions.*

THERAPIST: Good. The second step is called, "brainstorming". Here's where we try to come up with lots of solutions, even if

we're not sure they'll work. I'll help. And it's important that we don't criticize each other in the process. Don't worry; if you don't like one of the suggestions I make you don't have to pick it. OK?

ADOLESCENT: Sure.

THERAPIST: I'll start it off. Let's see. How could you de-stress without smoking? I'm going to suggest that you listen to music.

ADOLESCENT: I already do that - when I'm high.

Problem-Solving Worksheet: SAMPLE

1. Define the Problem Narrowly
How to cope with stress right after school.
2. Brainstorm Possible Solutions

listen to music	Jason's house	watch TV
call a friend	skateboard	pick-on-sister
computer	homework	play music
shoot hoops at the Y	lift weights	punch speed bag
mall	chores	dollar movie
3. Eliminate Undesired Suggestions [*cross out from the list above*]
4. Select One Potential Solution
Lift weights (at Jason's house).
Use guitar-teaching program on the computer [*added later*]
5. Generate Possible Obstacles
Lift weights:
 - Get bored with old weights
 - Can't go to Jason's to lift weights if nobody is there
 Use guitar-teaching program on the computer:
 - Fingers too sore to play
 - Tempted to go to Perry's house
6. Address Each Obstacle
Obstacle: Get bored with old weights
 - Lift weights at Jason's house; get advance on allowance & buy new weights
 Obstacle: Can't go to Jason's if nobody is there
 - Clear with Jason's sister & mom; call in advance to be sure someone will be there
 Obstacle: Fingers too sore to play
 - Study the notes without playing
 Obstacle: Tempted to go to Perry's house
 - Avoid Perry after school; walk out of school with Jason; use drug-refusal skills
7. Assign Task
Lift weights at Jason's house 3 days/wk (usually Mon., Wed., Fri.).
Use guitar-teaching program on the computer the remaining days.
8. Evaluate Outcome [*next session*]

Figure 3. Problem Solving Worksheet: Sample

THERAPIST: That's good to know. But remember that for right now you don't have to let me know whether or not you think it's a good suggestion. We can sort that out in the next step. I'm going to write the idea down on the worksheet here under step # 2 (Figure 3). How about *you* make a suggestion now? It just has to be a possibility at this point.

ADOLESCENT: If I knew the answer to this I wouldn't be in the kind of trouble I'm in. (*pause*) Anyway, how about if I call a friend? I *do* have some friends who I don't get high with.

THERAPIST: Good to hear. And I'm going to add that to the list. We don't have to take turns if you want to go ahead and make another suggestion.

ADOLESCENT: I was just thinking that maybe I could get right on my computer.

THERAPIST: Also good. I'm putting it on our list. This might be more complicated, but I'm going to say, "shoot hoops at the Y".

ADOLESCENT: Maybe. Oh – right. I don't have to decide yet. I guess I could go hang out at the mall. But I'm not sure how I'd get there, so maybe I shouldn't list it.

THERAPIST: I think it's great that you're already anticipating possible obstacles. But don't worry about that for now. Coming up with obstacles is another step. If we find that we can't deal with the obstacles, you can pick something else.

ADOLESCENT: Well in that case I'll say that I could go to Jason's house. And *no* –he doesn't use.

THERAPIST: Excellent! I'm glad you're thinking about that. And I'll add skateboarding and homework.

ADOLESCENT: You might as well cross off that last one right now! I was thinking how I've been wanting to start lifting weights again...but I only have an old crummy set. I guess I can put it on the list though.

THERAPIST: Definitely. And let me add "do chores" or "watch TV".

ADOLESCENT: How about "pick on my little sister"? (*smiles*)

THERAPIST: As I said, any suggestion is fine for now. Of course, I might have to give you a hard time about that one if you actually pick it! (*smiles*)

ADOLESCENT: Let's add "play music" and "punch speed bag".

THERAPIST: Sure. And I'll add "go to the dollar movie". OK. I think we have a decent list now.

Although there is no specific number of suggestions required, a reasonable list should be generated so that several appealing options are still available once obstacles have ruled out some of the suggestions.

3. *Eliminate undesired suggestions.*

THERAPIST: Now is the time you've been waiting for! You get to cross out any of the ideas I offered – or that *you* offered - that you can't really imagine yourself doing. If you don't cross it out it means that you're still open to possibly doing the suggestion as your experiment for the week. What do you say?

ADOLESCENT: I guess you won't be surprised to see me crossing out "homework" and "chores" first. They don't help with my stress; they make it worse.

THERAPIST: Oh, I forgot to say that you don't even need to explain *why* you're crossing out an item. It doesn't matter. If you can't imagine yourself doing it to deal with your stress after school this week, then just cross it out!

ADOLESCENT: Then I'd better cross out "pick on sister," "the mall," and "dollar movie". As far as the rest: Does it have to be something that I can do every day? Some of these might be OK once a week, but not every day.

THERAPIST: Good question. Well, if you pick something that can't be done pretty much every day to deal with your after-school stress, then you should pick another 1-2 additional things. Altogether they should cover the week. But let's just go with one thing at a time. We can add more later if we need to.

ADOLESCENT: Alright. I'm done with this step then (see Figure 3).

If the client had crossed out all of the potential solutions, then the brainstorming step would have been repeated.

4. *Select one potential solution.*

THERAPIST: Good. Now step # 4 involves picking the one that's your favorite; the one that you think has the best chance of helping you handle your stress *and* which you can definitely imagine yourself doing this week. And I should add that the coping strategy shouldn't be one that you associate with being high in the past. What do you think?

ADOLESCENT: I'd like to pick "lift weights", but I only have crappy ones.

THERAPIST: That's your first choice though?

ADOLESCENT: Yes.

THERAPIST: Then let's talk about it in some detail so we can see if it makes sense to stick with it. Tell me what you have in mind as you think about lifting weights after school. What exactly will you do? Maybe you can walk me through it – even starting with leaving school at the end of the day.

ADOLESCENT: I'm not sure what you want to know. I'll go home and get my weights out of my closet. I'll probably put on some music. Is that what you mean?

THERAPIST: Yes, that's good. Let me ask you though: Didn't you tell me earlier that

you listen to music while you smoke? Will this be a trigger to smoke?

ADOLESCENT: No. I listen to a very different kind of music when I am getting high; music that helps to mellow me out. I listen to really loud music when I'm lifting weights. And "no" – I don't smoke while I lift weights – or before either.

THERAPIST: OK. Great. I just wanted to check. And about how long would you guess you'll lift weights?

ADOLESCENT: I don't know. I'll get bored in about 15 minutes if I have to use the weights I have now.

As the client is describing the implementation of the plan, the therapist is evaluating whether the plan is reasonable, and is listening for potential obstacles. The therapist might also eventually encourage the client to select a second (or third) solution to use as well, depending on how comprehensive the first solution is, and how difficult the obstacles are to address.

5. & 6. *Generate possible obstacles/ address each obstacle.*

THERAPIST: Sounds like we should move right to the next step then, # 5: Generate possible obstacles. So you're saying that having an old set of weights could be a problem, because you could lose interest in them quickly –right?

ADOLESCENT: Exactly. Maybe I can get an advance on my allowance to buy some.

THERAPIST: Spoken like a true problem-solver! Coming up with solutions to obstacles can sometimes turn into another problem-solving exercise *within* the original one. Well, we can either come up with solutions for the obstacles, step # 6, as we stumble across them, or we can simply list all the obstacles first and then go through the

list to identify solutions. Do you have a preference?

ADOLESCENT: Nope.

THERAPIST: Then let's figure out how to address each obstacle as it's raised. So as far as losing interest in your old weights, you're thinking you might ask for an advance in your allowance. Let's practice that conversation before you leave today. But what can you do if your mom says "no" to the advance?

ADOLESCENT: Well, I was thinking about going to Jason's house some of the time anyway. And he just got some new weights. Maybe I should just plan on going there.

THERAPIST: I wonder if that might even increase the chance that you'd end up lifting weights, because you'd have a plan in place to do it with someone else?

ADOLESCENT: Probably. But I can't go over there every day.

THERAPIST: True. But you wouldn't want to lift weights everyday anyway. Why don't we get real specific and say which days of the week you'll go over to Jason's to lift?

ADOLESCENT: I'm not sure it will always work out, but I guess I'll say Monday, Wednesday, and Friday.

THERAPIST: Sounds reasonable. You're making great progress in addressing the obstacle of losing interest in weight lifting. Before you leave today we'll go ahead and call Jason to make sure he's up for it. And in the meantime you can save your allowance for your own weights, if you'd like. OK. So what about other obstacles?

ADOLESCENT: Sometimes Jason's mom doesn't like me over at their house if nobody else is home.

THERAPIST: *Is* there going to be somebody there most days after school?

ADOLESCENT: Usually his older sister is there, so I'd just have to clear it with her first.

THERAPIST: And when can you do that?

ADOLESCENT: I'll talk to her and to Jason's mom when I go over after school today.

THERAPIST: We can practice that conversation too today. It's possible that they'll also want you to call before going over there on the three days each week, just to be sure.

ADOLESCENT: I can do that.

THERAPIST: Good. And do you remember when we practiced positive communication skills? One item was an "offer to help". You could offer to help by saying that you'll always call first before you go over. Are there any other obstacles?

ADOLESCENT: Not that I can think of. I can just walk over to his house with him, so getting there isn't a problem.

THERAPIST: Good. Now as we mentioned, you wouldn't want to lift weights every day, so why don't you take a look at your list again to see if there's something else you'd like to do on the days that you don't lift weights.

ADOLESCENT: I can get on my computer.

THERAPIST: Sounds good. What exactly will you do on the computer?

ADOLESCENT: I've been playing around with a computer program that teaches you how to play the guitar.

THERAPIST: Wow! Impressive. How does that work?

ADOLESCENT: It explains about reading music and shows where to put your fingers. I found one program that has really cool songs.

THERAPIST: You'd actually be doing two more items off your list then: getting on the computer and playing music. Sounds like a winner! What about obstacles to doing this?

ADOLESCENT: I can't think of any. The computer program is free. I have a guitar.

THERAPIST: Let's just think about it another minute or so. Sometimes the obstacles aren't obvious at first. Picture yourself going home and turning on your computer. Now you're picking up your guitar. Anything?

ADOLESCENT: I suppose my fingers could be too sore to play. I have to get calluses built up.

THERAPIST: Good point. So how would you deal with that obstacle?

ADOLESCENT: I could just study the notes. I wouldn't have to actually play the guitar that day.

THERAPIST: Good solution. Other obstacles?

ADOLESCENT: Nope.

THERAPIST: You mentioned a few minutes ago that you listen to a different kind of music when you get high and when you lift weights. What kind of music do you *play*? Do you play the kind of music that you used to get high to?

ADOLESCENT: Not really. Don't worry – my guitar playing is definitely not going to be a trigger!

THERAPIST: I'm glad to hear that. The only other one I can think of has to do with being tempted to go over to Perry's house instead of going straight home. Now maybe you'd be thinking that you wouldn't smoke at Perry's, but it would be hard *not* to smoke there, since you associate his house with smoking. I don't know. What do you think?

ADOLESCENT: I don't know either. I don't *want* to go there, because I can't afford to get in any more trouble. I can try to avoid him after school, but if I run into him it will be tough.

THERAPIST: Thanks for being honest about that. One option would be for you to use the drug-refusal skills we practiced once before for a situation with a different friend. Do you remember them?

ADOLESCENT: Sort of. I guess I could try them with Perry. Maybe it would be good for me to walk out of school with Jason, even if I'm not going to his house that day.

THERAPIST: Excellent! In the meantime we'll practice the drug-refusal skills too.

Note that a considerable amount of time was spent on these steps related to identifying and addressing obstacles, and included having the client imagine implementing the chosen solution as a means of generating further obstacles. Also note that several other CRA procedures were mentioned in the course of doing the problem-solving exercise. For example, positive communication skills were going to be reviewed (with role-plays) in order to practice approaching both the adolescent's mother and the friend's family, and a review of drug-refusal training (see Drink and Drug Refusal Skills section) was planned.

7. Assign task.

THERAPIST: I think you've got a terrific plan here. Go ahead and tell me how you're

going to deal with your after-school stress this week.

ADOLESCENT: I'm going to lift weights at Jason's house, but not every day. I think we said Monday, Wednesday, and Friday. And I think I'm going to hold off for now on asking my mom for an advance in my allowance to buy weights. I can see if I like the kind that Jason has before I buy myself some.

THERAPIST: Excellent! And what are the potential obstacles to doing that?

ADOLESCENT: I have to clear it with his mom, and make sure his sister is going to be there before I go over.

THERAPIST: Good. And what about Tuesday and Thursday?

ADOLESCENT: Right. I am going to use the computer program and practice playing my guitar.

THERAPIST: Obstacles and solutions?

ADOLESCENT: If my fingers are sore I'll just study how to read the music. Oh – and I'm supposed to walk out of school with Jason on those days too, just in case I run into Perry.

THERAPIST: Perfect! Now let's go ahead and review drug-refusal and communication skills. And then you can call Jason.

Typically the solution selected in the problem-solving exercise becomes the homework assignment for the week. Note that the therapist checks on the client's understanding and memory by having him repeat back the assignment.

8. Evaluate outcome.

As with all assignments, the therapist would start the next session by checking to see how the assignment had

gone. Success (and partial success) would be praised, as would earnest attempts to do the assignment. Difficulties in completing the assignment as planned would be reviewed carefully so that the necessary skills training could be introduced. Non-compliance would be addressed by gently probing to see whether the client was still invested in the particular goal associated with the assignment.

Drink and Drug Refusal Skills

At many times during the course of therapy, clients face tempting situations in which they are offered drugs or alcohol. Clients typically do not have experience with effective refusal of such substances, nor do they have the skills necessary to cope with risky situations. The introduction of specific skills which makes successful refusal more probable occurs commonly as part of the sobriety sampling and relapse prevention procedures. One option the therapist may discuss with the client is identifying a friend or family member who can act as a support person for those situations in which drink/drug refusal will be necessary. In addition, the therapist teaches effective refusal skills and role-plays with the client to practice them. These skills include: an assertive "no" accompanied by strong and confident body-language, the suggestion of alternatives to those offering drink/drugs (e.g., "I'd really prefer a strong cup of coffee"), changing the topic ("Can you believe they got into the playoffs after such a rough season?"), asking the aggressor directly about his or her reasons for pushing alcohol/drugs ("I'm not sure why it's so important to you that I drink tonight"), and finally, walking away.

Drink and Drug Refusal Skills Training lends itself to a group therapy format. One volunteer assumes the role of the client who is anticipating being pressured to drink/get high in the upcoming week, and several group members play the individuals who are doing the pressuring. A

series of role-plays follow in which the pressured individual is coached to use the CRA Drink and Drug Refusal Skills just learned, and the other role-players are encouraged to make the scene realistic by not backing away readily. As with all role-plays, corrective feedback is provided – from the other role-players, the therapist, and the remaining group members.

Job Skills

Similar to the social environment, the work environment is a significant part of a person's life and an important piece of a rewarding non-using lifestyle. A satisfying work experience can compete with substance use by improving many areas of the client's life, including finances, social interactions, and the client's self-confidence. A job also can provide structure for a client's life and compete with substance use for the client's time. However, many substance using clients may not have the necessary skills to find or keep a meaningful job, and so in these cases the CRA job skills procedures can be worthwhile. The program has a detailed framework for various aspects of getting a job, including filling out job applications, narrowing down job leads, following-up with potential employers, and the rehearsal of telephone and face-to-face interview skills (see Azrin & Besalel, 1980).

Social/Recreational Counseling

In the pursuit of creating a rewarding lifestyle, social life and recreation must be given serious attention. Many clients with substance use disorders are unable to identify healthy and rewarding pro-social activities because they have largely relied on substance use for reinforcement, as well as for the basis for social relationships. Thus it is important for the therapist to be prepared to help the client find new social and recreational activities to sample, especially early in treatment.

In addition to encouraging clients to increase pro-social activities in which they already participate to a limited extent (see Functional Analysis for Pro-Social Behavior), it is often necessary to help clients find new ways to spend time that previously was filled with substance use. The problem solving procedure is one method for addressing this. Systematic Encouragement is a procedure that is often introduced when a client has identified a new social activity but seems to be having difficulty taking the first step toward engaging in it. Systematic Encouragement entails helping the client to take that first step right in the therapy session. It may involve calling a club or recreation facility for registration information or a schedule of hours, or contacting a friend for transportation to the activity. The belief is that if the therapist aids the client in overcoming an intimidating barrier, the client may be more likely to actually try the new activity during the week.

Once the client attempts to participate in a new social activity, the therapist should inquire in the next session about the aspects of the experience that were or were not enjoyable. For situations in which many clients are involved in CRA at a site, a CRA social club has sometimes been set up in order to provide positive social experiences (see Mallams, Godley, Hall, & Meyers, 1982).

Relationship Therapy

An important part of most people's lives and a potential source of support for recovering substance users is an intimate partner. Furthermore, relationships frequently have been damaged over the course of substance use, and so significant others are encouraged to attend a series of sessions for relationship therapy. This behavioral couples therapy attempts to increase positive and rewarding interactions between partners. Each partner is typically asked to complete a couple's version of the

Happiness Scale called the Relationship Happiness Scale (Meyers & Smith, p 171); an instrument which asks both the client and the partner to rate their happiness with the other person in 10 different areas. These include household responsibilities, children, money management, social activities, communication, sex and affection, emotional support, independence, job or school, and general happiness. The Perfect Relationship form (Meyers & Smith, 1995, pp 174-176) is the couples version of the Goals of Counseling, and consequently serves as a framework for setting goals within the relationship and monitoring progress. In terms of skills training, couples are taught the positive communication and problem-solving techniques that originally were introduced to the client.

The final component of CRA Relationship Therapy is the Daily Reminder to Be Nice (Meyers & Smith, 1995, p 179), which is a tool designed to increase the number of positive interactions that occur between the partners. The therapist asks the couple to do at least one item per day from a list of suggested small positive interactions. A few sample categories are: expressing appreciation for the partner's actions, offering a compliment, and giving a pleasant surprise. Increasing pleasant interactions on a daily basis can serve to strengthen the relationship so that the couple is in a better position to make progress on larger issues which have been set as goals.

Relapse Prevention

Although all of the CRA procedures are in some way designed to prevent relapse, additional procedures specifically target high-risk situations. For instance, the therapist may assist the client in setting up an Early Warning System. This involves identifying a family member or close friend who is in a position to recognize the client's warning signs for relapse, and then enlisting the support of that individual to intervene in risky situations. Typically the therapist helps

the client and the significant other devise a detailed intervention plan that is highly specific to the needs of the client.

If a relapse does occur, a CRA Functional Analysis for Relapse (Meyers & Smith, 1995, pp 192-193) may be completed in order to identify the factors that contributed to relapse so that they can be taken into account in future plans for avoiding substance use. The therapist may also discuss the behavioral chain of events leading to the relapse, and encourage different decisions at various "links" throughout such a chain of events in the future so that relapse is thwarted.

Monitored Disulfiram

CRA has sometimes been used in conjunction with a monitored disulfiram (Antabuse) prescription. Disulfiram is a medication that causes acute physical illness (sometimes extremely serious) when combined with alcohol, and thus it acts as a deterrent to drinking. Monitored disulfiram has been found to improve treatment compliance and relapse prevention (Brewer, Meyers, & Johnsen, 2000). The disulfiram monitor is a loving family member or other support person who has been asked to track compliance by administering the disulfiram daily in an encouraging and supportive way. The use of monitored disulfiram may be indicated if a client: (1) is having unusual difficulty achieving even short periods of abstinence (i.e., making sobriety sampling impossible), (2) is a highly impulsive alcohol user, (3) is having trouble identifying triggers and risky situations, or (4) is in a situation in which alcohol use may result in severe consequences (e.g., loss of employment or incarceration). Candidates for disulfiram should be informed about its advantages: it allows the client to find alternative ways of coping and to experience sobriety, and it potentially increases the trust of others in the client's commitment to treatment. It is important to remind clients that disulfiram is a limited-duration

treatment (usually only a few months). A physician must prescribe the disulfiram, and this is done after liver enzymes have been checked through bloodwork.

Adolescent Community Reinforcement Approach

A specialized form of the Community Reinforcement Approach has been created specifically for adolescent substance users: the Adolescent Community Reinforcement Approach (A-CRA; see Godley et al., 2001). Essentially it adheres to the same philosophy and format as CRA for adults, with a few modifications. For example, while one aspect of CRA focuses on the relationship between adult intimate partners, one important part of A-CRA works on the relationship between the adolescent and his or her caregiver(s). This relationship often has been damaged by substance use and related behaviors (e.g., truancy). In order to improve the adolescent and caregiver relationship, two sessions are devoted to working with the caregiver(s) alone, and two joint sessions are included in which both the adolescent and caregiver(s) are present. During the sessions with the caregiver alone, the therapist explains the purpose and philosophy of A-CRA, sets positive expectations by briefly reviewing research supporting the A-CRA method, discusses successful parenting practices, and generally tries to keep the conversation about the adolescent positive. During the combined adolescent and caregiver sessions, family members are coached in the use of positive communication skills and problem solving with each other. In addition, they complete an adapted Relationship Happiness Scale so that mutually agreed-upon goals can be established. These adolescent and caregiver sessions also end with the Daily Reminder to Be Nice.

COMMUNITY REINFORCEMENT AND FAMILY TRAINING

Overview and Scientific Support

Community Reinforcement and Family Training (CRAFT) is an empirically-supported program for the family members of treatment-refusing substance abusers that is designed to increase the odds of the substance user entering treatment, as well as improve the lives of the concerned family members (Meyers & Wolfe, 2004; Smith & Meyers, 2004). CRAFT grew out of the understanding that although individuals who truly need help with substance use problems (identified patients; IPs) often are strongly opposed to treatment, their concerned significant others (CSOs) commonly are highly motivated to get help for them. However, CSOs routinely have not been given the appropriate tools to aid them in helping a loved one get into treatment.

Until recently, therapists had few options to recommend to the CSOs of treatment-refusing substance abusers, except for the Al-Anon program (Al-Anon, 1984) and the Johnson Institute Intervention (Johnson, 1986). Al-Anon, a 12-step program that advocates “loving detachment” from the substance abuser, has been found to improve the well-being of CSOs, but has not helped CSOs be more successful in getting the substance abuser into treatment (Barber & Gilbertson, 1996; Dittrich & Trapold, 1984; Meyers, Miller, Smith & Tonigan, 2002; Miller, Meyers, & Tonigan, 1999; Sisson & Azrin, 1986). The Al-Anon approach’s emphasis upon detaching from the substance abuser is unappealing to many CSOs. On the other end of the spectrum is the Johnson Institute Intervention; a “surprise party” in which the IP is confronted by family members and a therapist with the objective of getting the IP to enter treatment. When the intervention is actually carried out it often results in a high rate of engagement in treatment, and yet only a small number of CSOs who begin the program ever follow through with the intervention (Liepman, Nirenberg, & Begin, 1989; Miller et al., 1999), and many report feeling uncomfortable with its confrontational nature (Barber & Gilbertson, 1997).

Recently, less traditional approaches for CSOs have been developed called Unilateral Family Therapies (UFTs). UFT recognizes that it is reasonable to work with the person who is motivated to engage in treatment, the CSO, and to teach the CSO behavioral techniques which may help change the problematic behavior of the substance abusing IP. CRAFT is a type of UFT that grew out of a treatment designed to work directly with substance abusers: the Community Reinforcement Approach (CRA) (Azrin, 1976; Hunt & Azrin, 1973; Meyers & Miller, 2001; Meyers & Smith, 1995; Smith, Meyers & Miller, 2001).

While working with substance abusing clients, it became apparent to CRA researchers and clinicians that family members not only had a great deal of contact with clients, but access to powerful reinforcers and contingencies in the clients' lives which could serve as motivational factors for change. Furthermore, spouses already had shown themselves to be committed to aiding the change process by participating in the relationship skills portion of CRA treatment (Azrin, 1976; Azrin, Naster, & Jones, 1973; Azrin, Sisson, Meyers, & Godley, 1982). Importantly, many substance abusing clients report that they entered treatment partially at the behest of close family members (Cunningham, Sobell, Sobell, & Kapur, 1995; Room, 1987). Consequently, far from being helpless in regards to a substance abuser's behavior, it is apparent that loved ones can play a significant role in engaging a substance abuser into treatment and in promoting a healthy outcome (Sisson & Azrin, 1986). Moreover, offering an effective treatment for these family members is valuable for the psychological well-being of the CSOs themselves, who have lived with a multitude of daily stressors associated with life with a substance abuser (Jacob, Krahn, & Leonard, 1991; Sisson & Azrin, 1986).

Through working with CSOs, the CRAFT program has three main goals: to

get the substance user into treatment, to decrease the IP's substance use, and to increase the happiness of the CSO independent of whether the IP enters treatment. But how can a therapist and CSO expect to change the behavior of an IP who is not even in treatment? CRAFT teaches CSOs to modify their own behavior in relation to the IP in a very specific way: by utilizing the contingencies and reinforcers over which they have power in the home. CSOs learn to rearrange their behavior so that the IP's clean and sober behavior is rewarded and drinking or drug use is experienced by the IP as less pleasant (Meyers & Wolfe, 2004; Sisson & Azrin, 1986; Smith & Meyers, 2004).

CRAFT has been highly supported in the scientific literature. CRAFT was first tested on a small group of CSOs in the 1980s, and contrasted with a traditional 12-step program (Sisson & Azrin, 1986). All of the CSOs in this study were the female spouses of male drinkers. Six of the seven IPs in the treatment condition entered treatment while none in the 12-step control group did. A second study randomly assigned an ethnically diverse sample of 130 CSOs to CRAFT, Al-Anon Facilitation, or the Johnson Institute Intervention (Miller et al., 1999). CSOs in this study were parents, spouses, boyfriends/ girlfriends, or children of IPs who had a significant amount of contact with the IP. The CRAFT-trained CSOs were more than 2-5 times as likely to get their IPs to enter treatment (64% engaged) as were the CSOs in Al-Anon (13% engaged) or the Johnson Institute Intervention (30% engaged). CSOs themselves also showed improved functioning and happiness.

The CRAFT program also has been shown to be highly effective with individuals whose drug of choice is not alcohol. One study conducted by the National Institute on Drug Abuse involved 32 white or African-American CSOs randomly assigned to CRAFT training or 12-step meetings (Kirby, Marlow, Festinger,

Garvey, & LaMonaca, 1999). Although the IPs' drugs of choice were heroin or cocaine, the results were similar to the previous alcohol studies. IPs were engaged in treatment through CRAFT at a significantly higher rate (64%) than through the 12-step condition (17%). In a non-randomized study involving 62 CRAFT-trained CSOs of drug abusing IPs, there was a 74% engagement rate for treatment-refusing drug abusers (Meyers, Miller, Hill, & Tonigan, 1999). A third CRAFT study with drug abusers entailed the random assignment of 90 CSOs to CRAFT, CRAFT plus Aftercare, or Al-Anon/Nar-Anon Facilitation (Meyers et al., 2002). Given that 12-steps groups are readily available to CSOs, an aftercare group was added to a CRAFT condition to determine if ongoing support would enhance CRAFT outcomes. Ultimately the CRAFT conditions were combined for analyses, as no significant difference was found between them. In the combined CRAFT conditions 67% of the resistant IPs entered treatment, whereas only 29% of those in the 12-step condition did.

Although the CRAFT program is somewhat new and the manual quite recent (Smith & Meyers 2004), CRAFT has solid empirical support. And it is worth noting that: (1) successful engagement of the IP into treatment throughout these studies was independent of the type of CSO-IP relationship. Thus, for example, it was inconsequential whether the CSO was the IP's spouse, partner, parent, or sibling, (2) there were no ethnic differences between engagement rates, (3) the type of drug of abuse was not a factor affecting engagement, (4) IP engagement occurred, on average, after only five CSO sessions, and (5) the CSOs' psychological functioning improved regardless of whether they engaged their IP in treatment.

CRAFT Procedures

Enhancement of CSO Motivation

CRAFT is based on the premise that CSOs are invested in helping to change their IP's behavior. Although most CSOs are at least initially motivated to assist with IP treatment engagement, the extent of the role they are expected to play in the CRAFT program may seem daunting. In order to set positive expectations for success and increase confidence in the program, CSOs are educated about the research and success rates of CRAFT, such as the fact that 7 out of 10 CSOs have been able to get their IPs into treatment using this program. Other encouraging results noted above are shared with CSOs (e.g., successful engagement is not dependent upon CSO-IP relationship status or type of drug); particularly the finding that their own happiness may improve regardless of whether their IP enters treatment (Meyers et al., 1999; 2002; Miller et al., 1999).

As was the case with CRA, a motivational therapy style is also very important in CRAFT. A good CRAFT clinician is always warm, non-judgmental, positive, and accepting. Confrontation is avoided with the CSO as well as the IP (Miller, Benefield, & Tonigan, 1993). The initial enthusiasm which brought CSOs to treatment must be nurtured and reinforced in order to keep them committed to the program, particularly at times when the IP is not responding as quickly as hoped. Importantly, the therapist always emphasizes to CSOs that while they may influence the process of change, they are *not* responsible for the IP's behavior.

Functional Analysis of IP's Substance Using Behavior

CSOs are valuable sources of information about the common patterns of behavior surrounding the IP's substance use, including the triggers (internal and external) and consequences (positive and negative). With the information the CSO provides, a functional analysis of the substance user's behavior is carried out similar to the

functional analysis used in CRA. The purpose of the CRAFT Functional Analysis is to understand the patterns surrounding the IP's substance use so that CSOs can modify their own behavior and the environment in order to consistently encourage sober and pro-social activities, and to discourage substance use. The CRAFT Functional Analysis form (see Smith & Meyers, 2004, pp. 74-75) organizes this information into a framework so that the context for the IP's substance use and the maintaining factors are clear. Once the functional analysis is completed, the CSO and therapist then plan reasonable behavior changes for the CSO.

Assume that a wife (CSO) describes a common drinking pattern for her husband (IP) in which he comes home late from work most evenings because he has stopped for drinks with co-workers, supposedly so that they can re-hash the problems of the day. Upon arriving home he expects the household to be quiet so that he can finish up a report that is due the next day. He also expects his wife to help him sort through his thoughts regarding the report, and to keep the children from bothering him. Based on the best available information she had, a summary of the CSO's functional analysis of this pattern follows:

External Triggers: CSO knows that the IP sees his co-workers heading out to the bar at 5:00 every weeknight.

Internal Triggers: IP has reported feeling stressed, exhausted, anxious after working all day; IP has explained his drinking to her in the past by saying, "I've got to unwind from my crazy day!"

Drinking Behavior: Approximately 3 shots and 3 (12 oz.) beers.

Short-Term Positive Consequences: IP has told his wife that he is able to relax at the bar with these guys; that he enjoys hanging out with these co-workers because they are irreverent and funny; that it allows him to

escape from his financial worries for a short time. The CSO also believes that it makes her husband feel younger because the co-workers are about 10 years younger than him. She adds that in some ways the scenario works out well for him, because she feels sorry for him when he has trouble getting the report done late at night, and so she quickly puts the children to bed and helps him.

Long-Term Negative Consequences: IP has mentioned that it is harder and harder getting up each morning (but he has not specifically attributed this to his drinking); he sometimes wonders if his co-workers respect him because he thinks maybe he should be a role model; he seems to feel guilty about asking for the CSO's help with the report each night.

Based on this information, the therapist could discuss several options with the CSO as far as a plan of action. The obvious place to start would be to talk with the CSO about assisting the IP with his report every night. The therapist would ask the CSO what she thought would happen if she did not help her husband with his report if he had been drinking. The likelihood of any domestic violence would be probed. Ideally the CSO would guess that her husband would be annoyed with her, but he would get home earlier the next night (and therefore would have had less to drink). The therapist might teach the CSO communication skills so that she could explain the plan of action to her husband in advance. As part of this, the CSO could be encouraged to tell her husband that she would be happy to help him with his report in the evening, but that she was only going to do it if he had not been drinking. This particular plan of action utilizes the following CRAFT procedures: communication skills training, the introduction of positive reinforcers (assistance with the report if the IP had not been drinking), and withdrawal of a reinforcer (politely refusing to assist with the report if the IP had been drinking).

Domestic Violence Precautions

Because of the high correlation between substance use and domestic violence (White & Chen, 2002), assessing the potential for domestic violence when planning behavioral changes in the home is an important part of CRAFT. CRAFT-trained CSOs are taught to interact with IPs in ways which remove support for substance using behaviors; in essence, changes that are intended to be experienced as aversive by IPs. Thus it is extremely important for therapists to assess high-risk situations for domestic violence to determine which behavior changes on the part of the CSO are safe to introduce, or whether it is even safe for CSOs to participate in CRAFT. In fact, severe domestic violence was an exclusionary factor for the CRAFT studies. If it is deemed safe to proceed with CRAFT, a functional analysis of IP aggression may aid in understanding the factors that trigger and even maintain it. Several CRA procedures may be woven into CRAFT at this point, including role-plays of positive communication skills to potentially remove any remote triggers for violent outbursts, and problem-solving to develop any necessary prevention or protection plans (Smith & Meyers, 2004, pp. 78-107).

Communication Skills

Given that communication problems are very common in households with a substance user, communication skills training is often a focus of substance abuse therapies (Epstein & Mc Crady, 1998; O' Farrell & Fals-Stewart, 2003). CRAFT is no exception. Good communication is particularly important in CRAFT because it increases the chance that CSOs will obtain what they want from their IPs (e.g., participation in a non-using activity), and it automatically results in many IPs communicating more positively in response. Furthermore, positive communication training allows CSOs to practice explaining to the IP why their behavior has changed,

such as why they are withdrawing rewards when the IP is high. Finally, CSOs require careful discussion and rehearsal of exactly how and when to invite the IP to sample treatment (Meyers & Smith, 1995). The positive communication skills work that was described for CRA is also used in CRAFT.

So assume in the case just described (see Functional Analysis of IP's Using Behavior section) that the CSO practices a variety of ways to tell her husband about her new plan of action. With the therapist's support and guidance she arrives at: "Honey, I know things are really hectic at work these days and you like to unwind with your buddies afterwards (*understanding statement*). And I suppose it doesn't help your stress level when I start talking about our finances as soon as you walk through the door each night (*partial responsibility*), so I could stop that (*offer to help*). But is there something else I can do to make it appealing for you to come right home after work? (*offer to help*). Because I've decided that I am still willing to help you write your reports at night, but only if you come home sober. Otherwise I feel guilty; like I'm not doing everything I can to get you home to see your girls earlier (*feelings statement*). We miss you!"

The CSO would not only have practiced what to say and when to approach her husband, but she also would have discussed how she would react if the IP responded in a negative manner. Sometimes the best way to open up a conversation about this issue is for the therapist to play the role of the IP acting in a highly resistant way.

Positive Reinforcement for Clean and Sober IP Behavior

A cornerstone of behavioral therapies is the long-standing psychological principle that people are more likely to repeat behavior if it is rewarded. Positive reinforcement is a major component of CRAFT, and so CSOs are taught to use

positive reinforcement systematically in response to IP clean and sober behavior. The need for *consistent* reinforcement of healthy IP behavior is stressed so that CSOs do not resort back to unsuccessful past methods. Sometimes CSOs confuse positive reinforcement with “enabling”, but the CRAFT therapist explains that “enabling” entails unintentionally making it easier for the using behavior to continue, whereas positive reinforcement is paired strictly with IP clean and sober behavior.

In order to get CSOs to maximize the use of positive reinforcement for clean and sober behavior, it is helpful to walk them through several steps. First, CSOs are asked to identify a few small rewards over which they have control, and which can be introduced when the IP is clean and sober. These rewards should be inexpensive or free. Some examples include: spending time with the IP in a way he or she enjoys, offering to make a favorite meal, or giving a compliment or a hug. CSOs should select reinforcing behaviors which they would feel comfortable doing and which would be meaningful to the IP. The therapist also ensures that CSOs understand the concept of positive reinforcement, particularly the significance of delivering a reward only when the IP is clean and sober. The therapist revisits the topic of positive reinforcement frequently so that CSOs can be guided through the use of this technique throughout treatment.

Negative Consequences for Substance Using Behavior

A second principle of behavioral theory is that negative consequences associated with a behavior will aid in decreasing that behavior. Negative consequences for substance using behavior work in conjunction with positive reinforcement for clean and sober behavior in the CRAFT program. One aspect of applying negative consequences entails having CSOs create a “time-out” from

positive reinforcement; withdrawing potential rewards if substance using behavior occurs. All components of this procedure require careful planning and practice, and a reasonable behavior should be selected. CSOs must use this procedure in a methodical and non-argumentative way, relying on positive communication skills to describe the connection between withdrawal of a reward and substance use to the IP. For example, a wife may refuse to spend time with her husband watching television in the evening if he has been drinking. She should be able to communicate to him in a calm manner that she is happy to watch television with him and enjoys doing so when he is *not* drinking, but will refrain from doing so if he has been drinking.

A second aspect of applying negative consequences for substance use involves allowing the *natural* consequences of substance use to occur. For example, assume that a mother (CSO) typically takes care of an adult child (IP) every time he has a hangover after drinking. The CSO probably would be asked to consider letting the son fully experience his hangover without her assistance. Of course, for each potential scenario, time is spent discussing all of the possible negative ramifications, including whether physical violence is likely, or whether the IP would be put in danger as a result. In most cases CSOs inform their IP in advance that this change in behavior will take place if drinking or drug use resumes.

Helping CSOs Improve Their Own Lives

One of the main goals of CRAFT is to help CSOs feel better about themselves, regardless of the IP’s behavior. Toward this end, CSOs complete a Happiness Scale similar to that used in CRA, with the same objective: to inform their selection of goals. CSOs are taught to examine their own life goals, and to re-think how they might attain several new goals independent of the IP’s behavior. For example, a goal for the CSO

might be to reconnect with old friends, to take an interesting class through the Continuing Education Department or a local business, to develop a new skill or hobby, or to find a new recreational activity. Homework assignments are designed to move CSOs toward their individualized goals.

Inviting the IP to Sample Treatment

A final goal of CRAFT is to get the IP to enter treatment. Due to the IP's treatment-resistant status, many of the preceding procedures are geared toward preparing the CSO and IP for this encounter. For instance, the communication skills learned by the CSO are heavily relied upon for this situation. It is important that, in alignment with CRAFT philosophy, the style of the CSO's invitation is positive and supportive. In terms of the timing of the invitation, CSOs are questioned about "windows of opportunity", which are occasions during which the IP may have more motivation to sample treatment. So for example, CSOs might be prepared to broach the subject if their IP asks why their behavior has changed or what they are doing in treatment. Other common occasions are times when negative consequences of substance use have occurred, or when the IP expresses regret or remorse. Once the treatment invitation is offered, the CSO is encouraged to highlight positive aspects of the treatment for the IP, such as the fact that IPs are assigned their own therapist (separate from the CSO's) who can help them with many areas of life, not just substance use. Some CSOs simply prefer to ask their IP to come in to meet the CSO's therapist and to learn more about the program.

Prior to inviting the IP to sample treatment, an appropriate therapist or program should be identified so that there is no costly delay that could decrease motivation. In addition, CSOs should be prepared for the possibility that the IP will

reject their first request, and should be helped to recognize that this is not their fault.

Conclusion

CRA and CRAFT are two solid, scientifically-supported treatments that typically appeal to therapists and clients alike due to their non-confrontational style and the fact that they are built around identifying and utilizing a person's reinforcers. The fact that these treatments work is helpful as well! Importantly, the strong behavioral foundation for CRA and CRAFT can sometimes prove challenging for community reinforcement therapists-in-training who come from diverse theoretical backgrounds. Nonetheless, ongoing supervision and support makes a world of difference for these dedicated substance abuse counselor.

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IMPLEMENTATION OF THE COMMUNITY REINFORCEMENT APPROACH (CRA)
IN A LONG-STANDING ADDICTIONS OUTPATIENT CLINIC

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A change management model was used to introduce a substantial change in clinical practice in a long-standing rural addictions outpatient clinic in Canada. The clinical practice change involved implementing and sustaining the evidence-based Community Reinforcement Approach (CRA). The Stages of Change model was used as a theoretical background and comprehensive structure to assist in the organization of this knowledge-transfer process. This article chronicles the steps that were taken to disseminate and maintain the CRA program. The content of this article is based upon the authors' observations, which were recorded throughout this change process. Given the considerable challenges of system change, we consider our clinical practice change to be a success, while it also continues to be a work in progress.

Key words: community reinforcement approach, CRA, knowledge transfer, evidence-based practice, dissemination, evidence-informed practice, transtheoretical model, and stages of change

Northern Nova Scotia Addiction Services is a rural-based addiction prevention, education and treatment organization servicing Northern Nova Scotia, Canada. In July of 2003, the Director and Clinical Manager of this service attended a Summer Institute sponsored by the Canadian Center for Substance Abuse and the Correctional Service of Canada in Montague, Prince Edward Island. The institute was on the application of best practices in the field of addiction treatment. The Northern Nova Scotia Addiction Services leadership team saw this as an excellent opportunity to investigate potential best practice presenters and frameworks for their clinical staff.

An area of interest was the Community Reinforcement Approach (CRA). This treatment, developed by Hunt and Azrin (1973), blends components of both behavior therapy and social work theory. CRA has been championed and modified by Dr. Robert J. Meyers, (a long-time colleague of Azrin), and he continues to make this his life's work. The goal of CRA is to rearrange the life of an addicted individual so that *non*-using behavior becomes more rewarding than substance using behavior. CRA utilizes several strategies to achieve this goal of re-arranging rewards in a client's life. These

strategies include: increasing/exploring a client's motivation, carrying out a functional analysis of the client's alcohol or other substance use, supporting a trial period of abstinence, increasing non-using rewards, and developing or enhancing basic social and problem-solving skills (see Meyers & Smith, 1995, for a more detailed description of CRA's strategies and research foundation).

The early CRA studies demonstrated that it was able to effectively treat addictions, and later clinical trials further refined its procedures (e.g., Smith, Meyers, & Delaney, 1998). Furthermore, all three meta analyses used in Health Canada's Best Practices for Substance Abuse Treatment and Rehabilitation (1999) placed it in their top five (Finney & Monahan, 1996; Holder, Longabaugh, Miller, & Rubonis, 1991; Miller et al., 1995). CRA appeared to be the "best practice" for which this organization had been looking.

Upon returning to Nova Scotia after the Summer Institute, an action plan was put in place. The first two challenges to overcome were marketing CRA to our governing bodies and accessing the resources to fund the year-long training period required for staff

certification. The first step involved meeting with the vice presidents of Community Health in Northern Nova Scotia and applying for grant funding. The Nova Scotia Gaming Foundation became the primary funding source. This funding, combined with the empirical evidence behind CRA, secured the continued support from our senior leadership teams.

With these two critical preliminary challenges addressed, the plan focused upon providing a structure for implementation of the new evidence-informed practice with the existing clinical team. Although much research remains to be done yet as far as determining the best implementation strategies (Gotham, 2006), our subject matter experts were able to recommend an approach with scientific backing. After a lengthy discussion we agreed to supplement the initial 2-day training workshop with a knowledge-transfer process that included several additional workshops over the course of the year, as well as ongoing practice, active coaching, and specific feedback on audiotaped client sessions. This approach to implementing evidence-based practices included all three essential ingredients for successful dissemination according to Miller and colleagues: 1) informational training, 2) clear and accurate feedback on performance, and 3) guidance or coaching from someone with greater expertise (Miller, Sorensen, Selzer, & Brigham, 2006; Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). Given the magnitude of this change it was decided that a theoretical structure to guide this change process would be prudent as well.

The Transtheoretical Model of Change (TTM; Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992; Prochaska, Norcross, & DiClemente, 1994; Prochaska & Velicer, 1997) was chosen as the theoretical structure to assist in the organization of this knowledge transfer process. TTM is an integrative model of intentional change that utilizes constructs that assist people in modifying a problem behavior or acquiring a positive one. A key construct in this model is the Stages of Change, which conceptualizes change as something that occurs over time as opposed to a single event. And given that a staff's readiness

and willingness to change appears to be a prerequisite for technology transfer (Condon, Miner, Balmer, & Pintello, 2008; McGovern, Fox, Xie, & Drake, 2004), this model seemed quite relevant. The model also utilizes Processes of Change, which are cognitive and behavioral activities that facilitate change. The TTM and its key components were very familiar to the clinical and leadership teams. This familiarity, along with its temporal structure and change process options, made it the obvious theoretical model to guide this practice change. *The Change Book: A Blueprint for Technology Transfer* (Addiction Technology Transfer Center, 2004), which utilizes Stages of Change to assist in technology transfer, was used as a reference.

This article focuses on the steps that were taken to implement and maintain a best practice approach to treating addictions. Five Stages of Change are used to organize this information. Quotes from individuals who participated in the process are also included, as they represent the team's experience during each phase. The Stages of Change are: precontemplation (the person has no intention to change); contemplation (the cost and benefits of the change are known but the person remains ambivalent); preparation (the person has a plan of action); action (the person's behavior change is observable); and maintenance (the person works to prevent falling back into the old way of doing things).

The Process

Precontemplation: "Why change? We're perfect"

Realizing that CRA would never be accepted by the service delivery team without confidence in this approach from leadership first, the leadership team held several meetings to discuss the implementation process prior to presenting the model to the service delivery team. It also was recognized that the practice change had to have several key elements in order for the team to accept this approach. Initial meetings focused on addressing the resources necessary to ensure successful implementation.

The main questions were: Are there sufficient funds available to cover the costs associated with certification? Are there sufficient human resources, and in particular supervisory resources, available to sustain this model? Will these efforts be sustainable beyond the year-long training phase? How will this change the culture of the team? Will anybody lose their job as a result?

Primarily, the proposed clinical change had to have obvious practical applications. The team consisted of front line service providers with years of practical experience and knowledge in the field of addiction. A change of this magnitude would need to be skillfully presented in order not to devalue the team members or their previous clinical practices. The existing team was exceptional, with a variety of backgrounds both from the recovering community and professional disciplines (masters of social work and masters of clinical psychology). The objective was to take this good clinical team and make it great.

Secondly, it was recognized that the team required time to understand the need for this change. The organization no longer existed as a stand alone service, but was now a shared service within three district health authorities. These health authorities were primarily acute care based and were accustomed to services that followed empirically-derived best practices. This standard needed to be met if the organization wished to maintain credibility and identity within this new system. Ultimately, what was needed was a strong foundation of addiction treatment best practice that would distinguish the organization from other community based service providers.

Finally, the approach needed to be communicated to the team in a clear, credible, and continuous way, using multiple techniques and strategies. Many opportunities were taken between August 2003 to December 2003 to discuss the model and its practical application. This occurred in team meetings, individual meetings, informal meetings; basically every possible opportunity that presented itself. Clinical supervision consisted of monthly

individual two hour meetings with all team members. During this initial stage, time was taken to provide “samples” of the approach, based upon available information. Advantages and disadvantages of implementing a new best practice approach were discussed at great length, including how the change specifically would affect the current practice of the clinicians and the “style” of their current work. This was accomplished by asking clinicians open-ended questions about the possible impact of the practice change on them and ultimately the clients they served. An example of one of the questions asked was, “How do you think this approach will impact the work you currently do with clients?” As one clinician indicated during a clinical supervision session:

“I have been through many changes in my career, both in addictions and all the other places I have worked in my life. I have seen fads come and go, and everything we do is just about people. If the organization is telling me that we have looked into this approach, and that this is going to work for the clients, and it’s based upon something other than ‘it looks good’, then I’m willing to give it a try. It sounds like some of the things I’ve been doing, just a little more in depth. I know I don’t have to do it, but let’s give it a try”.

During team supervision sessions, clinicians were continuously encouraged to challenge and discuss the merits of the approach and contemplate the impact on client care, individual practice, and the organization. Open-ended questions similar to the ones used in individual supervision continued to be posed to the team as a whole, challenging the merits of the approach. Information on the evidence of the efficacy of the approach, as well as information from *Health Canada’s Best Practices for Substance Abuse Treatment and Rehabilitation* (1999), was presented. As one of the team members pointed out, several of the procedures fit her current approach to practice. Of particular interest was the job finding procedures. As one clinician indicated:

“I often helped my clients with job finding and resume writing. I didn’t tell anyone on the team because I didn’t think it was ‘clinical work’ even though I knew it was helping their life situation. Now, with this approach, it seems we will have a structured package I can use that is more comprehensive and user-friendly, and it still is working for our clients. It really makes sense to me.”

Finally, informal meetings and conversations were used as opportunities to allow a more relaxed form of dialogue to occur. These offered staff a chance to raise issues about the approach that were of a more personal concern. For example, one staff reported concerns about not having a professional background and feeling as though he would not be able to adopt an approach that appeared to be so heavily based in clinical and research psychology. Reassurance was repeatedly offered to individuals that this new approach had a lot in common with our current treatment and that at this point we were only asking people to sample it.

In December 2003, an inter-office memorandum was sent to all clinical team members summarizing the numerous discussions that had taken place over the previous three months. It also outlined the training schedule for the coming year. This was followed by a complete package of articles on CRA. Two specific articles were chosen titled, “The Community Reinforcement Approach” (Miller & Meyers, 1999) and the “Community Reinforcement Approach: A Guideline Developed for the Behavioral Health Recovery Management Project” (Meyers & Squires, 1999). Dr. Gardin’s CRA presentation from the Summer Institute was included as well (Gardin, 2003). Finally, we included background information on both presenters, Dr. Meyers and Dr. Gardin.

In January 2004, we prepared and delivered a presentation for the team on the major components of CRA and its similarities to

current team practice. The key element during this presentation was to shift team perception from CRA being an entirely new approach to something that complemented current practice. For example, the CRA functional analysis was presented as a tool whereby a shared meaning could be understood by different disciplines within the team. For instance, recovering members of the team could identify with the triggers section as “people, places and things”, clinicians with a social work background could identify interactions with systems, and psychologists could view triggers as antecedents to behavior that was reinforced. The challenge was to help the team value these as different perspectives of the same thing. We needed to begin moving forward with a new shared language. Importantly, the shared language had to be understood by the team prior to the 2-day presentation by our subject matter experts.

Once again, challenges were welcomed and open communication was encouraged. Surprisingly little negative feedback occurred, and the team appeared willing and open to the challenges that lay ahead. Another key element of our presentation was the outlining of the training process in its entirety. This included discussing the anxiety provoking process of audiotaping clinical sessions for the purpose of monitoring team members’ fidelity to the approach. We had anticipated that this would be the most difficult change, posing perhaps the greatest resistance from the team. This, once again, was not the case. The team appeared to embrace the challenge, and went to work on how to incorporate this within their professional ethics and values.

Contemplation: “This will affect me how?”

We recognized from our presentation and the preparation leading up to the clinical change that the amount of work in making this change could be overwhelming for the team. In order to address this issue we broke the information into “bite-sized tastes” for our staff by reading, *Clinical Guide to Alcohol Treatment: The Community Reinforcement Approach* (Meyers & Smith, 1995) and summarizing the key points in each chapter.

These summaries were combined with CRA forms and placed in an easily accessible resource binder of material called, “The Community Reinforcement Approach: A Practitioner’s Guide Book.” We also provided the staff with a copy of the Meyers and Smith (1995) CRA book. Finally, although we intended to use videotape recorders to tape client sessions, this proved to be cost prohibitive. When we determined we could still ensure fidelity to the approach through audiotaping, this was selected as the recording method. Interestingly, at the time that each staff member received a tape recorder, some apprehension about recording finally surfaced in the form of questions such as, “This will affect me how?” Nonetheless, the staff was not particularly resistant to the idea of audiotaping sessions, especially when it was contrasted with the original prospect of videotaping. Regardless, we used this opportunity to probe the team for any other concerns about taping, and provided an open forum to both discuss the concerns and to generate possible solutions. We firmly believe that one of the keys to resolving this potential impasse was the fact that at no time was the team directed to comply with audiotaping. This was, and continued to be, an option throughout the process. In general, the concerns about audiotaping appeared to be broken down into three primary categories: staff having little or no experience taping clinical work, questions about clients’ rights to confidentiality, and worker apprehension about being evaluated.

The team’s experience with taping clinical sessions varied from none to some exposure in graduate school. However, degree of taping experience proved to be the least of the challenges. Upon further discussion the team’s greater concerns appeared to be about clients’ rights to confidentiality, and workers’ performance evaluation. A client’s right to confidentiality was quickly resolved by developing a client consent form and ensuring clinicians that a client’s participation in the process was voluntary and would not adversely affect the client’s treatment. Steps also were taken to protect client anonymity while taping. Clients’ full names were not used to identify tapes, nor were they used during the session.

The issue of worker apprehension was dealt with through the use of frequent discussion during team and individual meetings with clinicians. A significant amount of time was taken to ensure staff that the motive behind listening to their sessions was to assist in developing CRA skills, and that the practice would not be used to negatively evaluate worker performance. As noted, we made it abundantly clear that although we encouraged the team to audiotape sessions, it truly was optional.

After addressing most of the staff concerns the next step was to begin the formal training. This task fell to our trainers, Drs. Meyers, Gardin and Smith. Four training events facilitated by the training team occurred in total. It was assumed that nothing tips the decisional balance better than having experts in the field of addictions brought in from outside an organization. This proved to be an accurate assumption.

Preparation: “You want to put a tape recorder where?”

Although multiple sources of information had been distributed through various formats to the team, the job of clarifying this information initially fell to the subject matter experts, Drs. Meyers and Gardin, during their first training event. It was deemed necessary to make this information real and applicable to community-based clinical settings, and thus individuals who could provide a wealth of experience were required.

At the end of the 2-day training, clinicians had many of their outstanding questions answered and appeared excited to move on. This training, however, was not without its challenges. Most notably were issues surrounding some of the language and examples used in the CRA book (Meyers & Smith, 1995). Several members of the team were trained in feminist theory and practice and were cognizant of the importance of language and interpretation. Consequently these individuals took issue with examples in which the division of household duties was mentioned in traditional terms (e.g., when a male drinker was working on his

communication skills by practicing a request of his wife that involved his laundry). The presenters first explained that excerpts used in the book were taken from actual client cases, and that the intent was to provide real case examples to assist professionals in their adoption of this model. An important discussion ensued then during which therapists' remaining concerns were addressed, and they were encouraged to adapt CRA to their own style. This issue continued to be a topic of discussion throughout bi-weekly team meetings and training sessions. Interestingly, Drs. Meyers and Gardin reported that the main issue typically raised during initial trainings came from workers with a recovery background, and it involved a general disbelief that a behaviorally-based approach to addiction could succeed. This did not appear to be a concern within our team.

Another important element was to ensure that the trainers were a good fit for the organization. It was necessary to determine that Drs. Meyers and Gardin shared similar philosophical approaches to addiction treatment and understood the culture of the larger organization. In addition to establishing a professional relationship, it has been the organization's tradition to act as an ambassador for the county of Pictou and the province of Nova Scotia. This was crucial in assisting the trainers to understand the social context of the community we serve.

The next step in the implementation process was the introduction of audiotaping of clinical sessions. The first priority was identifying a target date to begin the taping. A proposal to begin taping in one month was presented to the staff members, who were then allowed to negotiate a start date that actually gave them three months. This bargaining process was used to ensure that the team was involved in the development of the plan, thereby promoting team empowerment. The next step was to help manage staff anxiety around taping. Again, a CRA technique was used; breaking up difficult tasks into smaller more manageable pieces. A series of successive approximations were used including: taking the tape recorders out of the box, placing the tape recorders in a visible

location within the office, encouraging team members to record their own voices, and practicing the mechanics of using the tape recorder. The final CRA technique used to assist staff in acquiring this new behavior was role playing (behavioral rehearsal). Team meetings used role plays to practice obtaining consent to audiotape sessions, and to introduce CRA procedures to a client. We always demonstrated the first role plays for the team, which allowed the group to see mistakes being made and to reinforce an expectation of support when learning new skills. Throughout all role plays a positive learning environment was modeled for participants. Instilling a sense of safety for the team was imperative. It was at this point that the secondary gain of team building became evident. Team members began demonstrating a level of trust in the other team members and sharing clinical experiences and language on a deeper more meaningful level. As one team member indicated:

“We seem to no longer be a bunch of clinicians in private practice coming in at 8:30am and closing our doors. I really appreciate the skills that the people I work with bring to the table. We learn from each other and share common experiences. What a great place to work.”

Action: “You’re a star.”

You don't change an organization by writing policies and procedures. You develop an organization by building the team. The team needs to come first in order to institute change. Consequently, the culture of this team was seen as a critical component during this stage. This team culture was built by respecting the diversity within the team members and encouraging challenges both towards themselves and others.

At this point in the organizational change, approximately three months had passed. The team had acquired the necessary theory behind CRA, and had discussed and role played several clinical techniques used in its application. These techniques; the CRA Functional Analysis, the Happiness Scale, and

the Goals of Counseling, were being used by the majority of team members in client sessions. All team members routinely had the opportunity to role play CRA procedures in front of their colleagues, and some were presenting clinical taped sessions during team meetings. This provided an ideal catalyst to encourage more reluctant team members to participate in the taping process. It also provided an opportunity to introduce another CRA technique, the “positive sandwich”. This technique shapes new behaviors by “sandwiching” suggested improvements between two positive statements. An example of this was introduced by the expert trainers and it became a consistent practice throughout training and within the rest of the organization. An example of sandwiching is:

“I really liked the way you introduced the Happiness Scale, however, next time you may want to check on the client’s understanding of the Likert scale. But the way you used positive reinforcement with her was awesome!”

The positive sandwich technique also introduced humor into the training process. The team began recognizing when other colleagues were using this technique on them and would identify it by stating, “I’ve been sandwiched”. Even when the team could identify the technique it continued to maintain its effectiveness. As one team member indicated: “As long as it (the praise) is genuine it still feels good.”

The key element with the sandwich technique is that it has to be sincere. The impact this can have was evidenced when the expert trainers, along with the entire team, reviewed a clinician’s tape. The team used genuine positive reinforcement statements throughout the review, and incorporated the sandwich technique. Despite the high level of skill of the clinician being reviewed, she reported feeling very apprehensive about the process before it began. However, at its conclusion she stated:

“That was a difficult risk to take, but worth it. It was the highlight of my 13 years of professional work.”

Another clinician who risked presenting her tapes during a session with the trainers was told by Dr. Meyers, “You are a star”. She described this as a high point in her career. Again, the key element was that these positive statements were not just perceived as genuine but *were* genuine. Both of these extremely positive review sessions became turning points for the team, as it assured them of a safe environment in which to have their clinical skills reviewed. We believe this to be a critical success factor.

As with any new therapy approach, it was imperative that our clinicians learned both *when* to introduce a particular technique, and *how* to deliver it in a skillful and sincere manner. It required continuous modeling of the combination of the “what” and the “how” to promote the proper change within the team. As one clinician stated early in the training process when learning how to complete one of the CRA forms: “Any monkey can fill out a form; sometimes it feels very mechanical.”

And so great attention was given to demonstrating the art of *how* one asks the question or teaches the necessary behavioral skills and *how* one weaves them into a clinician’s own therapeutic style so it is natural. This is what was seen to lead to success for the clinician as well as the clients. So although initially the team found some of these new skills training procedures to be mechanical, they eventually became a natural part of their clinical style. The result was that the team finally all spoke the same therapeutic language but had many beautiful and unique accents.

Perhaps the most important step for the team was integrating these new techniques into their sessions with actual clients. Practicing their newly learned skills with clients provided opportunities for further skill refinement, but more importantly it enabled the team to experience their own success stories. Once they began sharing these success stories with each other, the change had become firmly established.

The second shift for the team occurred

around month nine when they went from just knowing how to use a particular skill or technique to using it at the *right time* and with the other necessary skills to support it. They went from teaching one skill per session to a more appropriate intermixing of the full approach. They developed the skill level to the point at which the client no longer received a “canned” service, but a custom-designed program that was tailored to address individual client needs. Importantly, the program was timed and sequenced to meet the client’s particular strengths and characteristics.

The hallmark of the action stage is “action” or doing something different. Although the team had diverse clinical skills and varied preferred models of therapy such as feminist therapy, cognitive behavioral therapy, and the Minnesota Model, all team members made a commitment to move from their preferred therapeutic models to actively sample CRA over the next several months using it as their primary treatment method.

Maintenance: “What was all the fuss about?”

In February 2005, the organization marked its one year anniversary of implementing CRA, and became the first Canadian addiction services team to become certified in CRA. The anniversary was marked by a final 2-day training session conducted again by Drs. Meyers and Gardin. Six of our nine team members were certified in CRA. The remaining three clinicians did not complete the training due to leave of absences throughout the year. This was both a reality of community-based organizations and a challenge in terms of how we could train new hires in CRA. In some regards, the training process will always be a work in progress, just as organizations are. Two clinicians who worked on specialized teams for women and youth returned from maternity leaves six and nine months into the training. This was a challenge as well an opportunity for training team members at different points in the training process. The same overall training approach was implemented, yet on an individual basis. This included individual monthly supervisions with the clinical supervisor. Each

chapter of the CRA book was reviewed by the clinician, and techniques were discussed, role played, and practiced with the supervisor. Audiotaped client sessions were reviewed by the clinical supervisor to determine fidelity to practice and were shared with the team during biweekly team meetings once the clinician was comfortable.

Another positive outcome that we did not expect was the mentoring of less experienced team members by team members who were more experienced with the techniques. Once again this demonstrated the team development that became an integral part of the CRA training year. For example:

Team Member One: “I am still not comfortable working with couples. This is just not my experience, and I wouldn’t know what to do if they start at each other. What do you do when two people start to seriously argue with each other in the middle of a session?”

Team Member Two: “Well, I was never comfortable with that either. However, the more I do, the more comfortable I am becoming. I have a couple scheduled for Wednesday morning. Why don’t you sit in with me? If you want to I will ask my clients for permission.”

Continued communication and ongoing supervision have been imperative to maintaining the behavior change during the maintenance stage of organizational change. This has been done primarily through the continuation of ongoing bi-weekly team training sessions and monthly individual supervision meetings. It also has been maintained through the continued use and auditing of audiotaped client sessions, which serve to assist in individual coaching and in identifying skill deviations or therapist drift.

Two of the areas that continued to be a challenge during the maintenance stage with clinicians were the use of homework with clients, and remaining directive in approach, including preparing for sessions. The following case example may help to better illustrate this. Two clients who had been seen separately by the

team had agreed to do joint couples work with both of their individual therapists working together:

Therapist 1: "Today I would like to spend some time role playing the communication skills we had talked about earlier (Therapist explained all seven components for successful communication). Would you like to try that?"

Client: "No! That's not going to happen."

Therapist 2: "Maybe this isn't a good time for you?"

Although both therapists had been practicing CRA for over 11 months it only took a small amount of client resistance to slide them from the directive CRA approach to a nondirective approach. In contrast to earlier stages, the therapists were able to self identify and adjust their practice so as to remain consistent with CRA. In part this was achieved by the supervisors and the rest of the team relying on a positive approach when feedback was offered. For the above example, the team pointed out the excellent job the two therapists had done in explaining the importance of communication skills, in explaining the seven steps of communication used in CRA, in introducing this skill at a clinically relevant time in the session, and in working together as a solid team with the couple during the joint session.

The subject matter experts informed us that the main challenge in this stage of implementation was therapist drift; returning back to the method the clinician had previously used in doing therapy. For our team members who had adopted client-centeredness as a core value, the main challenge was remaining directive when applying the protocols and still remaining client-centered. Originally many of the clinicians believed that the words client-centered and directive were mutually exclusive, and so it required time and practice until they became comfortable with their co-existence. We have found that this concept requires consistent discussion and practice. Even positive change

requires reinforcement and continuous maintenance.

Conclusion

From a service perspective, CRA provides the necessary foundation and tools for consistent clinical practice, and is considered to be a best practice approach for addiction treatment. A stage of change model was used to implement CRA within a rural addiction treatment organization over a one year period. This model provided the comprehensive structure necessary for implementing and maintaining a change of this scale. Despite the conceptual and operational challenges, the outcome was a success, albeit it continues to be a work in progress. Conceivably in the future we may be able to offer input into some of the important questions raised about treatment implementation and adoption in the addictions field (Ducharme, Knudsen, Roman, & Johnson, 2007; Gotham, 2006), such as whether there are specific kinds of clinicians that should be trained [in CRA], and what the best training strategies are (Carroll & Rounsaville, 2007).

In addition to creating a consistent evidence-informed practice approach within a clinical setting, unanticipated benefits were realized, the most prominent one being the development of a cohesive team. This cohesiveness continues to be apparent through ongoing commitment to biweekly team trainings, monthly coaching sessions, supported client session audiotapes, and team mentoring. Throughout the process a transformational leadership style was taken, as opposed to a more traditional top-down management approach, as the former facilitated the use of the Stages of Change model in the training. Although this approach initially required more upfront investment of the implementers' time, it proved to be the investment necessary to implement and sustain these changes.

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MONITORING FIDELITY IN THE ADOLESCENT COMMUNITY REINFORCEMENT APPROACH
(A-CRA): THE TRAINING PROCESS FOR A-CRA RATERS

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Ensuring evidence-based treatments are delivered with a high degree of fidelity is an important aspect of transporting these practices to community-based treatment providers. Just as training is critical for clinicians who plan to deliver the Adolescent Community Reinforcement Approach (A-CRA), a process of training and vetting individuals who assess sessions for fidelity also is critical. This article describes the training process for session raters who assess fidelity of A-CRA during the clinician training and certification process. A-CRA is currently being implemented in 32 independent community-based agencies as part of a large initiative funded by the Center for Substance Abuse Treatment.

Key words: training, treatment fidelity, adolescent, treatment, A-CRA

The importance of treatment fidelity has been recognized for nearly three decades (Sechrest, West, Phillips, Redner, & Yeaton, 1979; Yeaton & Sechrest, 1981). Moreover, it remains an important issue for many of today's health services researchers and practitioners (Barber et al., 2006; Borrelli et al., 2005; Orwin, 2000; Waltz, Addis, Koerner, & Jacobsen, 1993), especially in light of the growing emphasis on the use of evidence-based treatment (EBT; Garner, in press; Institute of Medicine [IOM], 1998; Miller, Sorensen, Selzer, & Brigham, 2006; Weisner et al., 2004). Confidence in a study's internal validity is increased when there is good documentation that the interventions under study have been implemented as planned. Additionally, continuing to measure fidelity is important as interventions are transported to practice, given it is challenging to achieve the levels of intervention fidelity attained during randomized clinical trials. Indeed, Henggeler and his colleagues at the Medical University of South Carolina have demonstrated the importance of assessing the degree of implementation in studies examining the transportability of Multisystemic Therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998). For example, Henggeler,

Melton, Brondino, Scherer, and Hanley (1997) examined the role of treatment implementation in MST outcomes across two public sector mental health sites. Results suggested the observed therapeutic effects of MST on outcomes were minimal when implementation variation was not taken into account. However, when implementation variation was statistically controlled, the effects were consistent with those found in prior clinical trials of MST. Similarly, a meta-analysis of outcome studies conducted by Curtis, Ronan, and Borduin (2004) found the average effect of MST was much larger in efficacy studies ($d = .81$) than in effectiveness studies ($d = .26$).

Despite its importance, ensuring that a treatment intervention is delivered as intended by model developers can be very challenging. One important consideration in making sure a treatment intervention is delivered with high fidelity is identifying the components of the treatment intervention to be assessed. The Adolescent Community Reinforcement Approach (A-CRA; Godley et al., 2001) requires a unique approach for fidelity assessment. While A-CRA is a manual-based EBT, clinicians are not expected to deliver treatment procedures in a prescribed order or deliver every A-CRA

procedure during every session. Rather, A-CRA clinicians are expected to select from a menu of different A-CRA procedures and introduce appropriate procedures when clinically indicated. Another issue related to fidelity measurement is the design of the methods/procedures to be used to assess these treatment components. A recent review of methods for the training and monitoring of behavioral interventions in multi-site addictions research conducted by Baer and colleagues (2007) suggests there are not established standards for treatment fidelity measures. Rather, specific components assessed and the methods or procedures for assessing them are often related to the complexity of the intervention(s) of interest and/or the studies' primary objectives. However, wide-scale implementation of an EBT in community settings, in contrast to research studies, elevates the importance of developing efficient fidelity rating approaches.

Many fidelity instruments for various EBTs have been shown to demonstrate good psychometric properties (e.g., Barber, Mercer, Krakauer, & Calvo, 1996; Carroll et al., 2000; Henggeler & Bourdin, 1992; Hogue et al., 2008; Madson, Campbell, Barrett, Brondino, & Melchert, 2005; Moyers, Martin, Manuel, Hendrickson, & Miller, 2005; Pierson et al., 2007). For example, Barber and colleagues (1996) described the development of a fidelity instrument for individual drug counseling (IDC) for treatment of cocaine dependence. Using a seven-point scale, three raters assessed 43 items based on the main components described in the treatment manual. These measures were used to assess both 'adherence' (i.e., extent to which intervention components are delivered as prescribed in the treatment manual), and 'competence' (i.e., qualitative measure of the skillfulness in which intervention components are delivered). Rater training included a practice

period during which raters met weekly to rate 72 tapes, followed by discussion about how they were using the scale. Raters then rated 62 new tapes in order to assess interrater reliability. Overall, intraclass correlation coefficients (ICCs) for adherence and competence ratings were acceptable and ranged from .70 - .89 and .55 - .85, respectively. In a similar study, Carroll and colleagues (2000) described the development and validation of the Yale Adherence and Competence Scale (YACS). Composed of 55 items generated from both treatment manuals and review of session videotapes, the YACS assesses elements both common to most behavioral interventions (i.e., assessment, general support, and goals of treatment) and specific to 12-step facilitation or cognitive-behavioral treatment. Using a five-point scale, five raters assessed adherence and competence on each of the 55 items for 19 randomly selected sessions. Overall, interrater reliability was very good for each of the six YACS subscales, with ICCs ranging from .80 - .95 for adherence and .71 - .98 for competence.

Not all fidelity scales developed for EBTs have been shown to have good interrater reliability. As part of a randomized clinical trial comparing Cognitive Behavioral Treatment (CBT) and Multidimensional Family Therapy (MDFT), Hogue et al. (2008) examined the interrater reliability of the Therapist Behavior Rating Scale – Competence (TBRS-C). Described as an observational measure of both adherence and competence in individual and family-based treatment, the TBRS-C assesses general therapeutic goals (e.g., establishing a working relationship, drug use monitoring) as opposed to focusing on specific techniques. Using a seven-point scale, seven CBT raters and eight MDFT raters assessed each of the instrument measures for adherence and competence. In all, 437 sessions were rated using the TBRS-C (245 MDFT sessions and 192

CBT sessions). Although interrater reliability was acceptable for each of the adherence ratings (ICCs ranged from .52 to .79 for MDFT and .56 to .83 for CBT), interrater reliability for competence ratings was generally poor (ICCs ranged from .15 to .55 for MDFT and .01 to .63 for CBT). Based upon variance component analysis, client effects accounted for more of the explained variance in adherence and competence scores than did therapist effects; however, the vast majority of variance was unexplained. It is possible that the largest portion of variance is attributable to differences between the individual raters (i.e., rater effects). Unfortunately, this was unable to be estimated since two raters were randomly assigned to each tape, as opposed to all raters or a consistent subset of raters.

The purpose of this article is to present an overview of the adolescent version of CRA, and then to describe a large-scale implementation of A-CRA supported by the federal government in over 32 sites, as well as the process used to promote fidelity to A-CRA. The challenge of developing a method of training raters and rating A-CRA sessions for an implementation of A-CRA for over 30 sites simultaneously was great. To date, there had been no publication that provided guidance about how to train the number of raters required for such a large-scale implementation of CRA. Additionally, we provide data regarding background characteristics of raters who have completed the process, summary data on the rater training process, lessons learned, and directions for future research.

A-CRA and the Assertive Adolescent and Family Treatment (AAFT) Initiative

A-CRA is an adaptation of the Community Reinforcement Approach (CRA; Hunt & Azrin, 1973) that was evaluated in the Cannabis Youth Treatment (CYT) study (Dennis et al., 2002, 2004). The latter was a large

randomized clinical trial that compared different outpatient interventions for adolescents with substance use problems. Initial CRA studies were conducted primarily with adult samples (e.g., Azrin, Sisson, Meyers, & Godley, 1982; Higgins et al., 1991; Hunt & Azrin, 1973; Smith, Meyers, & Delaney, 1998), though there was one early adolescent study that used some similar procedures (Azrin, Donohue, Besalel, Kogan, & Acierno, 1994). The adolescent version of CRA,

A-CRA, was adapted by including examples of dialogue addressing adolescent issues, the addition of parent/caregiver involvement in four treatment sessions, revision of a tool used to measure satisfaction with life areas, and examples of adolescent-specific goals and activities (Godley et al., 2001). The manual describes a menu of different procedures (e.g., Functional Analysis of Substance Use, Happiness Scale, Problem Solving) from which clinicians draw based on what an adolescent and his/her caregiver discuss in session. Analysis of the outcomes from the CYT study revealed that on average, adolescents in each of the five outpatient interventions significantly improved during the treatment phase. However, there was a statistical trend for the A-CRA condition to have the highest percentage of adolescents in recovery (i.e., no alcohol or other drug use, abuse, or dependence symptoms while living in the community) 12 months after intake (34%) compared with the other two conditions in its study arm. Additionally, A-CRA was found to be statistically more cost-effective per person in recovery 12-months after intake than the two other interventions in its study arm (Dennis et al., 2004).

Due to the demonstrated effectiveness and cost-effectiveness of A-CRA, the Substance Abuse and Mental Health Administration's Center for Substance Abuse Treatment (CSAT) awarded 15 grants to community-based

organizations to implement the A-CRA as part of its Assertive Adolescent and Family Treatment Initiative (AAFT; RFA TI-06-007) in September 2006. Most sites implemented A-CRA as an outpatient intervention with durations of 12 to 14 weeks, followed by another 12 to 14 weeks of in-home Assertive Continuing Care (ACC) during which clinicians also used A-CRA procedures. Exactly one year later, 17 additional grants were awarded as part of a second AAFT cohort for a total of 32 sites. These community-based sites were located in various locales around the United States and collectively served diverse populations in multiple types of settings (e.g., urban, rural, outpatient, residential, home-based). In general, the purpose of these service grants was to help community-based treatment agencies address the large treatment gap for adolescents needing intervention for their alcohol and other drug abuse/dependence by providing training for clinicians and supervisors in A-CRA. To help ensure success of this large-scale dissemination and implementation initiative, CSAT not only provided up to \$300,000 per year for three years to each of the 32 grantees, but also provided free training and technical assistance via a training and technical assistance contract awarded to Chestnut Health Systems. Thus, the AAFT project represents one of the field's largest initiatives to date to replicate an adolescent-focused EBT in practice settings.

Clinician Certification Process and A-CRA Rater Training

Clinician certification process. In the AAFT project, A-CRA raters provide fidelity checks as part of clinician and supervisor certification processes, and then as part of ongoing random fidelity monitoring. The purpose of these dual certification processes is to assure there are 'markers' that the funder (CSAT) and the technical assistant contractor can use to assess the degree to which clinicians

and supervisors are progressing in the implementation process, and to provide specific feedback on fidelity for each clinician. Furthermore, the process is instrumental in creating a system at the local site that facilitates sustainability of A-CRA once CSAT funding is completed. Since sites and A-CRA raters are located all over the United States, the certification process relies on a website tool that allows: (a) uploading of digitally recorded sessions; (b) streaming of session audio for review by raters; and (c) posting of numeric ratings and narrative comments for review by clinicians and supervisors, as well as by "coaches" in preparation for telephone coaching sessions.

The clinician and supervisor certification processes are different, and for purposes of this paper, we briefly describe the clinician certification process. Overall, there are 19 A-CRA procedures that consist of 77 components, including two overarching skill sets: (a) overall adherence to the model and (b) general clinical skills. There is an A-CRA checklist (see Smith, Lundy, & Gianini, 2007) that corresponds to each procedure and required components. The training team selected nine core procedures that clinicians are required to "pass" in order to receive certification as an A-CRA clinician. After A-CRA certification, clinicians are asked to continue recording their sessions, in part to attempt to demonstrate competency on the remaining ten procedures. In addition, randomly chosen digital session recordings (DSRs) are reviewed every other month after clinician certification, and clinicians and their supervisors are provided numeric and narrative feedback based on fidelity reviews of these DSRs.

A-CRA rater training. Initially, A-CRA raters were graduate students who were trained extensively by one of the model developers. A few clinical psychology doctoral students

continue to be trained and serve as A-CRA raters, but as the number of clinicians in the certification process grew, the training team made a decision to recruit and train raters from the clinicians or supervisors who work in community-based agencies like the clinicians whose sessions they rate. Currently, the majority of A-CRA raters are community-based clinicians and clinical supervisors who work on a contractual basis. The training team identified individuals who had performed well in the clinical and/or supervision certification process themselves, and approached them about participating in training and certification as an A-CRA rater. Thus, these individuals had the experience of recording their clinical sessions and having a rater evaluate them and provide feedback. In deciding whom to recruit, the team also has attempted to identify individuals who live in different areas of the country, and who represent and work with different cultural groups. A related consideration in selecting raters was obtaining a subset of individuals who could rate sessions conducted in languages other than English (e.g., Spanish, Vietnamese), since the AAFT sites serve very diverse populations.

Several of the steps for A-CRA rater training are the same as for clinical or supervisor certification. An individual must first attend a national A-CRA training in order to become familiar with the A-CRA procedures and general clinical approach. Prior to attending the training, attendees are asked to read the A-CRA manual and take an A-CRA knowledge test until they are able to achieve a score of 80% or better. The 3.5-day training provides an overview of both the research supporting the model and the A-CRA procedures, and allows multiple opportunities to role-play and receive feedback for different procedures. Since most individuals are certified clinicians prior to being asked to become an A-CRA rater, they have already attended training before they begin the rater

training process. After gaining familiarity with the model from attending the training and for most, completing one of the A-CRA certification processes, rater trainees are required to participate in an orientation phone call with a project coordinator. During this call, the coordinator reviews general decision rating rules (e.g., when to leave blanks for incomplete procedures), provides a live web demo of the password-protected EBTx website, and gives instructions regarding how to submit practice session ratings.

After the orientation meeting, the rater trainees are assigned their first session. They continue to be assigned test sessions to rate until they achieve agreement ratings of at least 80% in comparison with exemplar ratings for two sets of ratings across six or more procedures. The two rating agreements computed are for procedures the rater heard attempted (Procedures Attempted) and for the quality of the attempt (Quality Rating). Recall that when clinicians use A-CRA, they draw from a menu of procedures; therefore, it is not expected that every A-CRA procedure would be heard or rated in each session. Since only one or two procedures typically are delivered during any given session, a Procedures Attempted category is needed to capture this rating. The Quality Rating agreement rate provides a percentage for the accuracy of the reviewer's ratings compared to those of the exemplar ratings. For each component of each procedure that is tracked, a 1- 5 rating scale is used, whereby 1 = poor, 2 = needs improvement, 3 = satisfactory, 4 = very good, 5 = excellent. Ratings are considered a match if there is no more than a one point difference between the rater's and the exemplar rating. An exception to this rule occurs when the two ratings are a 2 and a 3. Once a component of a procedure is rated a 3, it is considered satisfactory, while a rating of 2 is still considered unsatisfactory (i.e., not passing).

Thus, ratings of 2 and 3, while only a one-point difference, are not considered to be in agreement. As an example of meeting the 80% matching requirement, a rater would need to match at least five of the six components (83%) that comprise the Functional Analysis of Substance Using Behavior procedure. After every rating attempt, rater trainees check an Excel spreadsheet to compare their posted ratings to the exemplar ratings, and to see the calculated agreement rates.

There is a CRA/A-CRA coding manual that contains operational definitions of each rating possibility (1-5) for each component of the 19 A-CRA procedures (Smith et al., 2007). Using the Functional Analysis of Substance Using Behavior procedure as an example again, note that the six required components include: Gave rationale, started by asking for description of common episode/behavior, outlined triggers (external; internal), clarified the using behavior, outlined positive and negative consequences of the behavior, and gave examples of how the information would be used. The rating manual specifies that in order to receive the best Quality Rating (5) on the rationale component, the clinician must provide a rationale that has three of the following: A description of at least some of the information that would be collected and why, a more general overview of plans for the information collected, an explanation of the Functional Analysis chart, and an explanation of how the information will be used in treatment. The clinician also must present this information ‘concisely and coherently’ (Smith et al., 2007, p. 27). Rater trainees are not given the coding manual until after they have demonstrated acceptable agreement rates across three of the six required sessions. This practice is followed in an attempt to get them to first experiment in a trial-and-error manner with the coding process themselves. The concern was that new rater trainees would get caught up in providing the

“correct number” from a manual for a rating, and in the process would lose sight of the big picture.

Currently, there are 40 standard practice sessions used for rater training. These sessions cover a variety of the A-CRA procedures and were conducted by over 18 different clinicians. They range from very poor to excellently-conducted sessions. Based on which procedures the rater trainee is able to rate with acceptable agreement, the project coordinator determines the next session to be assigned. If a procedure is passed with a consistency of 80% or better, a session with a different procedure is then assigned for review. The goal is to provide rater trainees the opportunity to evaluate a wide variety of the A-CRA procedures during the training process.

Being able to provide detailed narrative feedback is considered a critical dimension of the rater training and certification process, because this feedback tells clinicians what they did well and how they can improve their delivery of the intervention. Thus, the rater training process also includes shaping as to how the raters provide this feedback. The rating manual offers sample narrative comments that are appropriate when giving feedback on each procedure. Rater trainees receive a sample narrative feedback after rating a test session. After a rater has achieved the desired agreement rate on four of the six required sessions, they are then required to submit a narrative piece for evaluation in addition to the ratings. Raters are taught to provide this feedback in an “A-CRA manner”, which means that there is a heavy emphasis on providing positive feedback wherever possible, as well as specific comments to shape the desired clinical behaviors.

Summary Statistics on A-CRA Expert Raters and Their Training

Currently, the AAFT initiative is in the full implementation stage with 95 clinicians from all 32 AAFT sites uploading DSRs to the website. On average, approximately 86 DSRs are uploaded each week, with approximately 37 being requested for either certification or post-certification review. Thus, far more than 2,300 DSRs have been reviewed, with 1.4 hours required on average to complete a single DSR review. As most A-CRA raters have part- or full-time positions as clinicians, many only provide ratings on a part-time basis, which has required the recruitment of a large number of raters. Since the start of the AAFT initiative, a total of 31 individuals have been asked to consider completing the process to become an A-CRA expert rater. None of these individuals refused to agree to pursue rater training, but seven (23%) have not begun the process or completed it in a timely manner. A total of 24 individuals (77%) have completed the process of becoming A-CRA raters. Of these individuals, 75% are Caucasian, 21% Hispanic, and 4% African American; 92% are female and have an average age of 33 years ($SD = 7.2$). Seventy-one percent have a master's degree, with the remaining 29% having a bachelor's degree. On average, raters have more than five years of substance abuse counseling experience and an average of two years of CRA/A-CRA experience. Of these 24 raters, 20 have achieved expert A-CRA rater designation, while four are still in the process. For the 20 individuals who have achieved the expert rater designation, approximately 10 attempts were needed on average before they were able to achieve the necessary agreement rate of 80% across six session ratings. Although the number of hours spent training was not logged, it took raters an average of 83 days from when they began rating DSRs until they had attained their expert rating status.

Lessons Learned

As is clear from the literature reviewed in the introduction, the measurement of fidelity is important when evaluating or implementing any EBT. In the CSAT project, the need to implement A-CRA in such a large number of community-based agencies simultaneously presented unique challenges. Several components were needed for the technical assistance model for this large project including: (a) standardization of an A-CRA rating measure; (b) completion of a ratings manual to increase the agreement of ratings across raters; (c) development of a training process that helped determine when a rater was ready to provide the ratings and narrative feedback that would be helpful to clinicians, supervisors, and A-CRA coaches; and (d) a therapist certification process, so that there was a means of monitoring how well sites were actually progressing in implementing the model faithfully.

A number of lessons were learned from this development process. One of these is the need for ongoing training with raters. The training can take many forms. For example, we allow therapists or supervisors to request re-review of their ratings or narrative comments if they feel that they are not valid. The review completed by a second rater is then compared with that conducted by the first rater. If discrepancies are found, this information is shared with the first rater. This process often provides valuable feedback to individual raters regarding their accuracy. Additionally, every clinician is asked to provide feedback once they have completed the certification process. Some of these e-mails are very specific about how rater comments could have been more helpful to a clinician in improving her/his A-CRA delivery. Coaches, who routinely use rater comments during bi-monthly coaching calls, also provide feedback to raters about how to improve the clinical utility of their ratings. Finally, there is a monthly call for all raters that

is conducted by one of the model developers. Raters receive feedback during this call about specific rating issues that have arisen, and time is allotted for raters to raise and discuss new rating questions.

The methods of rating A-CRA sessions differs in some significant ways from fidelity ratings of other EBTs, since A-CRA is a procedure-based model and not all procedures are required to be used in every session. For example, if an adolescent does not want to work on his substance use during a session, but appears motivated to talk about problems with a teacher at school, it would be appropriate for the clinician to use A-CRA procedures related to either problem-solving or communication skills during that session and not discuss the adolescent's substance use directly. This highly flexible approach offers a number of therapeutic advantages, but has implications for fidelity ratings. Thus, while some rating approaches only require raters to review 10 or 20 minute segments of sessions, as is the case for motivational interviewing (Moyers et al., 2005; Pierson et al., 2007), A-CRA raters must listen to an entire session to allow the raters to determine whether the most appropriate A-CRA procedures were attempted, and then to rate how competently these procedures were delivered.

Also as previously described, since not all A-CRA procedures are expected to occur in a session, one component of the rating scale is the indication of whether or not a given procedure was used. We have found that such information can be useful in examining the mechanisms of change for A-CRA. For example, Garner et al. (2009) recently showed that A-CRA exposure, a dimension of treatment fidelity which represents a count of the number of different A-CRA procedures delivered to adolescents and their parents, was not only significantly related to treatment outcome, but fully mediated the

relationship between treatment retention and outcome

Another unique aspect of the A-CRA fidelity process is the individualized approach to rater training. Specifically, whereas other EBTs train a group of raters with the goal of achieving an overall level of interrater reliability exceeding a certain threshold, A-CRA rater training is individualized. In other words, the goal for each A-CRA rater is to demonstrate the ability to consistently rate sessions and different procedures with a high level of agreement to a standardized set of ratings. Importantly, interrater reliability only indicates a group of raters have demonstrated the ability to give ratings in a consistent manner and may not relate to the accuracy of these ratings. For instance, if all raters always gave the highest possible rating, this would result in perfect interrater reliability, but would not be accurate. Thus, assuming exemplar ratings provided by individuals trained by model developers are indeed accurate, training individual raters to some standard suggests that fidelity ratings have at least face validity.

Directions for Future Research

There are several research questions our group would like to address in the future. Future research using rigorous designs is needed to identify the best and most cost-effective methods for training fidelity raters and for efficient ongoing monitoring of treatment fidelity in practice. As we have noted, approaches may differ for specific EBTs. For example, although A-CRA competence is rated on a 5-point scale similar to the rating scales used for other fidelity instruments, a unique aspect of the A-CRA rating process is that a rating of 3 represents the point at which a minimum level of competency is said to have been demonstrated. An important implication of this process is that the one-point difference

between a 2 and 3 is qualitatively different from the one-point difference between a 3 and 4. Future research is needed to examine to what extent this distinction is clinically meaningful (i.e., related to treatment process and posttreatment outcomes). In addition to how well the respective treatment fidelity rating process relates to important treatment outcomes, future research needs to focus on how well those outcomes replicate those in the efficacy studies in which the intervention was originally evaluated. Fortunately, as 3-, 6-, and 12-month follow-up data will be collected on over 4,000 adolescents who participate in A-CRA as part of the CSAT project, we will be able to examine the relationship of A-CRA fidelity ratings to outcomes within the initiative, and conduct a comparison of the findings between the original implementation of A-CRA in the CYT effectiveness trial with its implementation within this initiative. Lastly, as part of our future research we plan to evaluate the interrater reliability across A-CRA raters and the relationship of ratings to a rating by one of the authors of the rating manual.

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THE INFLUENCE OF EXTRAVERSION ON PREFERENCES AND ENGAGEMENT
IN PLEASANT ACTIVITIES IN PATIENTS WITH SUBSTANCE USE DISORDERS:
ONE SIZE FITS ALL?

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A hallmark of the Community Reinforcement Approach (CRA) is its emphasis on getting individuals to increase their engagement in healthy old and new rewarding activities that can compete with substance use. The personality dimension extraversion seems to be an important mechanism underlying activity engagement. A median split classified 265 patients with substance use disorders as high or low on NEO-FFI extraversion scores. Group comparisons indicated that patients with low NEO-FFI extraversion scores reported lower pleasant activity levels in general, and lower intensity of social interactions in particular. The disparity between conditions as far as what they valued was relative, since both groups pinpointed a wealth of potentially pleasant activities that could play a role in achieving non-substance related positive reinforcement for sobriety.

Keywords: CRA, extraversion, NEO-FFI, substance use, addiction, pleasant activities

There is a firm association between substance use and other psychiatric disorders (Brady & Sinha, 2005). The National Household Survey on Drug Abuse indicated that more than 50% of those with a lifetime history of substance use disorders also have a lifetime history of other mental disorders (Substance Abuse and Mental Health Services Administration, 1999). The daily lives of patients with severe mental disorders are solitary and passive, characterized by minimal participation in meaningful activities (McCormick, Funderburk, & Lee, 2005), whereas having multiple mental disorders yields an even higher level of disability (Ormel et al., 1994). The impaired day-to-day experience has been substantiated by descriptions of patients' reports of spending up to 71% of their time at home, 37% of their time alone, and 10% of their time "doing nothing" (Delespaul & deVries, 1987).

To counteract the general deficit in pleasant activities of these patients, it has been proposed that components of addiction treatment

should focus on increasing patients' involvement with alternative reinforcers (e.g., Volkow, Fowler, & Wang, 2003). Recent research has confirmed that patients who were voluntarily admitted to outpatient addiction treatment services had a reduced level of engagement in pleasant activities as compared to healthy controls (Roozen et al., 2008). The increase in rewarding activities, as a lifestyle change, ameliorates the general well being. For instance, exercise is associated with improvement on several domains, including physical health, mood and anxiety, sleep, self-esteem and resilience to stress in clinical populations (e.g. Callaghan, 2004; Read et al., 2001; Scully, Kremer, Meade, Graham, & Dudgeon, 1998). In addition, research has shown that an increase in substance-free behaviors is inversely related to substance abuse (Correia, Benson & Carey, 2005). Therefore, increasing the frequency and intensity of alternative, non-substance related, rewarding activities in the natural environment is essential to initiating and maintaining abstinence (Meyers & Smith, 1995; Pantalon et

al., 2004; Schottenfeld, Pantalon, Chawarski, & Pakes, 2000).

The Community Reinforcement Approach (CRA; Hunt & Azrin, 1973), which is listed among interventions with the strongest scientific support in terms of efficacy and cost-effectiveness (Finney & Monahan, 1996; Miller, Wilbourne, & Hettema, 2003; Miller, Zweben, & Johnson, 2005), is built upon this philosophy. CRA is a comprehensive multi-modal treatment package that addresses substance using behavior by promulgating enhancement of positive reinforcement for sobriety (Meyers & Smith, 1995). More specifically, CRA reverses the patients' isolation process by helping them become progressively involved in non-substance related pleasant activities with other non-substance using individuals in their "community" (Azrin, 1976; Miller, Meyers & Hiller-Sturmhöfel, 1999; Smith, Meyers, & Delaney, 1998). CRA assists patients in making increasingly effective choices by capturing their activity preferences for specific points in time, and by implementing procedures to increase the accessibility of these behaviors (e.g., problem-solving, systematic encouragement, reinforcer access, and reinforcer sampling (Meyers & Smith, 1995, pp.140-143).

To enhance the propensity to sample new activities/behaviors outside treatment sessions, CRA stresses the importance of homework assignments. There is empirical support for the use of homework during treatment for patients with substance use disorders (Carroll, Nich & Ball, 2005; Gonzales, Schmitz & DeLaune, 2006). Recent data suggest that the extent to which participants are adherent to completing their homework assignments is associated with positive intermediate and long-term outcomes in cocaine dependent patients (Carroll et al., 2005). Getting patients to follow through with homework assignments in general is difficult (Beck, Rush, Shaw & Emery, 1979;

Davis & Hollon, 1999), but perhaps more so when the assignment is for a substance-abusing individual to sample a new activity while clean and sober. Given the difficulties in getting patients to sample new activities in the first place, it would be worthwhile to develop ways to determine in advance *which* pleasant activities (both interpersonal and solitary) might be most rewarding for a particular patient. Even if patients *are* willing to sample new behaviors, they can easily become discouraged if the experience is not similar to what they expected, and the reinforcement is insufficient.

The mechanisms underlying the choice of and engagement in activities are considerably influenced by personality (Eysenck, 1967). Specifically, research has indicated that individuals differ in their search for, or response to, intrinsic rewards in activities (Csikszentmihalyi, 1990; Ryan & Deci, 2000). The personality of individuals thus affects the selection and setting of activities (Diener, Larsen, & Emmons, 1984). A frequently examined biologically-based dimension of personality is extraversion. In contrast to introverts, individuals with elevated scores on this dimension prefer high levels of arousal (Brandstatter, 1994), such as that experienced through participation in sports (Eysenck, Nias, & Cox, 1982; Furnham, 1990; Hills & Argyle, 1998; Kirkcaldy & Furnham, 1991). In a non-clinical sample it has been shown that extraverted individuals are more likely to both choose and enjoy social activities, as compared to introverts (Diener et al., 1984).

The present research examined the rewarding value of alternative, non-substance related activities, in terms of frequency and enjoyability, as proximal indices of reinforcement. The objective was to pinpoint rewarding activities as alternatives for substance-related behavior in individuals with substance use disorders. Subsequently, in order

to explore behavioral activity preferences and engagement in relation to extraversion, two subgroups of extraversion (i.e., low versus high) were demarcated in a patient sample with substance use disorders. Potentially rewarding activities were explored that could contribute to successful outcomes in treatment for each group. It was anticipated that high extraverted individuals would report higher scores not only on social activities, but would have higher activity levels overall than low extraverted individuals.

Method

Participants and Procedure

The sample consisted of 265 patients with a variety of substance use disorders and impulse-control disorders (e.g., pathological gambling). Assessment took place at the outpatient treatment facilities for addiction treatment services, Novadic-Kentron, in Roosendaal (population <100,000) and Breda (population <200,000), the Netherlands. This patient population was voluntarily referred for treatment and was characterized by male patients (72%) of European origin (96%). Thirty-six percent were married or living together, 52% had either elementary school or middle school education only, and 63% were full-time or part-time employed (see Roozen et al., 2008, for additional details).

Instruments

NEO Five-Factor Inventory (NEO-FFI). This 60-item self-report personality inventory (Costa & McCrae, 1992) measures neuroticism, extraversion, openness, agreeableness and conscientiousness. Items are scored on a five-point Likert scale varying from “totally disagree” (1) to “totally agree” (5). This widely used inventory has good consistency, reliability and sufficient validity (Costa & McCrae, 1992;

Hoekstra, Ormel, & De Fruyt, 1996). In the present study we only used the Extraversion subscale (Cronbach’s $\alpha=0.69$).

Pleasant Activities List (PAL). This 139-item self-report questionnaire measures the frequency and subjective pleasure of activities, and involves two parameters of reinforcement: (a) the amount of time engaged in the activity and (b) the respondent’s subjective enjoyment of the experience (Roozen et al., 2008). The PAL has a double five-point rating scale ranging from “not at all” (1) to “very much” (5) on both frequency and enjoyability. This inventory consists of seven factor analytically derived factors: social activities (SA), sensation seeking activities (SSA), domestic activities (DA), activities in culture, science and traveling (CST), passive, relaxing activities (PRA), sport-related activities (SRA) and activities that involve intimacy and personal attention (IPA). In addition, three supplementary rational factors were constructed: miscellaneous activities (MA), a subtotal of all activity scales (SAS) and general activities (GA). All 10 subscales had acceptable Cronbach’s alphas (see Table 1).

Results

Preliminary Analyses

Continuous variables were analyzed by means of t-test, and χ^2 -statistics were used to test differences in categorical data. Pearson product-moment correlations were applied to examine the strengths of the associations between variables. A Kolmogorov-Smirnov test showed that the NEO-FFI extraversion variable was normally distributed [$D(263) = 0.54, p > 0.05$], which legitimized the use of a median split to divide patients into two groups: high- and low NEO-FFI extraversion. Statistically significant differences were found between groups on two demographic variables: age [$t(261) = -5.02, p < 0.001$] and marital status [$\chi^2(2) = 7.07, p =$

0.029]. This latter variable was converted into dummy variables for each subcategory. Age and marital status were subsequently introduced in the general linear model as covariates. All *p*-values were 2-sided and considered significant at $p < 0.05$. Computations were performed with the Statistical Package for Social Sciences (SPSS version 15.0, 2004, SPSS Inc., Chicago, Illinois).

Correlational Analyses

The correlations between NEO-FFI extraversion and the PAL subscales ranged from .16 - .47 for frequency, and .09 - .42 in terms of enjoyability (Table 1). Overall, the subscales showed moderate correlations with extraversion, with somewhat higher correlations on frequency compared to enjoyability. As expected, the strongest correlations were found on SA, but the IPA, SAS and GA scales also appeared to have relatively strong correlations with extraversion.

Table 1
Cronbach's Alpha and Pearson Product-Moment Correlations between Extraversion and Pleasant Activities List (PAL) Subscales

Sub-scale	Cronbach's alpha		Pearson's <i>r</i>	
	Frequency	Enjoyability	Frequency	Enjoyability
SA	0.90	0.92	.47***	.42***
SSA	0.77	0.85	.16*	.09
DA	0.69	0.72	.20**	.20**
CST	0.78	0.88	.19**	.09
PRA	0.69	0.69	.16*	.19**
SRA	0.79	0.83	.28***	.23**
IPA	0.83	0.86	.35***	.33***
SAS	0.94	0.95	.43***	.33***
MA	0.75	0.90	.28***	.26***
GA	0.95	0.97	.42***	.32***

Note. SA = Social Activities, SSA = Sensation Seeking Activities, DA = Domestic Activities, CST = Culture, Science & Traveling, PRA = Passive, Relaxing Activities, SRA = Sport-Related Activities, IPA = Intimacy, Personal Attention, SAS = Subtotal Activity Scales, MA = Miscellaneous Activities, GA = General

Activities. Pearson's *r* was calculated between extraversion and frequency and enjoyability of each subscale.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

High and Low NEO-FFI Extraversion Group Differences: Subscales

The comparisons yielded statistically significant differences on nearly all PAL subscales regarding frequency, and seven subscales regarding enjoyability. In general, patients with high levels of extraversion reported higher ratings. The largest differences were found on the frequency scores of SA [$F(1, 250) = 43.92, p < 0.001$], IPA [$F(1, 250) = 19.79, p < 0.001$], SAS [$F(1, 250) = 36.71, p < 0.001$] and GA [$F(1, 250) = 32.37, p < 0.001$]. Furthermore, these patients also differed the most from those patient with low extraversion scores on enjoyability on the subscales SA [$F(1, 222) = 29.21, p < 0.001$], SAS [$F(1, 222) = 15.94, p < 0.001$] and GA [$F(1, 222) = 15.28, p < 0.001$]. With respect to this latter scale, the high NEO-FFI extraversion group reported higher scores on both frequency [12.3% (95% CI: 8.3 to 16.2)] and enjoyability [10.9% (95% CI: 6.6 to 15.2)]. The adjusted means (SEM) for both groups are graphically displayed in Figure 1 and 2.

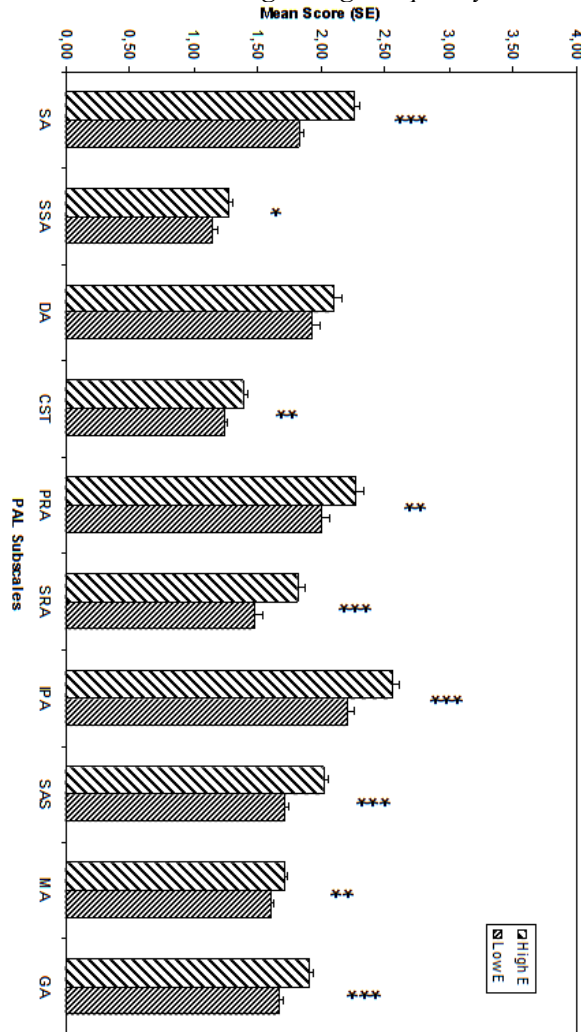
High and Low NEO-FFI Extraversion Group Differences: Item Analyses

As the PAL subscales yielded multiple statistical group differences, a further in-depth item exploration was set up for both groups. Based on the 10 highest ranked mean scores of the PAL items, group differences were calculated in terms of frequency and enjoyability (see Tables 2 and 3, respectively). Highly extraverted individuals rated the frequency of these items globally 19% [95% CI: 16.0 to 22.0] higher. Correspondently, individuals high in extraversion also rated the enjoyability of these items 12% [95% CI: 9.9 to 14.1] higher. Although the highly extraverted group showed elevated levels to all classes of rewarding activities generally, the rankings of both groups illustrate that the top five on frequency and the top three on enjoyability consist of identical items. Strikingly, only one and two SA items

emerged among the top ranked items for frequency and enjoyability, respectively.

This analysis was extended to items that were rated “A bit” or higher (≥ 2) on frequency

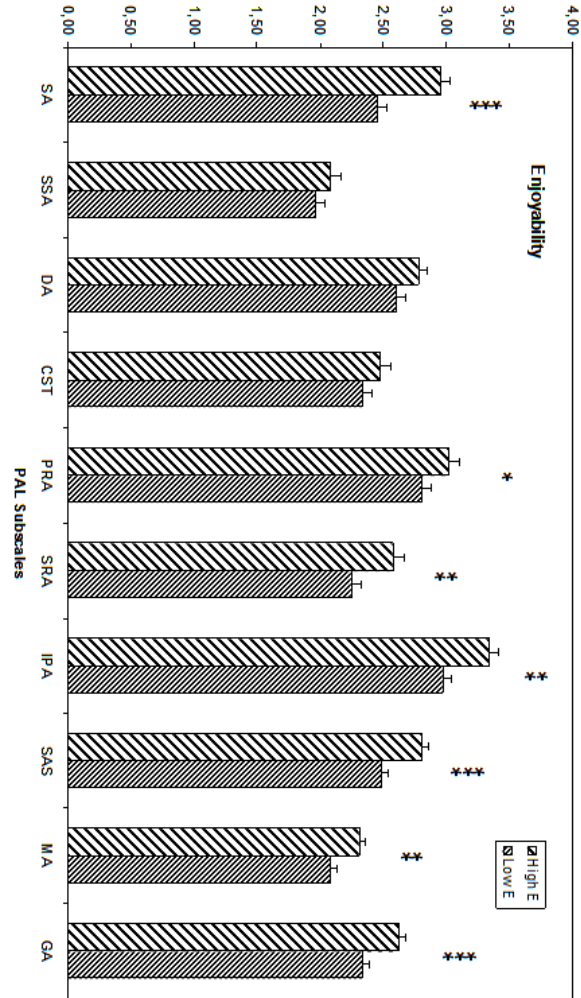
Figure 1: *Adjusted Means (SE) of Subscales Regarding Frequency*



Note. SA = Social Activities, SSA = Sensation Seeking Activities, DA = Domestic Activities, CST = Culture, Science & Traveling, PRA = Passive, Relaxing Activities, SRA = Sport-Related Activities, IPA = Intimacy, Personal Attention, SAS = Subtotal Activity Scales, MA = Miscellaneous Activities, GA = General Activities. Error bars represent the standard errors of the mean (\pm SEM).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure 2: *Adjusted Means (SE) of Subscales Regarding Enjoyability*



Note. SA = Social Activities, SSA = Sensation Seeking Activities, DA = Domestic Activities, CST = Culture, Science & Traveling, PRA = Passive, Relaxing Activities, SRA = Sport-Related Activities, IPA = Intimacy, Personal Attention, SAS = Subtotal Activity Scales, MA = Miscellaneous Activities, GA = General Activities. Error bars represent the standard error of the mean (\pm SEM).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

and enjoyability. Fifty-eight frequency items fulfilled this criterion, of which 24 items yielded major differences between high and low NEO-FFI extraversion ($F_s > 7.94$, $p_s < 0.01$). Of these items 67% were SA and 21% IPA. Similar results were found on enjoyability. A total of

113 items fulfilled the criterion and were selected. Fourteen major differences were observed ($F_s > 8.72$, $p_s < 0.01$) on SA (78%) and MA (21%). In general there was a large item overlap between both groups, as roughly similar items were valued.

Potentially Enjoyable Activities

Table 2
Ten Highest Ranked Items on Frequency

Sub-scale	Activity	Frequency				%	F
		High E M(SE)	Rank	Low E M(SE)	Rank		
MA	1. Watching TV.	3.23(0.11)	5	3.55(0.11)	2	-9%	4.05*
MA	2. Listening to the radio.	2.98(0.12)	7	2.79(0.12)		18%	11.28**
MA	3. Listening to music (audiotape, CD, mp3).	2.94(0.12)	9	2.78(0.12)	8	5%	0.80
SA	36. Telling something I have experienced.	2.86(0.10)	10	2.17(0.10)		24%	23.21***
IPA	51. Drinking coffee or tea.	3.44(0.12)	3	3.26(0.12)	4	5%	1.07
MA	53. Watching attractive men or women.	3.07(0.13)	6	2.81(0.12)	7	8%	2.00
IPA	54. Taking a shower or bath.	3.99(0.10)	1	3.81(0.09)	1	5%	1.67
MA	55. Drinking a soda (lemonade, fruit juice).	3.51(0.12)	2	3.07(0.11)	5	13%	6.92**
MA	56. Smoking a pipe, cigar or cigarette.	3.30(0.16)	4	3.54(0.15)	3	-7%	1.17
PRA	58. Just sitting quietly.	2.88(0.13)		2.85(0.12)	6	1%	0.02
IPA	63. Using cologne, perfume or aftershave.	3.01(0.13)	8	2.74(0.12)	9	9%	2.25
MA	103. Watching movies, videos, DVD's.	2.73(0.11)		2.63(0.10)	10	4%	0.37

Note. SA = Social Activities, SSA = Sensation Seeking Activities, DA = Domestic Activities, CST = Culture, Science & Traveling, PRA = Passive, Relaxing Activities, SRA = Sport-Related Activities, IPA = Intimacy, Personal Attention, SAS = Subtotal Activity Scales, MA = Miscellaneous Activities, GA = General Activities. The percentages (%) are displayed to highlight the difference between high and low NEO-FFI extraversion.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Potentially rewarding activities were identified to assess the opportunity for possible clinical utility to sample alternative behavior. The selection of these potentially rewarding unperformed (in the past 30 days) activities was based on two parameters, which were the same for both groups: high enjoyability ratings (“Much” and “Very Much”; ≥ 4) and concomitant frequency score (“Not at all”; = 1). Activities that fulfilled these criteria were reviewed and for each of these activities the percentage of patients was calculated. A

prevalence threshold of 10% was pre-set as a baseline (for at least one of the NEO-FFI extraversion groups). The 32 activities that surpassed this threshold are shown in Table 4. The percentage of activities that were not performed but which had a high intrinsic reward potential varied between 7.3% (“Laying or sitting in the sun or on a sun bed”) and 41.0% (“Taking a vacation”). In general, the high NEO-FFI extraversion group scored higher on most items. Specifically, the high NEO-FFI extraversion group scored higher on 22 activity items, and yet there was a statistically significant difference on only two items. Of the remaining 10 activity items the low NEO-FFI extraversion group scored higher, but again only two items showed statistically significant differences. For instance, the activities appraised by both groups as potentially most enjoyable encompassed “Taking a vacation”, “Travel to a foreign country”, “Riding a motorcycle” and “Racing in a car, track racing”.

Table 3
Ten Highest Ranked Items on Enjoyability

Sub-scale	Activity	Enjoyability				%	F
		High E M(SE)	Rank	Low E M(SE)	Rank		
MA	3. Listening to music (audiotape, CD, mp3).	3.64(0.14)	8	3.26(0.13)	6	10%	3.71
SA	29. Visiting friends or acquaintances.	3.76(0.13)	5	2.85(0.12)		24%	25.66***
IPA	46. Make love.	3.64(0.16)	9	3.29(0.15)	5	10%	2.50
IPA	47. Hugging someone.	3.86(0.14)	3	3.45(0.13)	3	11%	4.26*
IPA	50. Kissing.	3.87(0.14)	4	3.24(0.13)	7	16%	10.41**
MA	53. Watching attractive men or women.	3.68(0.13)	7	3.07(0.12)		17%	11.12**
IPA	54. Taking a shower or bath.	4.16(0.11)	1	3.74(0.11)	1	11%	6.62*
SA	69. Going to a restaurant / eat out.	3.75(0.15)	6	3.17(0.14)	8	15%	7.75**
CST	73. Taking vacation.	3.94(0.15)	2	3.55(0.15)	2	10%	3.19
IPA	83. Buying something for someone else.	3.66(0.13)	10	3.15(0.12)	10	14%	7.75**
MA	103. Watching movies, videos, DVD's.	3.36(0.12)		3.17(0.11)	9	6%	1.18
CST	111. Travel to a foreign country.	3.41(0.16)		3.33(0.15)	4	2%	0.13

Note. Note. SA = Social Activities, SSA = Sensation Seeking Activities, DA = Domestic Activities, CST = Culture, Science & Traveling, PRA = Passive, Relaxing Activities, SRA = Sport-Related Activities, IPA = Intimacy, Personal Attention, SAS = Subtotal Activity Scales, MA = Miscellaneous Activities, GA = General Activities. The percentages (%) are displayed to highlight the difference between high and low NEO-FFI

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 4
Potentially Rewarding Activities

Item no	Subscale	Activity	%		χ^2
			High E	Low E	
30	SA	Having a meal with friends	11.2	15.6	1.06
31	SA	Giving a party	21.8	9.4	7.23**
46	IPA	Make love	13.4	23.3	3.94
47	IPA	Hugging someone	9.8	14.0	1.38
49	SA	Dating	12.1	9.5	0.41
50	IPA	Kissing	10.9	14.0	0.52
57	PRA	Laying or sitting in the sun or on a sun bed	7.3	14.2	3.05
61	PRA	Sitting in an outdoor café on a terrace	9.8	19.0	4.24*
64	SA	Going to the movies	18.6	14.4	0.80
67	MA	Baking bread, pie or cookies	11.2	9.6	0.17
69	SA	Going to a restaurant/eat out	11.8	23.0	5.35*
71	CST	Going to a concert, play, opera or ballet	20.7	16.7	0.65
72	PRA	Going to a fair, carnival, circus, amusement park, zoo or rodeo	15.3	14.5	0.03
73	CST	Taking a vacation	41.0	40.2	0.02
79	IPA	Going to a swimming pool, sauna bath, etc.	15.3	9.8	1.61
84	MA	Traveling (car, train, bus, etc.)	9.3	11.8	0.40
85	CST	Traveling with a group	11.4	10.5	0.05
91	SRA	Doing organized sports (in a club, competition)	15.8	8.1	3.41
95	CST	Visiting caves, waterfalls, scenic wonders	21.6	23.0	0.08
100	DA	Doing things with your child(ren) or grandchild(ren)	18.3	12.9	1.37
109	MA	Flying, gliding	19.0	12.8	1.72
110	CST	Learning to speak a foreign language	12.9	14.3	0.09
111	CST	Travel to a foreign country	40.3	36.0	0.49
112	MA	(Indoor) snow skiing/snowboarding	20.0	11.2	3.56
116	SSA	Riding a motorcycle	28.2	25.4	3.56
117	SSA	Racing in a car, track racing	28.2	21.4	1.50
118	SSA	Bungee jumping, sky diving	20.9	9.6	5.97*
121	MA	Boating (canoeing, rafting, sailing, catamaran)	21.7	15.1	1.79
122	SRA	Ball sports (soccer, basketball, volleyball, handball, rugby, American football, etc.)	11.9	11.0	0.04
126	SSA	Four wheel drive, quad, cross-country motorcycling, SUV, etc.	27.4	16.7	4.06
127	SSA	Going to mass events (house and rave parties)	12.1	9.5	0.41
134	MA	Fighting sports	19.4	12.0	2.33

Note. Please see Table 2 or 3 for labels corresponding to abbreviated items.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Discussion

The present study investigated differences in activity engagement and preferences between patients with high- and low NEO-FFI extraversion scores in terms of frequency and enjoyability. There were meaningful correlations between extraversion and the PAL subscales: SA, IPA, SAS and GA on both frequency and enjoyability. The results on frequency disclosed relatively robust differences on all PAL activity domains (Figure 1). The largest difference was found on SA, where patients with high NEO-FFI extraversion reported 19.4% higher frequency scores than did low extraversion patients. Statistically significant differences between subgroups with respect to enjoyability occurred on six distinctive subscales (Figure 2). Again, the largest difference between both NEO-FFI extraversion groups was found on SA (16.8%). These findings confirm the earlier assumption that extraversion is associated with higher activity levels in general, and intensity of social interactions in particular (e.g. Costa & McCrae, 1992; Diener et al., 1984).

It has been suggested that extraverts are considered happier (Hayes & Joseph, 2003), due to a heightened sensitivity to a range of pleasant stimuli and incentives occurring in the natural environment (e.g. Costa & McCrae, 1992; Tellegen, 1985). More specifically, it has been suggested that extraverts are more sensitive to rewards derived from social situations than introverts (Lucas, Diener, Crob, Suh, & Shao, 2000). Extraversion has been shown to correlate positively with activation within dopaminergically innervated, reward-sensitive regions (Carver, Sutton, & Scheier, 2000; Depue & Collins, 1999). This pleasure-reward system of the brain is also activated in response to substances of abuse and dependency (Volkow, et al., 2003). Correspondently, extraversion is inversely related to multiple psychiatric illnesses, including mood, anxiety and substance use disorders (Clark, Watson & Minenka, 1994). From this point of view it seems viable to promote a reduction of substance use by enriching the environment with a high quantity of rewarding, non-substance related alternatives (Carroll, 1996; Tucker, 2001; Vuchinich & Tucker, 1996). CRA is consistent with this approach, as it entails turning to and enhancing social, recreational, personal and vocational reinforcers to help the patient in the process of rehabilitation (Azrin, 1976; Hunt & Azrin, 1973). Since the social network and daily activities of many substance abusers often revolve around acquiring and using alcohol and/or drugs, the CRA therapist works closely with the patient to identify alternative potential sources of non-substance related pleasant activities.

With respect to the apparently reduced reward sensitivity of patients with low NEO-FFI extraversion scores, there might be a need for a somewhat larger density or array of alternative pleasant activities to achieve an adequate level of alternatively derived reinforcement. In a cocaine-dependent population, research has indicated that the adoption of a number of activities and frequent engagement in them is more critical to successful treatment outcome than relying on any single activity (Farabee, Rawson, & McCann, 2002).

The finding of the present study suggests that treatment strategies might benefit from a screening of the personality dimension extraversion at treatment entry. This could enable therapists to assist the patient to choose certain types of activities of interest (e.g., solitary versus social) and to derive a sufficient intensity of reinforcement. Based on the findings that patients in the low NEO-FFI extraversion group reported lower activity levels, they might need auxiliary assistance in the form of social support in addressing practical barriers (e.g., intimidation). At the same time, high extraversion patients might have a unique set of problems that interfere with successfully engaging in new potentially pleasant activities. As these patients are typically more sociable, enthusiastic, and gregarious, they might need relapse management (Roozen & Van de Wetering, 2007) in the event that they find themselves in a risky social event, or CRA's specialized skills training (e.g., alcohol/drug refusal training, problem-solving training, or enlisting social support,) to prevent them from entering into (unanticipated) high-risk situations in the first place (Meyers & Smith, 1995).

According to the PAL results in this study, potentially pleasant activities were captured that were unperformed yet rated as highly enjoyable. Discussing these findings with patients might motivate them to accept the challenge of sampling an alternative behavior with a high promise for pleasure. Interestingly, while higher percentages of patients in the high NEO-FFI extraversion group scored globally twice as high on potentially enjoyable items, only four comparisons were statistically significant. Thus, both groups listed a wealth of opportunities for treatment planning, which has implications for selecting strategies to compete with substance-related behaviors. Both the therapist and patient can set up activities that the patient plans to undertake, and then determine under which conditions (where, when, how, and with whom) the patient will participate in those activities (Miller et al., 1999).

As noted earlier, despite the proven importance of homework tasks in substance

abuse treatment (Carroll et al., 2005; Gonzales et al., 2006), compliance is often an issue (cf. Beck et al., 1979; Davis & Hollon, 1999). Several components of CRA are specifically designed to successfully introduce scheduled pleasant activities into patients' everyday lives, thereby minimizing compliance problems. For example, assume a patient appeared motivated to go to the public swimming pool to socialize and relax, but the week passed and he never made it there. By applying a variety of CRA's procedures at the next session, the patient would receive assistance in addressing any potential obstacles for the upcoming week. For instance, the therapist would first check to be sure the patient still wanted to go to the pool (goal setting), and would have him call the pool staff during the treatment session (systematic encouragement) to obtain useful information (e.g., costs, requirements, hours). Furthermore, the therapist would help the patient anticipate and address any potential obstacles to successfully carrying out the assignment. Assume, for example, the patient reported that there was a chance he would run into his old using buddies while riding his bike to the pool. The therapist would practice drug-refusal training with the patient so that he could turn down drugs, or perhaps problem-solving training so that he could plan an alternate route or mode of transportation to minimize the chance of running into these friends in the first place.

In summary, it is well known that many patients with substance use disorders spend much of their time relatively inactive, often characterized by the absence of goal-oriented and pleasant non-substance related purposeful activities. This study considered the activity engagement in terms of frequency and enjoyability for these patients based on the personality dimension extraversion. The results confirmed that highly extraverted patients engage in activities more frequently and consider them more enjoyable than patients who score low on extraversion. Despite the major differences on most subscales, both patient groups globally value similar activities in terms of how often they engage in them and how pleasurable they find them. Furthermore, both patient groups value similar potentially

rewarding activities, which may hold promise in treatment planning to pin-point alternative rewarding activities in patients' everyday lives. More research is needed to confirm the present findings. An interesting avenue of research would be to focus on the frequency, enjoyability and type of activity engagement as they relate to treatment outcome for distinctive clinical extraversion groups (i.e., low versus high).

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THE COMMUNITY REINFORCEMENT APPROACH:
POTENTIAL TREATMENT ADJUNCT FOR EATING DISORDERS

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While cognitive-behavioral therapy (CBT) is the gold-standard treatment for bulimia nervosa, a search for treatment adjuncts is justified by the fact that it eliminates binge-eating and compensatory behaviors in only half of its treated clients. The Community Reinforcement Approach (CRA) was developed as a behavioral treatment for individuals with alcohol problems, and yet its emphasis on the importance of a rewarding (and healthy) overall lifestyle appears highly relevant to eating disorders as well. The following article describes how CRA might be used to improve standard CBT with a bulimic client and specifies several CRA procedures (functional analysis, communication skills).

Key words: CRA, community reinforcement approach, bulimia nervosa, binge eating

Bulimia Nervosa (BN) is an eating disorder characterized by recurrent episodes of binge eating and compensatory purging behaviors. The most recent edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-IV-TR; APA, 2000) defines a binge as eating, within a discrete period of time (typically under two hours), an amount of food that is definitely larger than most people would eat during a similar period of time. In addition, a sense of lack of control over eating must be present during the binge. Inappropriate compensatory behaviors such as self-induced vomiting, misuse of laxatives or diuretics, fasting, and excessive exercise are employed following the binge in order to prevent weight gain. The DSM-IV-TR also lists the following as criteria for a diagnosis of BN: the binge eating and compensatory behaviors must both occur on average at least twice a week for three months, self-evaluation must be unduly influenced by body shape and weight, and the disturbance does not occur exclusively during periods of Anorexia Nervosa (AN).

The prevalence of BN in the United States (U.S.) is currently estimated to be 1.5% in females, and 0.5% in males (Hudson, Hiripi, Pope, & Kessler, 2007), signifying that over five million individuals are affected in the U.S. alone.

Importantly, these rates likely underestimate the true prevalence of BN, as many individuals successfully conceal their disordered eating patterns. Recent culturally-sensitive research has demonstrated that BN occurs across a wide range of ethnic and socioeconomic groups (e.g., Soh, Touyz, & Surgenor, 2006).

A wide body of research has identified a number of risk factors for developing BN from social, personality, genetic, biological, and cultural domains. Predictive risk factors include female gender, internalization of a societal thin ideal, self-objectification of one's body, extreme perfectionism, and impulsivity (Engel et al., 2005; Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Striegel-Moore & Bulik, 2007). Twin, adoption, and family linkage studies show that the chance of developing BN increases significantly with the presence of BN in a family member (Striegel-Moore & Bulik, 2007). In addition, a number of psychological factors are associated with BN. Depression and anxiety disorders are frequently seen in conjunction with BN, and individuals with BN are at a heightened risk for self-injurious behaviors or suicide attempts (Favaro et al., 2008). Substance abuse disorders (Thompson-Brenner et al., 2008) and several personality disorders, particularly "Cluster B" disorders (de Jonge, van Furth, Lacey, & Waller, 2003), are also found comorbidly with BN.

Empirically-Supported Treatment for Bulimia Nervosa

Cognitive behavioral therapy (CBT) as designed by Fairburn, Marcus, and Wilson (1993) is the gold standard treatment for bulimia nervosa (Wilson & Pike, 2001). Evidence has shown that this therapy eliminates binge eating and purging in approximately 50% of participants in clinical trials, and reduces these same behaviors in 80% of individuals (Wilson & Pike, 2001). Not only is CBT more effective than other available treatments, it is often fast-acting, with significant reduction in symptoms within the first month of treatment (Wilson, Vitousek, & Loeb, 2000).

The primary objectives of CBT for bulimia nervosa are to eliminate binge eating and compensatory behaviors, to replace strict dieting with moderate, healthful food intake, and to improve disturbed body image (Fairburn et al., 1993). Using this model, treatment is time-limited and ideally lasts for 20 weeks. The treatment is broken down into three stages, with the first stage (eight sessions) addressing how the cycle of binge eating and compensatory behaviors is maintained via a cognitive model. Furthermore, this stage of treatment introduces techniques such as self-monitoring, stimulus control, and the use of alternative behaviors to help the client reduce binge eating/purging. The second stage of treatment (eight sessions) is focused on reducing strict dieting, such as food avoidance and very low overall caloric intake. This stage often includes introducing previously avoided foods into the client's dietary repertoire and increasing caloric intake until it is between 1500 and 1800 calories per day. Additionally, stage two of CBT involves helping the client develop problem-solving skills by using a seven-step technique. Lastly, this stage involves addressing concerns about weight and shape via cognitive restructuring of illogical and maladaptive thoughts. The final stage of treatment (three sessions) is structured to help the client maintain the positive changes that have been achieved throughout treatment and to prepare for the termination of treatment.

While CBT for bulimia nervosa is the treatment of choice for this disorder, as noted above, it eliminates binge eating and compensatory behaviors in only about half of the treatment completers (Fairburn, Cooper, Shafran, & Wilson, 2008). Furthermore, maladaptive thinking and preoccupation with weight and shape are even more resistant to treatment than are the binge and purge behaviors. Thus, many individuals with BN who engage in treatment continue to struggle with symptoms long after treatment has ended. Although an "enhanced" version of CBT (CBT-E) has been introduced which is intended to improve upon results from standard CBT treatment (Fairburn et al., 2008), its treatment efficacy has yet to be established.

As mentioned, substance use problems often occur comorbidly with BN (Thompson-Brenner et al., 2008). A recent study of a large sample of women diagnosed with either BN or AN indicated that illicit substance use occurred in approximately 17% of the sample (Herzog, Franko, Dorer, Keel, Jackson, & Manzo, 2006), and the types of illicit drugs did not differ between women with BN or AN. The most commonly abused drugs were those with appetite-suppressant effects: amphetamines and cocaine. In this same sample of women, approximately 27% had alcohol use disorders (Franko et al., 2005). Importantly, overall comorbid substance abuse predicted lower rates of recovery from BN and higher mortality rates (Franko et al., 2005; Keel et al., 2003).

Surprisingly, there do not appear to be psychosocial treatment studies that target both eating disorders and substance abuse. As far as pharmacological treatments, a recent open-label trial of baclofen; a medication that has been useful in substance abuse (primarily alcohol and cocaine) treatment (Addolorato, Caputo, Capristo, et al., 2002; Kenna, Nielson, Mello, Schiesl, & Swift, 2007; Shoptaw, Yang, Rotheram-Fuller, et al., 2003), was associated with decreased binge-eating in individuals with BN and Binge Eating Disorder (Broft, Spanos, Corwin, et al., 2007). Not only do these findings require replication, but it would be worthwhile to test baclofen on participants with comorbid BN and either alcohol or cocaine use problems.

Literature reviews suggest that no other pharmacologic treatments for both BN and substance abuse appear promising, albeit naltrexone has been helpful in Binge Eating Disorder (Zhu & Walsh, 2002) and heroin dependence (Sullivan, Vosberg, & Comer, 2006).

In summary, the treatment outcomes for BN leave room for improvement. In at least some of these cases the results were compromised by the existence of a comorbid substance use problem. To date, psychosocial treatments have not targeted both BN and alcohol/drug use. Conceivably a treatment that has obtained very good outcomes within the substance abuse arena might offer promise for either individuals with BN alone, or with comorbid BN and substance abuse cases. The purpose of this article is to suggest ways in which the Community Reinforcement Approach (CRA) may be implemented as a useful adjunct to CBT in the treatment of bulimia nervosa.

Community Reinforcement Approach (CRA)

Overview

CRA is a comprehensive behavioral program initially designed for the treatment of substance use disorders. The basic premise of CRA is that it is necessary to teach clients to replace negative behaviors (i.e., substance use) with healthy and rewarding behaviors. "Community reinforcement" implies that individuals should look to their community (broadly defined) to discover strong reinforcers for a clean and sober lifestyle. These community reinforcers may be family members, friends, jobs and co-workers, spiritual organizations, hobbies, or recreational activities. CRA therapists elicit positive change by assisting clients to utilize resources and reinforcers within their own communities, by teaching clients new skills, and by reinforcing successive approximations of new healthy behaviors (Smith, Meyers, & Miller, 2001). Importantly, CRA is designed so that clients play an active role in identifying their treatment goals and working toward achieving those goals. Thus, clients are given control of

their progress throughout treatment. When skill deficits are noted, behavioral training is offered in the relevant areas, such as communication skills or problem-solving skills. Clients are given weekly "homework" assignments that are based on problem areas that were identified and addressed in session (Meyers & Smith, 1995).

CRA is empirically-supported and consistently ranked as one of the most effective treatments for alcohol dependence (Miller, Wilbourne, & Hettema, 2003). Furthermore, CRA has shown to be an effective treatment for cocaine dependence among adults (Budney, Alan, Moore, Rocha, & Higgins, 2006), and cannabis use in adolescents (Dennis et al., 2004). CRA has been successful with difficult-to-treat populations such as homeless and substance-using youth (Slesnick, Prestopnik, Meyers, & Glassman, 2007) and adults as well (Smith, Meyers, & Delaney, 1998).

A Role for CRA in the Treatment of Bulimia Nervosa?

Why might CRA be a particularly good choice as a supplemental treatment for bulimia nervosa? To begin with, there are many philosophical and procedural similarities between CRA and the manualized gold-standard CBT treatment for BN (Fairburn et al., 1993), and consequently some combination of the two would be highly compatible. Overall, the focus of both treatment modalities is the elimination or reduction of unhealthy behavior patterns (i.e., disordered eating or substance abuse). This objective is accomplished, in part, by systematic identification and monitoring of physical and emotional factors (in both the internal and external domains) that typically elicit the target negative behavior. Furthermore, structured skills training protocols, such as problem-solving techniques, are utilized in both treatments in an effort to change the problem behavior. In the first stages of CBT for BN, the emphasis is on modifying binge/purge behaviors, by first identifying triggers (e.g., distorted thoughts, strict dieting), and then by introducing behaviors that are incompatible with the target behavior. This BN treatment also includes an educational

component, which typically points out the negative consequences of chronic eating disorder behaviors (e.g., the physical consequences of purging; the strong relationship between restrained eating and subsequent binge eating). As far as Community Reinforcement Approach initial sessions, the focus is on identifying triggers of substance use, and developing healthier ways to respond to the triggers. CRA also routinely highlights the negative consequences of the target behavior, usually through a functional analysis (suggestions for adapting CRA's Functional Analysis to a binge eating problem are described below).

Despite the obvious overlap between CRA (for substance abuse) and the CBT used for BN, there are some notable differences. Early sessions of CBT for BN stress the importance of relying on "normal" eating habits to replace the problematic eating. Although CRA for substance abusers technically *could* focus on "normal" drinking/drug use, such a goal tends to be less than optimal for many clients. Instead, CRA highlights the need to determine the positive function served by the problem behavior, so that this can be replaced by a healthy behavior that is also *rewarding*. And it is precisely CRA's emphasis on reinforcement that positions it to make a sizable contribution to the eating disorder treatment arena. For example, CBT for BN helps individuals identify behaviors that are incompatible with binge/purge behaviors, but these behaviors tend to be specific responses to specific triggers. In contrast, although CRA identifies specific replacement behaviors with substance abusers as well, CRA therapists also spend a great deal of time helping clients work toward an *overall lifestyle* that is rewarding without the problem behavior (alcohol/drug use) as part of it. This is not to suggest that cognitive-behavioral therapists never adopt this broader view when treating clients with BN, only that it does not appear to be an integral part of the manualized treatment program.

How might CRA's broader emphasis on a reinforcing lifestyle that is found within and supported by one's "community" be incorporated into the treatment of eating disorder clients? Regardless of the client's diagnosis, it is

necessary to first determine what is reinforcing to that individual. In part, the objective is to help a client build a rewarding life that has no use/need for the disturbed behavior, because sufficient reinforcement is being obtained through other channels. For clients with BN, it also would be critical to know the function of the binge eating so that some of those functions could be addressed through healthier but still highly reinforcing means. For example, assume a client reported (on her CRA Functional Analysis) that she binged around 6 PM every evening to alleviate work-related stress and to simply "treat" herself. The alleviation of negative affect (e.g., stress) is a common function of binge-eating, despite the fact that the results are short-lived (Stice, 1998). Certainly the CRA therapist would want to help the client discover some healthy alternatives for stress reduction, but also would work with the client to determine ways to make her entire life more rewarding such that food (her treat) did not play as important a role in her happiness. This might first entail encouraging her to sample some after-work activities that both alleviate stress and potentially open up the client's world to social reinforcers (e.g., salsa classes). The introduction of *social* reinforcers may be particularly salient for individuals with BN, given that social anxiety is often elevated in this group and feelings of social isolation are frequently reported as triggers for purging behavior (Hinrichsen, Morrison, Waller, & Schmidt, 2007; Steiger, Gauvin, Jabalpurwala, Séguin, & Stotl, 1999). As clients begin sampling new activities, they are able to gather evidence about what types of activities are successful reinforcers, and consequently which activities should be incorporated into their routines. Notably, this approach meshes well with one of the objectives of the new enhanced version of CBT for BN (CBT-E), as CBT-E aids the client in finding other domains aside from food, weight, and shape by which to self-evaluate.

Perhaps the most obvious difference between CRA and CBT (for BN) is that CRA is a behavioral treatment. Given that the cognitive component of the treatment for eating disorders has been considered particularly critical for addressing certain symptoms (e.g., poor body

image), one might question whether a behavioral treatment would be a useful adjunct. Interestingly, some eating disordered clients appear to have great difficulty managing the cognitive piece of CBT. Fairburn himself stated that, "Some patients are resistant to cognitive restructuring.A minority of patients seem incapable of engaging in cognitively oriented tasks. While they appear to understand the rationale and are willing to do the necessary homework, they seem unable to identify and examine their thoughts. As a result cognitive restructuring is impossible. With such patients this part of treatment is best abandoned. Instead, the therapist should concentrate on those behavioral interventions that seem most likely to produce cognitive change" (Fairburn et al., 1993, p. 389). Furthermore, some evidence suggests that behavioral components of CBT may be more effective for reducing negative cognitions when compared to cognitive components of CBT for BN (Spangler, Baldwin, & Agras, 2004). Although one option in such cases would be to rely exclusively on the behavioral parts of CBT, another approach would be to introduce some of the CRA procedures that could aid in symptom reduction and improve overall quality of life for the client. Importantly, in addition to providing a suitable guiding philosophy, CRA offers a number of individual treatment modules that may be particularly applicable to the treatment of BN.

CRA's Functional Analysis

In general, a functional analysis (FA) is a structured method of identifying antecedents and consequences of a behavior. The CRA FA begins with the identification of external and internal triggers; events that typically precipitate a problem behavior. The purpose of identifying these triggers is so that healthy strategies to address the triggers can be generated at the conclusion of the FA. It is helpful for therapists to be aware of common triggers for the problem behavior of binge eating. These include large portion sizes, caloric restriction, sleep deprivation, being at home alone, and aversive events (Meyer, 2008). Questions regarding the specifics of the problem behavior itself follow the discussion of triggers. For a client with a binge eating problem, the questions would be

about the type of food eaten, the amount, and the length of time the binge lasted. The FA ends with the identification of both positive and negative consequences of the problem behavior in a variety of areas. Given that the positive consequences of the problem behavior are essentially the maintaining factors, this part of the FA is highlighted. The objective is to eventually discover methods for obtaining some of the desired consequences but without resorting to the problem behavior. Several common positive consequences associated with disordered eating behavior include social reinforcement for being thin and avoidance of sexual contact (Meyer, 2008). The negative consequences section of the FA collects information about the parts of the client's life that have been damaged by the problem behavior (e.g., loss of friends, compromised health), and thereby identifies specific reasons why the client wants to change. One particularly useful feature of the FA is its linear progression and easily-understood causal links. Summarizing the information with the client at the completion of the FA helps to cement the behavioral links, and suggests steps for successful behavioral changes.

A study by Ghaderi (2006) found that the use of a more individualized CBT approach for BN, which specifically incorporated a continuous functional analysis of bulimic behaviors, was as effective as the standard manualized treatment for BN. In fact, this FA-driven individualized CBT treatment had *greater* success than the manualized treatment in terms of abstinence from objective bulimic episodes, eating concerns, and body dissatisfaction at the 6-month follow-up (Ghaderi, 2006). This study is of interest because the main difference between the manualized CBT treatment and the individualized treatment was the use of the FA, which is a major component of CRA.

As noted previously, triggers for binge eating and/or compensatory behaviors in BN are addressed in the early stages of CBT as well. Therefore, the foundation for implementing the more linear FA is already in place in CBT. Many clients with BN have great difficulty separating different aspects of the binge/purge cycle, and perhaps this was one of the reasons why there is

an emphasis on creating a formulation of the factors that are maintaining an individual's eating disorder within the new CBT for BN (CBT-E; Fairburn et al., 2008). Still, the inclusion of an FA can serve to provide a clearer picture of behavioral chains and feedback loops.

In examining the FA of binge eating for a sample client (see Figure 1), it is apparent that the standard binge time/place is right after work in the client's kitchen. The client reports feeling drained and stressed, as well as hungry and jittery prior to her binges. The relatively large binge lasts about two hours. In terms of the positive aspects of the binge eating, the client states that the act has a numbing effect; that she does not have to feel any negative emotions (e.g., sad, stressed, angry). The more long-term negative aspects to the binge eating are focused on her self-imposed isolation from family and friends, the shame she feels for engaging in the behavior, health concerns, and financial costs.

From a treatment plan standpoint, the CRA therapist might address several of these areas. Beginning with the triggers, the therapist could work with the client to find a healthier way to deal with feelings of stress and exhaustion after work (internal triggers), and might also have the client plan to select alternative activities that are outside of the home so that her home environment (external triggers) is not overwhelming. Sample activities might be a yoga class or a walk with a co-worker. It would be important to make sure that the alternative activities took into consideration the positive consequences that the client attributed to the binge eating. Similar to many individuals with BN, the client's binges primarily serve as negative reinforcers because they take away uncomfortable feelings. This does not imply that the healthy alternative activity has to have a numbing effect as well, but if it does not at least indirectly address the negative feelings it is unlikely that the substitute activity will be maintained. The suggested activities (yoga class, walk with co-worker) might be ideal, as the physical activity could help reduce stress and the company of co-workers could provide an outlet for venting about work. In terms of the long-term negative consequences of binge eating, clients oftentimes are keenly aware of these

consequences and yet they have difficulty stopping the binges. Conceivably the client could get a jump-start on turning this around by introducing healthy activities (yoga class, walk with co-worker) that automatically would decrease her social isolation *and* would simultaneously work on her sense of shame and her health concerns as the same time.

Figure 1. Functional Analysis of Binge-Eating Behavior.

External Triggers	Internal Triggers	Behavior	Short-Term Positive Consequences	Long-Term Negative Consequences
1. Who are you usually with when you binge? Nobody	1. What are you usually thinking about right before you binge? Been a long, stressful day Need a release.	1. What and How much do you usually eat? 3 candy bars Bag of popcorn 4 large cookies Medium pizza ½ gallon of ice cream	1. What do you like about binge eating with (nobody)? I don't have to be embarrassed by the amount I'm eating. 2. What do you like about binge eating (in the kitchen)? I feel comfortable; easy access to food. 3. What do you like about binge eating (after work)? It's a release after the long work day.	1. What are the negative results of your binge eating in these areas? a. Interpersonal: I'm isolated from my friends and family; I don't go on dates because I'm ashamed of my "secret life" and the way I look. b. Physical: Enamel on teeth worn down from the vomiting that always follows the binge; calluses on knuckles; the binges can't be good for my stomach!
2. Where do you usually binge? At home In Kitchen	2. What are you usually feeling physically right before you binge? Hungry, on-edge, jittery.	2. Over how long a period do you usually binge? 2 hours	4. What are some of the pleasant thoughts you have while you are binge eating? I zone out and think only about the texture of the food. 5. What are some of the pleasant physical feelings you have while you are using? Hunger subsides, jittery feeling stops	c. Emotional: I feel weak-willed and ashamed of myself for doing this; I'm afraid somebody might find out; I think my mood swings are related to the food binges.
3. When do you usually binge? Right after work, about 6 p.m.	3. What are you usually feeling emotionally right before you binge? Stressed-out, drained.		6. What are some of the pleasant emotional feelings you have while binge eating? I feel totally numb to sad or angry feelings.	d. Financial: The food for the binge costs a lot of money. e. Other

Source: *Clinical Guide to Alcohol Treatment: The Community Reinforcement Approach* (pp 34-35) by R. J. Meyers and J. E. Smith (1995), New York: Guilford Press. Adapted by permission.

Importantly, CRA therapists automatically inquire about obstacles whenever an assignment for the week is developed as part of the treatment plan. Although clients may feel motivated to carry out assignments while they are still in the therapy session, "life" often interferes in the course of a normal week. For example, the client above indicated that hunger was another internal trigger for binge eating after work. It is conceivable, therefore, that hunger could interfere with the best plans/intentions to go to yoga class instead of straight home. Consequently the therapist must not only help the client identify potential obstacles, but assist with a plan for addressing them (e.g., bring a healthy late afternoon snack to work that can be eaten prior to leaving for yoga class). The likelihood that an assignment is successfully completed is increased

when potential obstacles are highlighted in advance.

Although the FA example has targeted binge eating as the problem behavior, the FA can be used for other symptoms of BN as well. An FA readily could target compensatory behaviors such as fasting and purging, and for the subset of BN clients who engage in cutting behaviors (Kahng, Iwata, & Lewin, 2002), the CRA FA potentially could be useful for that problem behavior as well. The same structure (triggers, behavior, consequences) can be utilized to concretely identify the problem behavior and areas in which interventions can be made.

Some eating disorder clinicians have reported anecdotally that they find it useful to modify the food-monitoring procedure; the cornerstone of CBT for BN (Fairburn et al., 1993; 2008), such that it more closely resembles an FA chart. The normal self-monitoring procedure entails having clients record everything they eat each day, as well as what time they eat, and the thoughts and feelings they have about what they have consumed. These forms are then thoroughly reviewed during the treatment sessions. Together the clinician and client look for patterns associated with binge-eating, with the intent of helping the client find alternative responses to the triggers. When these monitoring sheets are modeled after the CRA FA form, the triggers are more explicitly described and accessible to the client and clinician, eliminating the need for these events to be reconstructed from the client's memory. Furthermore, the positive and negative consequences of the eating are queried each time the FA form is used, thereby enhancing awareness of the motivation for the eating *and* clearly highlighting the drawbacks of the action.

CRA's Prosocial Counseling

The goal of CRA is to reduce problematic behaviors by replacing them with reinforcing, healthy, and enjoyable activities. In part, this goal is addressed through employing social and recreational counseling procedures that help clients determine which activities they

either would like to engage in more frequently or try for the first time (Meyers & Smith, 1995). These procedures (described below) complement the goals of CBT and CBT-E for BN. CBT recommends that clients engage in behaviors that are pleasurable alternatives to binge eating (Fairburn et al., 1993). These behaviors are intended to be incompatible with binge eating, and should be undertaken as a means of coping with, or distracting the individual from, the desire to binge. CBT-E includes a component intended to address the client's overvaluation of weight and shape (Fairburn et al., 2008). In doing this, clinicians and clients work together so that clients can develop other domains by which to evaluate themselves. This procedure includes identifying new, pleasant activities the clients can imagine attempting.

A CRA Functional Analysis (FA) of Prosocial Behavior can be implemented towards this end. For this FA, the behavior selected is a prosocial, reinforcing activity that the client already has engaged in to some extent. The FA is undertaken in order to determine how the client can participate in this activity *more*. The negative consequences of the activity would be thoroughly scrutinized so that the clinician and client could discover ways to reduce them, thereby making the activity more accessible and inviting. For example, assume a client enjoys riding her bicycle, but has been reluctant to do so because she does not like to subject herself to possible scrutiny when she is not skilled at an activity. The clinician and client would work together to reduce this roadblock via various routes (e.g., problem solving). The sampling of this activity would then explicitly be planned out and assigned as homework.

In addition to the Prosocial FA, problem-solving (see below) can be used to enhance an individual's social/recreational life. Time would be devoted to finding activities that the client might be interested in trying for the first time. For those clients who have great difficulty during the brainstorming step of problem-solving, and consequently are at a loss of ideas for new activities, the therapist could use the Leisure Questionnaire (Dennis et al., 2004). This instrument details more than 300 options for

prosocial activities. Although originally developed for use with adolescents as part of the adolescent version of CRA (A-CRA), it appears to be applicable to adults too. Clients rank the items listed on the Leisure Questionnaire according to how interested they might be in sampling the activities, and then narrow it down to 1-2 items to attempt. A precise plan is made regarding how the activity will be sampled, and per usual, potential obstacles are addressed.

CRA's Communication Skills

Females with bulimia nervosa frequently report significantly more communication problems with family members and friends than do females without eating disorders (Moreno, Selby, Aved, & Besse, 2000). Poor communication in families of bulimic individuals is marked by increased conflict, low levels of cohesion and closeness, and low levels of emotional support (Shisslak, McKeon, & Crago, 1990). Furthermore, evidence suggests bulimic symptoms, such as binges, are predicted by family stressors among individuals with BN who perceive their families to be high in conflict and unable to express emotions appropriately (Crowther, Kichler, Sherwood, & Kuhnert, 2002; Okon, Greene, & Smith, 2003). Family interactions also can influence the course and severity of BN. High "Expressed Emotion" (EE) is a construct which describes high levels of criticism and blaming, and low levels of warmth. In comparing BN individuals with high and low EE family backgrounds, individuals from high EE family backgrounds have greater severity of eating disorder symptoms over the course of several years (Hedlund, Fichter, Quadflieg, & Brandl, 2003). Furthermore, high EE is predictive of higher levels of depressive symptoms, which negatively predicts treatment success (Fairburn et al., 2008; Hedlund et al., 2003).

While a negative communication *style* can have an adverse impact on bulimic symptoms, so too can the *content* of these communications. Parental teasing and criticism about weight is a significant predictor of body dissatisfaction, a central component of BN

(Agras, Bryson, Hammer, & Kraemer, 2007). Furthermore, parents' comments about their own body dissatisfaction predict heightened levels of body dissatisfaction among daughters (Leung, Schwartzman, & Steiger, 1996).

In addition to evidence suggesting that conflict-laden communication has a negative impact on bulimic symptoms, there is also a growing body of literature which suggests that individuals with BN exhibit significant social impairments. Women with BN report more negative social perceptions, moods, and greater self-consciousness in social interactions than either formerly bulimic or non-eating-disordered controls. Bulimic women also report experiencing larger increases than controls in self-critical thoughts following negative social interactions (Steiger et al., 1999). Furthermore, women with BN exhibit significantly higher levels of public self-consciousness and social anxiety than controls (Striegel-Moore, Silberstein, & Rodin, 1993). Importantly, poor social adjustment is linked to poor treatment outcome for bulimic individuals engaged in CBT (Agras et al., 2000).

Given this convergence of evidence suggesting that individuals with BN struggle with communication, which in turn negatively impacts bulimic symptoms, a formalized procedure addressing communication skills training appears warranted. Ideally these skills would be taught to both the client and the family members; nonetheless, it is worthwhile to proceed with communication skills training with just the individual client. The CRA communication skills procedure is designed to help clients communicate in a manner that decreases blaming and defensiveness and makes it more likely that clients will get what they want out of the conversation (Meyers & Smith, 1995). CRA communication skills training is comprised of seven components: (1) be brief, (2) refer to specific behaviors, (3) use positive wording; state what you would like to see, (4) state your feelings, (5) give an understanding statement, (6) accept partial responsibility, and (7) offer to help. These components are explained and examples relevant to the particular client's situation are generated. Next, the positive

components are practiced in role-plays of realistic conversations the client may want to have with family or friends. The clinician offers the client feedback about each role-play, and the role-plays are repeated until the client appears comfortable and competent. A homework assignment is given in which the client makes plans to attempt the conversation that has been practiced in-session.

As an example, assume that a 25 year-old female client was upset about her mother's predictable comments about her eating habits every time the client had dinner with her parents. The client would be asked to select several components of CRA's positive communication procedure, and to incorporate them into an assertive conversation with her mother about the issue. After rehearsing the conversation several times in the course of role-plays, the final conversation might sound something like the following: "Mom, I know that you worry about my health a lot (*understanding statement*), and that's why you often make comments when I eat quickly (*brief, specific*). And I know that my eating problems over the years have contributed to your concern (*accept partial responsibility*). But I wanted you to know that it makes me feel really self-conscious and uncomfortable when you do that (*feelings statement*).

Including the CRA communication skills procedure in the treatment of BN may be useful in helping clients learn to convey their thoughts, feelings, and needs in a non-conflictual manner. As a result, family interactions in particular may become more supportive and positive, which may improve the client's overall prognosis. Additionally, by learning these communication skills clients may be better equipped to respond to weight-related teasing in a constructive manner. Lastly, by learning and practicing the basics of positive communication, clients' social anxiety may diminish as they begin to feel more confident in the social arena.

CRA's Problem-Solving Skills

CRA includes a problem-solving skills module which is virtually identical to that found

in CBT for BN (D'Zurilla & Goldfried, 1971). This seven-step process helps clients break problems down into manageable steps and solve them in sequence. Despite the similar format of the problem-solving skills training for the two different treatments, CRA typically introduces the procedure earlier in the treatment protocol than does CBT for BN. The latter tends to include problem solving in stage 2 (sessions 9-16). Although there is no specific session earmarked for problem-solving training in CRA, it is one of the behavioral skills that tends to be taught within the first few sessions. Conceivably some individuals with BN might benefit from learning this skill sooner as opposed to later in their treatment, particularly those who are struggling with the more cognitive aspects of CBT.

Conclusions and Future Directions

Due to the limitations of CBT for BN, the study of additional therapeutic techniques appears warranted. Given the theoretical similarities between CBT and CRA, as well as some of the unique procedural differences, it appears as if components of CRA may serve as useful adjuncts to standard CBT treatment. Research should be conducted to determine the utility of the CRA procedures described above and the overall increased emphasis on reinforcement in the treatment of BN.

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COMMUNITY REINFORCEMENT AND FAMILY TRAINING (CRAFT):
AN EFFECTIVENESS STUDY

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Community Reinforcement and Family Training (CRAFT) is a cognitive-behavioral program designed to get treatment-refusing substance-abusing individuals to enter treatment by teaching family members how to support a clean/sober lifestyle. Additionally, CRAFT teaches family members how to improve their own lives, regardless of whether their loved one enters treatment. The Santa Fe County CRAFT Project examined whether CRAFT could be successfully transferred from a controlled research setting to a community treatment center. Although the liberal client selection procedures allowed for the recruitment of a heterogeneous sample of interested family members, engagement results obtained in this effectiveness study (55%-65% engaged) were roughly comparable to the controlled research findings. This study demonstrated that CRAFT could be successfully transferred to a community treatment agency.

Key words: CRAFT, cognitive-behavioral, substance abusers, engagement, treatment-refusing, unmotivated, family treatment

Community Reinforcement and Family Training (CRAFT) is a cognitive-behavioral program designed to get treatment-refusing substance-abusers (Identified Patients: IPs) to voluntarily engage in treatment by teaching family members (Concerned Significant Others: CSOs) the necessary skills to successfully influence the IP (Meyers & Wolfe, 2004; Smith & Meyers, 2004; Smith, Meyers, & Austin, 2008). In addition, CRAFT teaches the family members skills to enhance their own lives, regardless of whether their IP enters treatment. The efficacy of CRAFT has been demonstrated in multiple research trials (e.g., Kirby, Marlowe, Festinger, Garvey, & LaMonaca, 1999; Meyers, Miller, Smith, & Tonigan, 2002; Miller, Meyers, & Tonigan, 1999; Sisson & Azrin, 1986). Importantly, the treatment engagement outcomes appear independent of both the type of relationship the CSO has with the IP (e.g., is the IP's spouse, mother), and the IP's drug of choice.

It has been recognized for years now that although highly controlled efficacy trials are critical starting points in the treatment outcome

field, community-based quasi-experimental effectiveness trials are essential as well (Chambless & Hollon, 1998; Garske & Anderson, 2003; Goldfried & Wolfe, 1998). Effectiveness trials are set up as a more naturalistic delivery of the empirically-based treatment, which typically implies less experimental control. The reduction in experimental rigor is the result of factors such as non-random treatment assignment, the inclusion of participants with comorbid disorders and/or involvement in other active treatments (e.g., psychotropic medication), and the reliance upon therapists with both limited ongoing supervision and with a training background that is sometimes vastly different from the treatment under study. The less-controlled design is considered a reasonable trade-off, however, in exchange for greatly improved external validity (Chambless & Hollon, 1998; Garske & Anderson, 2003; Morrison, Bradley, & Westen, 2003; Seligman, 1998). The ultimate goal is to solve the problem of empirically-supported treatments being rarely used in treatment settings (Carroll & Rounsaville, 2003).

The primary objective of the Santa Fe County CRAFT Project was to demonstrate that CRAFT procedures, already shown to be effective through years of university-level research, could be successfully implemented in a community mental health/substance abuse treatment center, and could achieve IP engagement rates comparable to the controlled studies. Additional goals (not addressed in this paper) included training local substance abuse treatment providers in the CRAFT approach, decreasing substance abuse in the treatment-resistant population, and developing modifications of the CRAFT approach to meet the specific local conditions and population.

This project was supported by a Targeted Capacity Expansion grant from the Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration. The grant was awarded to Santa Fe County Health and Human Services Department, and was implemented over approximately 3 ½ years. Clients were enrolled from the city of Santa Fe, New Mexico and from surrounding areas within an hour's drive. Recruitment procedures included newspaper advertising, flyers inserted in state employees' paychecks, booths at community fairs, and talks to professional organizations. Although some clients learned of the project through the legal system, all participation was voluntary. There was no charge to clients for services, and cash incentives were provided to encourage clients to provide follow-up data.

CRAFT services were provided by The Life Link, Inc., a community mental health/substance abuse treatment center that provides multiple ancillary services, including psychiatric, housing, family assistance, employment, psychosocial rehabilitation, and GED preparation in partnership with the local community college. Active in the Santa Fe community since 1987, The Life Link is a centrally located and well-established treatment provider, serving over 1,800 clients annually. Life Link staff were trained and supervised in CRAFT procedures by Robert J. Meyers, Ph.D., the originator of CRAFT (Meyers, Smith, & Lash, 2005; Meyers & Wolfe, 2004; Smith &

Meyers, 2004). Identified Patients who chose to enter treatment could access services paid for by the CRAFT Project at The Life Link, or at their own expense at other community agencies and with private practitioners. Since the project was designed primarily to determine whether CRAFT procedures were successful in encouraging IPs to enter treatment, rather than to determine if treatment was successful, IP engagement data were collected through interviews with the CSOs.

This paper reports on IP engagement and CSO outcomes for a CRAFT program implemented in a non-research setting. Although the paper does not focus on the challenges to conducting this community-based study, it should be noted that during the project there were various administrative and process issues that greatly affected staff and clients, and that may have had an impact on the outcomes. Among these were the terrorist attacks on the World Trade Center and the death of one of the female Life Link CRAFT therapists, who was married to another Life Link CRAFT therapist. While it is not possible to quantify what effect these events had on staff and clients, they appeared worth noting.

Method

Participant Characteristics

Given that CRAFT is designed to work with the CSOs of treatment-refusing IPs, the CSOs were both the main clients and the participants in this research project. In order for a CSO to be eligible for the project, the CSO had to:

- be concerned about and have direct knowledge of alcohol abuse (either with or without other substance abuse) of either a first degree relative (parent, child, or sibling) or a marital spouse or intimate partner (heterosexual or homosexual) who was not currently seeking treatment;
- have contact with the abuser at least 40% of the last 90 days, and to expect to maintain contact over the next 90 days;

- be at least 18 years of age;
- have evidence that the abuser met DSM-IV criteria for Alcohol Abuse
- show no signs of unremitted psychosis or other condition which could seriously impair the CSO's ability to understand and participate in treatment;
- be willing to participate in treatment;
- reside within approximately an hour's drive from Santa Fe, and have adequate transportation to get to CRAFT sessions.

In contrast to more tightly controlled research studies, we did not exclude CSOs who appeared to have a substance abuse problem themselves. The one exception was if there was current injectable drug abuse (for either the CSO or the IP), in which case they were excluded from this project and referred to a treatment agency specializing in that problem. As noted above, we also did not exclude CSOs who reported that their IP had multiple drugs of abuse or dependence.

Initially 114 CSOs were recruited into the CRAFT project at The Life Link. Seven of the CSOs never started CRAFT despite completing the assessment, and eight CSOs started but were excluded later upon discovering that the CSOs did not satisfy the eligibility criteria (e.g., insufficient contact with the IP). Therefore, 99 CSOs comprised the final data set.

Table 1 presents the demographic characteristics of the CSOs. Overall, CSOs tended to be married female Hispanics in their fifties with a high school education. They were employed full- or part- time. They primarily were concerned about alcohol abuse as opposed to drug abuse.

Approximately 90% resided in Santa Fe County and 88% resided in the city of Santa Fe.

Table 1
CSO Demographic Characteristics

Mean Age in Years (n=98)	50.9 (SD = 12.5)
Mean Years in Education (n=96)	13.2 (SD = 2.9)
Marital Status (n=91)	n (%)
Married	48 (52.7%)
Divorced	22 (24.2%)
Single	16 (17.6%)
Separated	2 (2.2%)
Widowed	3 (3.3%)
Race (n=25)	n (%)
Other	18 (21.2%)
American Indian	2 (2.4%)
White	65 (76.5%)
Hispanic or Latino (n=93)	n (%)
Yes	55 (59.1%)
No	38 (40.9%)
Gender (n=99)	N (%)
Male	10 (10.1%)
Female	89 (89.9%)
Employment (n=95)	n (%)
Employed full time	46 (48.4%)
Employed part time	19 (20.0%)
Unemployed, looking for work	15 (15.8%)
Other (specify)	10 (10.5%)
Unemployed, retired	4 (4.2%)
Unemployed, disabled	1 (1.1%)
Relationship to Identified Patient (n=99)	
Mother	25 (25.3%)
Wife	24 (24.2%)
Significant Other	16 (16.2%)
Other	12 (12.1%)
Husband	7 (7.1%)
Other Relative	6 (6.1%)
Son	4 (4.0%)
Father	3 (3.0%)
Daughter	2 (2.0%)
Primary Drug of Concern (n=95)	n (%)
Alcohol	86 (90.5%)
Cocaine	7 (7.4%)
Heroin	1 (1.1%)
Methamphetamine	1 (1.1%)

Measures

Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). This 21-item measure examines symptoms of depression. Each item consists of four possible responses that are scored from 0 (no symptom present) to 3 (most extreme symptom presentation). Total scores on the BDI-II range from 0 to 63. The BDI-II demonstrates adequate test-retest reliability and convergent validity with other measures of depression (Beck et al., 1996).

State-Trait Anger Inventory (STAXI; Spielberger, 1996). The STAXI is a 44-item

self-report questionnaire which yields 5 subscales: State Anger, Trait Anger, Anger Outbursts, Anger Suppression, and Anger Control. Items are rated on a 4 point Likert scale. Higher scores indicate greater degrees of anger. This scale has demonstrated very good reliability and validity in both clinical and nonclinical groups.

State-Trait Anxiety Inventory (STAI; Spielberger, 1983). The STAI is composed of two 20-item self-report scales. One scale measures state anxiety; namely, how the participant is feeling "right now". The scale measuring trait anxiety reports on how the participant feels in general. Items are rated on a 4 point Likert scale. For the state anxiety scale items are rated from "not at all" to "very much so", while the trait anxiety items are rated from "almost never" to "almost always". This scale has excellent internal consistency, test-retest reliability, convergent and discriminant validity (Gros, Antony, Simms, & McCabe, 2007). Total scores for each subscale range from 20 to 80, with higher scores indicating greater anxiety.

Relationship Happiness Scale (Azrin, Naster, & Jones, 1973). This clinical instrument instructs individuals to rate their current happiness with their partner across 10 domains on a scale of 1 (Completely Unhappy) to 10 (Completely Happy). Representative domains include Drinking/Drug Use, Household Responsibilities, and Social Activities. The final rating is for "General Happiness". CSOs in the current study rated their happiness with their IP over the previous 30 days.

Michigan Alcohol Screening Test (MAST; Selzer, 1971). This 25-item measure screens for symptoms of alcohol dependence. Each item describes the symptoms or consequences of alcohol abuse (e.g., "Have you ever lost friends because of your drinking?") and requires a "yes" or "no" response. Each MAST item is weighted and total scores range from 0 to 53, with higher scores indicating increased symptomatology. Scores above the cutoff of 5 indicate the possible presence of an alcohol use disorder (Selzer, 1971). The MAST has

demonstrated concurrent validity with diagnoses based upon structured interviews (Watson et al., 1995).

Results

CSO Baseline Measures

Table 2 presents the baseline mental health measures for CSOs. On average, CSOs were experiencing mild to moderate depression (Beck, Steer, & Garbin, 1988), and elevated levels of anger compared to those reported in other CRAFT studies. In terms of anxiety, CSOs' mean state and trait anxiety fell at the 93rd percentile for normal adult females. If one examines norms for a treatment-seeking sample (i.e., general medical/surgical patients), state anxiety of the CSOs drops to the 61st percentile for females, and trait anxiety drops to the 57th percentile. On the Relationship Happiness Scale (Azrin et al., 1973), CSOs' average score on the "General Happiness" item indicated that they were feeling moderately happy with their relationship at the time that they started the study.

Table 2
Baseline CSO Mental Health Characteristics

	Mean	Standard Deviation
Beck Depression Inventory (n=97)	15.4	12.1
State Anger (STAXI) (n=95)	22.2	10.2
Trait Anger (STAXI) (n=95)	17.3	5.9
State Anxiety (STAI) (n=96)	47.0	14.9
Trait Anxiety (STAI) (n=96)	43.3	13.3
General Happiness (n=83)	6.3	2.6

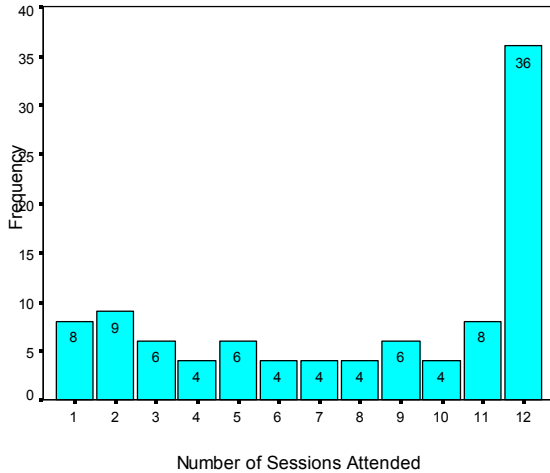
Note. STAXI = State-Trait Anger Inventory; STAI = State-Trait Anxiety Inventory; General Happiness = overall relationship happiness item from Relationship Happiness Scale.

CSO Attendance and Follow-Up

Would CSOs receiving services in the community participate in CRAFT training as consistently as those in research settings? Figure 1 below shows the number of CRAFT sessions attended by CSOs. Of the 12 planned sessions

CSOs attended an average of 8.0 sessions; i.e., 67% of the possible 12 sessions.

Figure 1: Number of Sessions CSOs Attended



Given that we were dealing with a voluntary client population that was less highly selected than those in the university studies, and perhaps more geographically dispersed, follow-up presented significant challenges. The 12-month completion rate in our study is artificially low, as some of the clients started the project in the second half of Year 3 and consequently were not yet due for their 12 month interview when the project concluded. Follow-up completion rates were 52% (3 months), 57% (6 months), and 48% (12 months).

We checked for potential differences in measures assessed at baseline between CSOs who were assessed at 6 months versus those who were not. Of the 12 measures examined, the only difference reaching significance at $\alpha = .05$ was that in the age of the CSO. CSOs who completed the 6-month follow-up were significantly older than those who were not assessed at 6 months (54 vs. 47 years old). Thus, one can be reasonably certain that the follow-up data are representative of all CSOs in the study.

Treatment Engagement

The major focus of this project was engagement of the treatment-refusing IPs into

treatment. Engagement was defined as completing the assessment process at the Life Link, or a CSO’s report that the IP had entered a treatment program at a facility other than Life Link within six months from the time the CSO began the CRAFT program. We calculated the engagement rates in three ways: (1) for all CSOs regardless of the number of sessions they attended, (2) for CSOs who attended at least four sessions, and (3) for CSOs who attended at least four sessions or who had an IP engage regardless of the number of sessions (see Table 3). The most conservative calculation gave an overall engagement rate of 55%. Dr. Meyers, developer of CRAFT, considers CSO attendance at a minimum of four sessions necessary for them to develop adequate skills to appropriately engage their IPs. Using this criterion, the engagement rate increased to 62%. The third method of calculating engagement included those CSOs who attended at least four sessions or who simply engaged their IP (regardless of the number of sessions attended). The third method resulted in an engagement rate of 65%.

Table 3
Treatment Engagement Rates

All CSOs	
Total Number of IPs	99
Number of IPs Engaged	54
Percent of IPs Engaged	55%
CSOs who attended 4 or more sessions	
Total Number of IPs	76
Number of IPs Engaged	47
Percent of IPs Engaged	62%
CSOs who attended 4 or more sessions or had an IP engage (regardless of number of sessions)	
Total Number of IPs	83
Number of IPs Engaged	54
Percent of IPs Engaged	65%

We examined whether a particular category of relationship between the CSO and the IP predicted success in influencing the IP to enter treatment. Relationship categories were collapsed into spouse or significant other, parents, and all other relationship types. No one relationship type was found to be more successful for IP engagement. No difference in engagement rate of IPs was found when calculated by CSO:

- age (average for not engaged = 50 years; average for engaged = 52 years);
- educational level (13 years for both groups);
- gender (male CSOs tended to have a higher engagement rate compared to females, but the difference was not significant)

We next explored potential differences in substance use for the IPs who had been engaged and those who had not. Estimates of the severity of the IP’s drinking problem did not differ between CSOs who were able to engage their IPs and those who were not able to do so. As expected, alcohol was the primary drug for both the engaged IPs (90.9%) and the non-engaged IPs (89.4%).

One major question was whether we were reaching CSOs whose IPs had a level of alcohol intake that was cause for concern. The average MAST score for the subset of IPs who entered treatment was 26 (SD = 13), which suggested a relatively severe alcohol problem.

We also were interested in determining the number of sessions CSOs attended before their IP engaged in treatment. CSOs who engaged their IP took anywhere from 1-12 sessions (M = 3.9 sessions), with 30% of them engaging their IP after just one CSO session.

CSO Functioning Over Time

We used a repeated measures analysis to determine CSO improvement in functioning over time, regardless of whether the CSO had successfully engaged the IP in treatment. The results are presented in Table 4. For the main analysis we elected to run the analyses for the baseline, 3 and 6-months time points. We excluded the 12-month follow-up, in part because a fair number of the CSOs were not even due for their 12-month follow-up at the time the project ended. This contributed to the substantial number of missing 12-month interviews, which in turn severely impacted the sample size (i.e., from 38 down to 26). Nevertheless, when a secondary set of analyses was conducted using the subset of CSOs who had complete data for all time periods, the final

results in terms of which variables showed significant changes remained the same.

The Beck Depression Inventory (BDI) scores of the CSOs changed significantly over time, reflecting an overall reduction in depression, $F(1,34) = 21.01, p<.001$. State anger also decreased significantly over time, $F(1,37) = 8.478, p<.01$, but trait anger did not. Both state and trait anxiety significantly decreased over time, $F(1,37)=16.09, p<.001$, and $F(1,37) = 10.94, p<.01$. The Relationship Happiness Scale also significantly improved over time, $F(1,27) = 4.81, p<.05$.

Table 4
Concerned Significant Other Functioning: Intake, 3-months, 6-months

Measure and Time	Mean	SD	Time Effect
Beck Depression Inventory (n=35)			***
Intake	16.1	11.8	
3 Months	11.5	10.9	
6 Months	8.8	10.4	
State Anger (STAXI) (n=38)			**
Intake	21.8	9.2	
3 Months	22.5	10.6	
6 Months	17.9	5.7	
Trait Anger (STAXI) (n=38)			ns
Intake	16.7	6.3	
3 Months	18.5	9.5	
6 Months	16.1	6.4	
State Anxiety (STAI) (n=38)			***
Intake	45.2	15.7	
3 Months	38.7	16.8	
6 Months	35.5	16.7	
Trait Anxiety (STAI) (n=38)			**
Intake	43.1	12.3	
3 Months	37.8	14.7	
6 Months	37.3	12.8	
General Happiness (n=28)			*
Intake	6.7	2.6	
3 Months	7.1	2.5	
6 Months	7.6	2.5	

Note. STAXI = State-Trait Anger Inventory; STAI = State-Trait Anxiety Inventory; General Happiness = overall relationship happiness item from Relationship Happiness Scale.
*p<.05, **p<.01, ***p<.001

In order to determine whether CSOs with IPs who entered into treatment would improve in functioning more than those with IPs who had not entered treatment, we performed further analyses with baseline drinking as a covariate. There were no significant differences detected between CSOs whose IPs had entered treatment and CSOs whose IPs had not entered treatment; the CSOs experienced a similar benefit in mental health functioning. This is supported by the clinical interview data, as many

providers reported that even in the absence of the IP entering treatment, the overall functioning of the CSO was improved through participation in CRAFT.

Therapist Differences

Therapists may differ in success rates in helping their CSO get their IP into treatment. We divided the therapists into those who worked with less than 10 CSOs and those who worked with 10 or more CSOs. The concern was that therapists with smaller caseloads might have unrepresentative rates and thus the reliability would be higher for therapists who treated at least 10 cases (Miller et al., 1999). Analyses determined that therapists with 10 or more cases had an engagement rate of 56% compared to 50% for those with less than 10 cases. This difference was not significant.

Discussion

Our major outcome, IP engagement into treatment within 6 months, ranged from a high of 65% to a low of 55%, depending on which calculation was used. But it is also the case that some IPs likely entered treatment at other agencies without our awareness, thus artificially depressing our engagement rate. We know that 27% of the engaged IPs of which we were aware sought treatment at an agency other than the Life Link. And given the low follow-up rates, we did not have complete information from a fair number of CSOs; some of whom may have engaged their IPs and simply not informed us. Miller and colleagues (Miller et al., 1999) reported a 64% engagement rate for treatment-resistant alcohol abusers. The rates varied somewhat for studies that engaged illicit drug users: 64% (Kirby et al., 1999), 67% (Meyers et al., 2002) and 74% (Meyers, Miller, Hill & Tonigan, 1999).

A 55% - 65% range seems respectable given that this project used very few exclusion criteria for its CSOs, and the study was completed in a community-based setting with an agency's regular clinical staff. Although the therapists received ongoing supervision throughout the project, it was fairly common for

several of them to periodically resort back to divergent theoretical and practical treatment backgrounds. Conceivably the engagement rates would have been even higher if treatment fidelity had been optimal. Another potential influence on the engagement rate was the fact that several monolingual (Spanish speaking) CSOs (n = 7) were recruited into the study before some of the materials (forms, etc.) had been fully translated. Since the engagement rate for this subset was only 29%, one must wonder about unaddressed complications associated with the language or the culture. Finally, it is conceivable that the IPs were different in significant ways from the IPs of the earlier CRAFT studies, inasmuch as a substantial number of them appeared to have multiple substance abuse diagnoses. For example, secondary drug use reported by engaged IPs for the 30 days prior to treatment entry included cocaine (20% of IPs), marijuana (15%), and miscellaneous other drugs (6%).

Our finding of an average of 3.9 CSO CRAFT sessions before IP engagement was somewhat lower than the 4.7 found in the Miller et al. (1999) study. This was largely due to our study having 30% of the engaged IPs entering treatment after only one CSO session. Although the project advertised for the loved ones of substance abusers who were *unwilling* to enter treatment, conceivably the recruitment process was not sufficiently rigorous to screen out the adamant treatment-refusing IPs (Meyers et al., 1999; 2002; Miller et al., 1999) from the merely unmotivated IPs. It should be noted, however, that the IPs from whom we gathered self-report data indicated a lengthy duration of self-perceived problem drinking, with a mean of 12.9 years. Regardless of precisely *how* unwilling this subset of quick-responding IPs was to enter treatment, CSOs enrolled in a CRAFT program were the catalyst to treatment engagement for them.

It is also possible that the high percentage of IPs who sought treatment after just one CSO session was instead a reflection of the CSOs in the current study "jumping the gun" when it came to inviting their IPs to attend. CRAFT therapists routinely have to slow down

eager CSOs so that therapy time can be devoted to teaching them important relationship and self-care skills. One might wonder whether the abrupt entry of an IP into treatment somehow interfered with the CSO's development of self-care skills, and indirectly contributed to the higher than normal dropout rates of the CSOs in this study.

In terms of characteristics of the CSOs, we found that CSO baseline depression for the entire sample ($M = 15.4$) was higher than the intake depression ($M = 10.6$) reported in the main CRAFT alcohol study (Miller et al., 1999), but quite comparable to that reported in the Meyers et al. (1999) illicit drug study ($M = 14.2$). It was also the case that our CSOs reported higher state anger at baseline ($M = 22.2$) than did the CSOs in the Miller study ($M = 13.0$) and the Meyers et al. (1999) study ($M = 14.7$). Although anxiety measures were not used in the Miller study, our state and trait anxiety levels at baseline were just slightly lower than the levels reported in the Meyers et al. (1999) study. As far as relationship satisfaction, the CSOs in the current study rated it a 6.3 on a 10-point scale, whereas initial relationship satisfaction in other CRAFT studies was rated 4.9 (Miller et al., 1999) and 4.5 (Meyers et al., 1999). Thus, our CSOs entered the program with relatively higher levels of relationship satisfaction. In summary, the psychological profile of our CSOs at intake was one of somewhat more depression and anger than that of CSOs in previous studies, but with more satisfaction in their relationships. Conceivably we lost more CSOs earlier in treatment ($M = 8$ sessions vs 10.7 in Miller et al., 1999) and from follow-up due to the combination of the CSOs' initial negative feelings being reduced (at least temporarily) early in treatment, and their already somewhat satisfying relationship with their IP from the onset.

With regard to average changes in CSO functioning by the time of the 6-month follow-up, the level of depression ($M = 8.8$) had dropped to within the normal range, and was quite similar to the mean of the Miller et al. (1999) alcohol study ($M = 7.0$) and the Meyers et al. (1999) drug study ($M = 8.0$). Although

trait anger did not change significantly over time, state anger did. The 6-month state anger average for the current study ($M = 17.9$) was markedly higher than the means reported for both the Miller study ($M = 10.9$) and the Meyers study ($M = 9.8$). State anxiety had decreased from the 93rd to the 69th percentile when using the norms for normal females, or from the 61st to the 46th percentile when using norms for a clinical sample. Trait anxiety dropped as well; from the 93rd to the 76th percentile for normal females, and from the 57th to the 47th percentile for a clinical sample. The 6-month state ($M = 35.5$) and trait ($M = 37.3$) anxiety averages for the current CSOs were comparable to the state ($M = 35.0$) and trait ($M = 35.0$) anxiety means for the Meyers et al. study. The "General Happiness" item on the Relationship Happiness Scale increased to 7.6 out of a possible 10 points, which was considerably higher than the 6-month average for both the Miller ($M = 6.4$) and the Meyers ($M = 5.9$) studies. Overall, CSOs in the current study, regardless of whether their IP entered treatment, showed noteworthy improvement across multiple indices of psychological functioning. With the exception of the current CSOs' state anger still being uniquely elevated at 6-months, the final levels of the remaining psychological constructs were at least comparable to those found in the earlier CRAFT studies.

The relatively large amount of missing data is problematic for this study. Although the original 99 CSOs was a respectable number, there were 48% and 43% missing surveys at the 3- and 6-month time points, respectively. The result is a reduction in the ability to detect change. Importantly, when the intake data were compared on CSOs for whom we did and did not have follow-up data, the only significant difference found was on CSO age. We believe this suggests that the available data are likely representative of the CSOs in general who started the study. Future effectiveness studies should consider offering more than a \$20 incentive for follow-ups, and having adequate staff assistance so that attempts to contact participants for follow-up appointments can be ongoing and persistent.

In conclusion, despite the challenges of providing CRAFT treatment by therapists who were tasked with changing over-learned treatment behaviors to follow a new protocol, with CSO and IP populations that were more inclusive (i.e., “complicated”) than those in the typical research study, and given the major disruptive events of 9/11 and the death of one therapist/spouse, we did achieve encouraging results:

- CSOs influenced their IPs to engage in treatment in up to 65% of the cases, and
- CSOs’ functioning improved over time

An additional, unexpected positive outcome of this project was the diffusion of the CRAFT approach into other venues. A major New Mexico health insurance provider now includes reimbursement for CRAFT treatment, and the San Juan County DWI Center now requires participation in CRAFT for DWI offender families. Further, The Life Link Training Institute was developed, and staff members now travel nationally and internationally to present CRAFT training.

In summary, this project demonstrates that, challenges notwithstanding, the CRAFT program can be successfully transferred to the community clinic treatment setting. CRAFT researchers might consider conducting future studies that are so-called “hybrid” models; designs which contain critical components of both efficacy and effectiveness research (Carroll & Rounsaville, 2003).

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COMMUNITY REINFORCEMENT AND FAMILY TRAINING FOR
TREATMENT RETENTION AND HIV BEHAVIORAL RISK REDUCTION: A STUDY PROTOCOL

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Drop-out from drug treatment following opiate detoxification represents a major health concern. This paper describes a study protocol for adapting Community Reinforcement and Family Training (CRAFT) to address treatment retention and HIV behavioral risk reduction. Study participants will include 52 dyads each consisting of one opiate dependent person recruited during a 13-day buprenorphine naloxone taper and their respective concerned significant other. Study procedures include development of a modified behavioral therapy and an initial randomized clinical trial. The primary outcome measure is the opiate dependent person's retention in drug abuse treatment. A number of secondary outcomes will be measured, including both sexual- and drug injection-related HIV risk behavior reduction.

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Opiate addiction is a chronic disorder associated with increased criminal activity, illness, unemployment, death, and overall costs estimated to be as high as \$20 billion annually (NIH Consensus Conference, 1998). Opiate addiction has been a particular source of concern because of its role in fueling the HIV/AIDS epidemic. Injection drug users (IDUs), about half of whom inject opiates, are at risk for contracting or spreading HIV through the sharing of injection equipment (Office of Applied Studies, 2003). From 2001 to 2004, injection drug use was the third most common means of exposure to HIV in the United States and accounted for approximately 21% of the HIV/AIDS cases nationally (http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5521a2.htm?s_cid=mm5521a2_e).

Opiates are the most common drug used by injection, and sharing syringes for drug injection constitute a well-known route of HIV transmission. Studies also indicate that HIV can be transmitted through sharing paraphernalia used to prepare injection drugs, such as cookers, filters and rinse water (Hagan, Thiede, Weiss, & Hopkins, 2001; Thorpe et al., 2002). However, injection drug abuse contributes to the spread of HIV far beyond those who inject. Sexual partners of IDUs are at risk for infection through the sexual transmission of HIV. Infants born to mothers who contracted HIV through sharing needles or having sex with an IDU may also become infected. Mothers with injection drug use or who had sex with an IDU accounted for 51% of the 9,078 estimated cases of AIDS in children under the age of 13 in the United States (CDC 2005). A study of 362 married drug-abusing men and their wives found that 40% of the men had engaged in HIV high-risk behavior in the year before entering treatment. Nearly all of the wives reported having sexual intercourse with their husbands during this same time, while 71% of the wives reported being unaware of their husband's high-risk behaviors (Fals-Stewart et al., 2003).

A meta analysis of studies evaluating HIV risk reduction interventions conducted in drug abuse treatment programs found that overall the interventions were effective with a reliable effect size of 0.31 (Prendergast, Urada, & Podus, 2001). The high HIV risk in opioid dependent populations, combined with the finding that intervention lowers HIV risk behavior, provide compelling support for including an HIV risk behavior reduction intervention in treatments for opioid dependent persons and their concerned significant others (CSOs).

Buprenorphine Short-term Taper for Medically Managed Opioid Withdrawal

Methadone maintenance is an effective treatment for opiate addiction, but only about 20% of opiate-dependent individuals receive it (NIH Consensus Conference, 1998; Strain et al., 1993, 1999). As an opioid agonist, methadone has been highly regulated and its availability restricted, which contributes to its limited use (NIH Consensus Conference, 1998). FDA approval of buprenorphine, a partial opioid agonist, has increased the availability of agonist treatment.

A NIDA Clinical Trials Network (CTN) phase III multi-site randomized trial comparing buprenorphine-naloxone (BUP/NX) to clonidine for a 13-day taper detoxification for opioid dependence was conducted in two protocols. The outpatient-initiated taper (6 sites) enrolled 231 participants, and the inpatient-initiated taper (6 sites) enrolled 113 subjects. This trial established that a buprenorphine short-term taper could be used safely and effectively by a wide range of community treatment providers outside of the traditional narcotics treatment system, and that patients using short acting opiates could be inducted directly onto BUP/NX (Amass et al., 2004). The primary findings were that 77% of inpatients assigned to BUP/NX achieved the treatment success criterion compared to 22% assigned to clonidine. In the outpatient BUP/NX taper 29% of patients assigned to the BUP/NX condition achieved the treatment success criterion, compared to only 5% assigned to clonidine (Ling et al., 2005).

Following FDA approval of buprenorphine for drug abuse treatment in 2002 and its subsequent availability for widespread clinical use in early 2003, Maryhaven, one of the clinical sites participating in the NIDA CTN trial, adopted this treatment. In June of 2004, a retrospective study of the first 64 patients was completed. This study found that over 80% of the patients treated with BUP/NX completed the detoxification program and transferred to continuing treatment (Brigham, Amass, Winhusen, Harrer, & Pelt, 2007). This is a substantial improvement over groups of patients receiving the traditional care, clonidine, who continue with treatment at a rate of only about 30%. Unfortunately, subsequent follow-up of these 64 BUP/NX patients found that only 23 (37%) of the 63 patients for whom data were available completed the treatment episode.

Retention in Treatment

Generally retention in treatment is linked to positive outcomes across a wide range of substance abuse problems (Brownell, Marlatt, & Lichtenstein, 1986; Catalano, Howard, & Hawkins, 1988; Walker, Donovan, & Kivlahan, 1983). Retention in drug abuse treatment specifically has been linked to better outcome in several studies (Hser, Joshi, Anglin, & Fletcher, 1999; Sees et al., 2000; Simpson, Joe & Brown, 1997). Greater amounts of treatment have been associated with better social adjustment at follow-up for drug abuse patients (McLellan et al., 1994). The Drug Abuse Treatment Outcome Study collected 1-year follow-up outcomes for 2,966 individuals and reported significant reductions in drug abuse for patients retained in treatment 3 months or longer (Hubbard, Craddock, & Flynn, 1997). Opiate dependent patients have been found to have particularly poor retention in abstinence-based treatment (Paraherakis, Charney, Palacios-Boix & Gill, 2000).

A literature review investigating the utility of drug abuse treatment as an HIV prevention strategy examined 33 studies from 1988 to 1998 with an aggregate sample of over 17,000 drug abuse participants. The review concluded that longer retention in drug abuse treatment generally was associated with better HIV outcomes. These studies were conducted, for the most part, in methadone maintenance programs, leaving data for "drug free" programs lacking. For those drug abusers retained in treatment, risk reduction was primarily related to needle use behavior, with little evidence of decreases in sexual risk behavior (Sorensen & Copeland, 2000). More recent studies/reviews found that methadone maintenance may have an HIV sexual risk reduction effect by reducing the number of sex partners and the frequency of sex exchange (Farrell, Gowing, Marsden, Ling, & Ali, 2005; Gowing, Farrel, Borneman, & Sullivan, 2006). The consistent finding that drug abuse treatment retention is important for achieving positive

outcomes, combined with the notably poor retention rates for opiate dependent persons, highlights the critical need for interventions that target treatment retention in opiate dependent populations outside of methadone treatment.

Involving Concerned Significant Others in Drug Abuse Treatment

A meta-analytic review of family-couples therapy for drug abuse involving 1571 cases found these therapies to have higher treatment retention rates than several comparison treatments (Stanton & Shadish, 1997). Behavioral Couples Therapy, which works with both the drug abuser and the spouse or cohabitating partner jointly, has shown higher levels of drug abstinence and more positive relationships when compared with individual therapies for both male (Fals-Stewart, et al., 1996) and female (Winters, et al., 2002) drug abusers. Network Therapy seeks to form a supportive network of family members and friends who join in the therapy with the patient at various intervals. Preliminary study indicates that Network Therapy produces greater reductions in heroin use and improved treatment compliance compared with controls (Galanter et al., 2004). The approach known as the Community Reinforcement Approach (CRA) has a long history of involving concerned significant others (CSOs) as an integral component of substance-abuse treatment (Azrin, Sisson, Meyers & Godley, 1982; Meyers & Miller, 2001). For example, CRA's treatment for substance abusers enlists the support of CSOs as disulfiram (Antabuse) monitors, partners in marital counseling, participants in re-socialization and reinforcement programs, and relapse-detection monitors.

The Feasibility of Working with Concerned Significant Others for HIV Risk Reduction

In addition to improving drug treatment retention, involving CSOs in treatment may also improve HIV risk behavior outcomes. The feasibility of working with families (Icard, Schilling, & El-Bassel, 1995; McMahan, 2003), as well as the efficacy of focusing on relationships to reduce HIV risk behaviors (El-Bassel et al., 2005) have been documented. Numerous studies have indicated that providing interventions to both members of a couple can promote HIV counseling and testing and increase condom use (Allen et al., 1992; Deschamps, Pape, Hafner & Johnson, 1996; Higgins et al., 1991; Musaba et al., 1998; Padian et al., 1993). One study has suggested that while a relationship-based HIV risk reduction intervention can be effective, effectiveness may not necessarily require that more than one member of the relationship participate in the intervention (El-Bassel et al., 2005).

Community Reinforcement and Family Training (CRAFT). CRAFT is a unilateral family therapy, which unlike Behavioral Couples Therapy or Network Therapy, works primarily with the CSO. An extension of CRA, CRAFT was developed to engage treatment-resistant substance abusers in treatment (Miller, Meyers, & Tonigan, 1999). The CRAFT approach is based on the assumption that a CSO can have a significant influence on a substance abuser (the identified patient; IP). CRAFT is a manual-guided individual intervention with the goal of engaging the IP in treatment and improving the CSO's functioning. This cognitive-behavioral intervention teaches the CSO to use behavioral principles to influence the IP to choose to enter treatment and to reduce substance use. A series of studies have consistently demonstrated the efficacy of CRAFT for CSOs with both alcohol (Miller et al., 1999; Sisson & Azrin, 1986) and drug abusing IPs (Kirby, Marlowe, Festinger, Garvey, & LaMonaca, 1999; Meyers, Miller, Smith, & Tonigan, 2002) over a variety of control groups designed to represent the most common current clinical practices.

Given the high drug treatment drop out rates of opiate dependent persons following opiate detoxification, and the associated risks, interventions are needed to improve treatment retention in this population. Involving CSOs in drug abuse treatment has been found to improve retention and outcomes among IPs. The CRAFT intervention has been found to be particularly robust in engaging treatment resistant substance abusers in treatment.

Specific Aims of the Study

The specific research aims for the current study protocol are to: 1) modify the CRAFT intervention to increase retention in drug abuse treatment for persons with opioid dependence following a 13-day BUP/NX taper initiated in a residential detoxification, 2) modify the CRAFT intervention to decrease HIV risk behavior in IPs and CSOs, 3) achieve the goals of stage-one behavioral therapies development, including: development of a manual-guided therapy, a therapist training model, and treatment fidelity measures, and 4) conduct a randomized pilot study as a preliminary efficacy evaluation of the modified treatment in comparison with treatment as usual.

Method

Overview

The current study is designed to modify a behavioral treatment and conduct a randomized clinical trial as an initial test of its efficacy. The research will be carried out in three phases over a four year period. Phases 1 and 2 are designed to meet the objectives of Stage 1a of the behavioral therapies development model, and Phase 3 is a randomized pilot study designed to satisfy the goals of Stage 1b, in the behavioral therapies development model (Rounsaville, Carroll, & Onken, 2001).

The study will take place at Maryhaven, a community drug abuse treatment program in Columbus, Ohio. All drug dependent individuals who participate in this study will continue with their normal drug abuse treatment at Maryhaven, and will receive the study intervention as an add-on. The primary participants will be the CSOs of the IPs.

Study Phase 1

The primary objective of Phase 1 is to develop a manual-guided adaptation of CRAFT to assist CSOs in their attempts to retain their opioid-dependent IPs in treatment. The modified CRAFT treatment also will include interventions to decrease sexual- and IDU-related HIV risk behavior in both the CSO and the IP. The objectives of this first phase of the research will be accomplished in several steps: 1) a panel of experts will develop an adaptation of the CRAFT manual for this new application, 2) consumer focus groups will be conducted to refine the treatment and evaluate its acceptability, and 3) five CSO and IP dyads will be recruited and administered the modified treatment. The intervention will be referred to as "CRAFT-T." The 'T' signifies that this is a modified version of the CRAFT intervention delivered concurrent with the IP's drug abuse treatment rather than the intervention that is mostly known for its ability to influence resistant IPs to enter treatment.

Participants

Participants in each phase of the study will be dyads consisting of opiate dependent persons who are receiving a 13 day buprenorphine taper. They will be recruited from the Maryhaven Residential Detoxification Program, along with their respective CSO. It is anticipated that 8 dyads will be enrolled for focus groups, 5 dyads as therapy test cases in study phase 1, and later 52 dyads as clinical trial participants in study phase 3.

The same screening and baseline procedures will be used for enrolling participants in each of the research activities. The screening and baseline assessments (see Table 1) will be completed in 1-2 visits during week-one of the BUP/NX taper. The purpose of the screening/baseline phase is to ensure that the study candidates, including CSOs and IPs, satisfy all study eligibility criteria. CSOs and IPs deemed ineligible for the study will continue with the usual treatment procedures at Maryhaven. The inclusion and exclusion criteria for the CSOs are listed in Table 2, while those for the IPs are listed in Table 3.

Procedure

When a basic outline of the modified treatment has been developed, two consumer focus groups comprised of 4-8 participants each will be convened. One group will be populated by IPs and the other by CSOs. The facilitator will lead the group through a series of questions regarding the perceived acceptability and value of each component of the modified treatment. Race, gender and type of relationship between the IP and CSO will be given specific attention for acceptability and relevance. Additional meetings will be convened as necessary to cover all of the material and resolve issues that are raised during the process. Groups will be audiotaped and tapes will be converted to detailed minutes. This consumer feedback will be used to refine the treatment manual and maximize its perceived value and cultural relevance.

The study will convene two small expert advisory panels, one populated with CRAFT experts and the other with HIV risk behavior experts. The expert panels will be lead by the PI and will provide guidance and feedback at each step of the therapy development process. Once the expert advisory panels have reached a consensus that

TABLE-1: Phase 1 Study Assessment and Procedures for IPs and CSOs

Subject Assessment Burden in Minutes	Assessments & Procedures	Screening / Baseline	Treatment Phase	End of Treatment Assessment	Follow-Up 1 Assessment	Follow-Up 2 Assessment
		Study Week → -1 to 0	1 to 14	14	26	38
30	Informed Consent (for study)	X				
	Audio/video tape consent	X				
	HIPAA Form	X				
10	Demographics	X				
30	IP SCID	X				
15	Locator Information	X		X	X	
20	CSO & IP Biopsychosocial	X				
5 - 10	CSO & IP Brief Symptom Inventory	X		X	X	X
5	CSO & IP Relationship Happiness Scale (RHS)	X		X	X	X
5	CSO & IP Kansas Marital Satisfaction	X		X	X	X
-	CSO & IP Study Eligibility Form	X				
-	Randomization Form	X				
5 - 10	IP Risk Assessment Battery (RAB)	X		X	X	X
5 - 10	CSO Risk Assessment Battery (RAB)	X		X	X	X
5 - 10	IP Urinalysis	X	2X	X	X	X
15	IP Drug Use Report	X	**	X	X	X
15	CSO collateral report of IP drug use	X		X	X	X
-	*IP Drug Abuse Treatment Retention			X	X	X
-	CSO Treatment CRAFT-TX		12X	Up to 2X		
-	IP Treatment CRAFT-TX		2X	Up to 2X		
-	Treatment TAU		**			
5 - 10	CSO HAq-II (therapeutic alliance)		12X			
5 - 10	IP HAq-II (therapeutic alliance)		2X			
5	CSO Participant Satisfaction		12X			
5	IP Participant Satisfaction		2X			
10 - 15	AE Assessment		12X	X	X	X
20	Treatment Services Review (IP)			X	X	X
20	Treatment Services Review (CSO)			X	X	X
-	CSO Study Treatment Attendance		12X			
-	IP Study Treatment Attendance		2X			
CSO Total Assessment Time		120	30	95	95	80
IP Total Assessment Time		155	40	105	105	90

*Primary outcome variable **Values unknown at this time

the treatment is ready for initial evaluation, five additional IPs and their respective CSOs will be recruited to receive the treatment. These audiotaped sessions will follow the treatment outline developed in the previous steps. The sessions will be reviewed with both of the advisory panels for consultation on the effectiveness of these sessions and to refine or revise the content. These sessions also will be used to identify material appropriate for training therapists in the next phase of the study. Participants will

complete a Patient Feedback questionnaire (Forman, 2007) and the revised Helping Alliance Questionnaire (Luborsky, Barber, Siqueland, & Johnson, 1996) after each session. The responses on these assessments will be used along with a review of tapes to continue refinement of the therapy. CSO and IP retention in the study treatment will be used to evaluate the feasibility of the treatment. The desired result of this phase of the study is to have a working version of the therapy manual and an initial determination of the length and frequency of the treatment.

Study Phase 2

The primary objective of Phase 2 is to train and certify two therapists to deliver the manual-guided treatment. The secondary goal is to continue to refine the treatment, particularly in the areas of fidelity monitoring and treatment duration, intensity, and frequency. The original CRAFT therapist-training model will be modified to fit the content of the modified treatment. The therapist training will consist of two days of face-to-face sessions with a combination of didactics, demonstrations, and role-plays. Following the training, each therapist will complete two training cases. The fidelity measures used in previous CRAFT studies will be modified for the current study. Where the intervention content is unchanged, the existing measures will be used. A rational approach, which applies clinical judgment and knowledge of the theoretical principles underlying CRAFT, will be used to adapt measures or create new ones as appropriate (e.g., for the HIV risk reduction content).

Inclusion Criterion #	Criterion	Rationale for Criterion
I - 1	Relative, spouse, etc	Needs to know the IP well and have adequate contact with the IP
I - 2	Age 18 or older	Maryhaven does not have Buprenorphine services for minors. Instruments not validated for minors.
I - 3	60 miles from CTP	Must be able to attend weekly meetings
I - 4	Willing to participate	GCP Requirements
I - 5	Signs Informed Consent	GCP Requirements
I - 6	Understands Consent	GCP Requirements
Exclusion Criterion #	Criterion	Rationale for Criterion
E - 1	Available to completion	Must be able to attend weekly meetings and provide outcome information
E - 2	Incapacitating conditions (med, psych, SA)	Must be able to benefit from the treatment
E - 3	CSO violent	Requires more intense treatment
E - 4	CSO suicidal	Requires more intense treatment
E - 5	CSO victim by IP	Requires more intense treatment

Study Phase 3

Phase three of the study is a randomized, parallel, two-group, intent-to-treat clinical trial comparing CRAFT-T to CSO-TAU for assisting CSOs in maintaining their IPs' retention in drug-abuse treatment, and for reducing HIV risk behavior. The study consists of screening/baseline, treatment, and follow-up. Participants will be recruited through admissions to the Residential Detoxification Unit at Maryhaven. All IP's will receive the usual treatment provided by the agency, and the study treatment (CRAFT-T) will function as an add-on to the IP's usual treatment. The study comparison condition (CSO-TAU) described below refers to the usual treatment that CSOs receive at Maryhaven.

Table 3: Summary of Study Criteria for IP		
Inclusion Criteria #	Criterion	Rationale for Criterion
I – 1	Relative, spouse, etc	Needs to have meaningful relationship with CSO
I – 2	Age 18 or older	Buprenorphine taper not offered to minors at Maryhaven
I – 3	BUP patient in detoxification unit	Fundamental requirement of the study
I – 4	Intention to continue in outpatient treatment	Continued treatment is goal of treatment, level of care is a potential confound
I – 5	Willing to participate	GCP Requirements
I – 6	Signs HIPAA releases	GCP Requirements
I – 7	Understands Consent	GCP Requirements
I – 8	DSM-IV Substance Use Disorder (opiate dependence)	Fundamental requirement of the study
Exclusion Criteria #	Criterion	Rationale for Criterion
E – 1	IP violent	Requires more intensive treatment and might endanger CSO.
E – 2	IP suicidal	Requires more intensive treatment
E – 3	Incapacitating conditions (med, psych, SA)	Must be able to benefit from the treatment
E – 4	Under court order to remain in treatment	Would invalidate primary outcome

The primary objective is to conduct an initial evaluation of the efficacy of CRAFT-T relative to CSO-TAU, in helping persons with opioid dependence to remain in treatment following a short-term BUP/NX taper. It is hypothesized that CRAFT-T will be significantly more effective than CSO-TAU as measured by the duration in time that the IP continues in treatment. This will be defined as the number of weeks to the first treatment drop; namely, no drug abuse treatment services for 30 consecutive days.

Participants and Procedure

As an initial evaluation, it is desirable to limit the overall sample size, and hence the risk to subjects and cost of the study. Assuming 26 subjects per group and a level of significance equal to .05 (two-sided), power to detect a moderate treatment effect size ($D=.40$; Cohen, 1988) would be 80%. Therefore, it is anticipated that 52 pairs of CSOs and IPs will be recruited. The CSOs and IPs must meet the same criteria described above for Phase 1 and 2. The criteria for CSOs are summarized in Table 2, while those for the IPs are summarized in Table 3. The treatment phase begins after a candidate has successfully passed the screening evaluations, completed the baseline assessments, and been randomized to one of the two treatments. CSO-IP dyads will be randomized upon completion of the baseline assessments by both IPs and CSOs, provided that they both meet study eligibility criteria. It is estimated that the treatment will last 14 weeks. Participants will not be administratively discharged from the study except under unusual circumstances (e.g., violence). Those who drop out will be encouraged to return for the post-treatment assessment and the follow-ups.

CSOs and IPs will be reimbursed for their transportation, inconvenience, and time for non-treatment visits. It is recommended that participants receive a total of \$20 for screening /baseline, \$10 for each of the 12 treatment-phase assessments, and \$20 for the post-treatment, first, and second follow-up visits. Reimbursement may vary depending upon IRB recommendations.

Randomization plan. The randomization process will be performed by computer. Randomization of participants will be balanced by type of CSO-IP relationship (parent or other), and race (specific minority targeted, other). Randomization is balanced on type of relationship, as some of the previous investigations of CRAFT reported type of relationship to be prognostic, with parents having higher effectiveness rates than other types of relationships (Miller et al., 1999 & Meyers et al., 1999).

Treatment Conditions

Community reinforcement and family training for improved treatment retention and reduced HIV risk behavior (CRAFT-T). This intervention, developed in Phases 1 and 2 of this study, will be adapted from the one utilized by Miller et al. (1999) and Meyers et al. (2002). The CRAFT-T treatment is anticipated to consist of 12 manual-guided weekly one-hour individual sessions for the CSO and 2 one-hour sessions for the IP. While it is anticipated that the treatment will be changed as it is developed, generally it is expected that CSOs will attend one session per week, but they may attend up to two sessions per business week. CSOs must attend a minimum of 12 sessions in a 14-week period to complete the treatment. Two additional optional sessions will be available during the six-month treatment and follow-up period, mainly to assist with re-engaging in treatment if the IP drops out. This unilateral family intervention works primarily with the CSO with the goal of influencing the IP's behavior. CRAFT-T uses a cognitive behavioral approach to assist the CSO in using behavioral principles of reinforcement to increase drug abuse recovery and HIV low risk-related behaviors, and decrease drug abuse relapse and HIV high risk-related behaviors in the IP. This treatment departs from the previous CRAFT model in three important ways: 1) it targets IP treatment retention rather than treatment entry, 2) it involves the IP directly and, 3) it targets HIV risk behavior reduction in both the CSO and the IP.

The major session content areas are: HIV risk behavior reduction, domestic violence risk reduction, functional analysis of drug use and risk behavior triggers, CSO motivation enhancement, effective communication skills, reinforcement of IP's treatment retention and drug abstinence-related behavior, CSO stress reduction and self-care, and strategies for suggesting re-engagement in treatment.

Unlike previous applications of CRAFT, in the current study the IPs will be in drug abuse treatment when the CSO enters CRAFT-T, and therefore the IP will already have at least an initial recovery or treatment plan. This will allow the CSO to complete a functional analysis of the IP's recovery directed behaviors such as attending treatment sessions, attending self-help meetings, and utilizing other recovery supports. Through this process CSO's will learn to use reinforcement to increase the likelihood that the IP will continue in treatment and other recovery-related behaviors.

The content of each session is influenced by the specific need of the participants. The manual provides a guide to content areas; there is flexibility regarding which content areas are utilized in each session. The manual will be used to supplement the book, *Motivating Substance Abusers to Enter Treatment: Working with Family Members* (Smith & Meyers, 2004).

Retention in drug abuse treatment is the major strategy for reducing the IPs' high-risk needle use. All IPs and CSOs will be encouraged to seek HIV testing and counseling. Referrals will be provided to the Columbus Health Department, which provides anonymous testing and pre- and post-test counseling. CSOs will be screened for needle use and drug abuse, and when appropriate will be provided with referral for drug abuse treatment. The literature suggests that retention in drug abuse treatment is not sufficient for reducing sexual risk behavior, therefore CRAFT-T will directly address this area of risk.

While the efficacy of CRAFT for engaging treatment resistant substance abusers is well established, it has not previously incorporated an HIV risk reduction component. The Aids Risk Reduction Model (ARRM) will guide the development and selection of components of the HIV intervention. This model suggests a three stage process that utilizes social and psychological factors hypothesized to facilitate: (a) recognizing and labeling high risk behaviors as problematic, (b) making decisions and commitments to change behavior, and (c) seeking and enacting solutions to reduce risk (Catania, Kegeles & Coates, 1990). ARRM integrates constructs from the theory of reasoned action, social cognitive theory, and health beliefs approaches. It has been used to guide the development of HIV risk reduction interventions for couples (El-Bassell et al., 2001). The model identifies numerous factors as important to achieving the end goal of behavior change. These elements include: knowledge associated

with high risk practices and ways of incorporating low risk behaviors in a satisfying manner, perceived susceptibility to contracting HIV, perceived costs and benefits associated with reducing high risk and increasing low risk behavior, self-efficacy beliefs, the role of emotional states in risk behavior, and social factors including help seeking, communication skills and group norms.

These factors will be incorporated into the CRAFT-T sessions for both the IP and the CSO. This will be accomplished by focusing some sessions primarily on HIV risk (HIV education, risk hierarchies exercise, planning for risk reduction) while numerous factors will be integrated into components of CRAFT-T that are targeting the dual goals of treatment retention and HIV risk behavior reduction (i.e., problem solving, communications skills, self-care, developing and using reinforcement schedules). It is anticipated that a range of CSO-IP relationships will be involved, as CSOs may be parents, adult children, siblings, friends, or intimate partners of the IP. Therefore the HIV risk reduction materials will be selectively applied as the relationship indicates. All IPs and CSO's will be encouraged to seek HIV testing and counseling and will be provided referrals.

CSO-TAU. Treatment as usual will be the normal course of treatment for CSOs in the outpatient department. This treatment is minimal; CSOs are asked to provide collateral information about the IP through a mailed questionnaire, are invited to attend a family support group and may also receive an informal referral to a self-help group (Al-Anon). Sessions with the drug abuse counselor may be initiated by the CSO, IP, or the counselor, but are arranged on an as-needed basis only. These individual sessions are not considered family therapy, but instead are generally consultative, educational, or case-management in nature. The study will not control the services received in this condition, however, the amount of services received will be measured.

Study Follow-up. The follow-up phase of the study encompasses the period between weeks 14 and 38. It involves three assessments, at 14, 26, and 38 weeks after randomization (see Table 1 for a summary of the assessments performed during each visit).

Primary Outcome Measure

The primary outcome measure is retention in drug abuse treatment. For this study treatment retention is operationalized as the number of weeks from randomization to the first drop from treatment; defined as 30 consecutive days in which no drug abuse services are received. Any week in which a drug abuse treatment session is attended from the date of randomization will be included in the weeks of treatment attended.

Secondary Outcome Measures

This section describes each of the secondary outcomes and the associated instruments. The type of participant assessed, the frequency, and the schedule of administration of each instrument is shown in Table 1.

CSO & IP HIV risk behavior. The Risk Assessment Battery (RAB) is a 46-item questionnaire for assessing needle use practices and sexual behaviors associated with HIV transmission (Navaline et al., 1994). The item format provides discrete response categories with the instruction to choose the answer that best describes their behavior. The RAB has been shown to have good reliability, and construct and predictive validity (Metzger et al., 1993). It produces three scores: a drug-risk score, a sex-risk score and a total risk scale score. The areas assessed include past month drug and alcohol use, needle use, sexual practices, and concerns about HIV and HIV testing. All of the subscale and total scale scores will be used to compare HIV risk at baseline to end of treatment and follow-up. To minimize threats to the reliability and validity of the RAB, participants will be given additional assurance of confidentiality prior to administration.

IP successful completion of drug abuse treatment. The IP's medical record and Management Information System (MIS) data will be used to determine if the treatment episode was characterized as successful or unsuccessful treatment completion.

IP drug abuse treatment utilization. This variable will be the percent of scheduled clinic treatment days, according to clinic records, attended during the active and follow-up study phases.

IP urine toxicology screens. A rapid urine screen system that screens for opiates, cocaine, methamphetamines, benzodiazepines, and marijuana will be used to analyze the urine samples.

IP alcohol breathalyzer. An alcohol breathalyzer will be completed at screening, at the post-treatment assessment, and at the two follow-up visits.

IP Substance Use Calendar (SUC). The research assistant (RA) will use the Substance Use Calendar to record the IP's self-reported substance use (referred to as IP drug use report in Table 1). Similar to the Timeline Follow-back procedure (Sobell & Sobell, 1992), the SUC is a calendar-based assessment in which individuals are asked to indicate whether they used alcohol, cocaine, marijuana, opioids, benzodiazepines, methamphetamine, 'other' illicit drugs, and cigarettes. Using this method, self reports of drug consumption have been found to have high retest reliability, convergent and discriminate validity with other measures including collateral informants' reports, and results from urine assays (Fals-Stewart, O'Farrell, et al., 2000).

CSO & IP functioning. Changes in CSO and IP function will be measured using the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983). The BSI contains 18 items, each of which is measured on a five-point Likert scale ranging from 0 (not at all) to 4 (extremely). The BSI can be administered in about four minutes and yield three symptom scales (somatization, depression, and anxiety) and a Global Severity Index (GSI). The GSI, which is a measure of overall distress, will be analyzed.

CSO-IP relationship functioning. Given the variety of CSO-IP relationships, it was challenging to find a measure of relationship functioning which would be applicable to all relationships. The Relationship Happiness Scale (RHS; Azrin, Naster, & Jones, 1973), as used in Miller et al. (1999), will measure relationship functioning. Both the CSO and the IP will rate how happy they are with each other in 10 categories on a scale from 1 (completely unhappy) to 10 (completely happy) (see Smith & Meyers, 2004, p. 39). A brief scale of marital satisfaction, the Kansas Marital Satisfaction (KMS) scale, which has been found to be both reliable and valid (Sabatelli, 1988; Schumm et al., 1986), will be administered to a sub-sample of CSOs who are married to IPs. The data from the KMS scale will be used to evaluate the concurrent validity of the RHS.

IP report of retention in any substance abuse specific intervention. Study participants will be involved in a variety of substance abuse related interventions including self-help groups. This measure will be the IP's self-report of length of time in weeks from randomization to first drop from all substance abuse specific interventions (including self-help groups) of 30 days or longer.

Collateral report of IP's retention in any substance abuse specific intervention. This outcome measure is identical to the "IP self-report of retention" with the exception that the CSO will be the source of information.

Process Measures

CSO & IP CRAFT-T study treatment attendance. CSO and IP attendance at each CRAFT-T treatment session will be recorded.

Therapist adherence and competence. The current study will modify adherence and competence instruments developed for use in prior CRAFT studies.

CSO & IP satisfaction with treatment. Participants' satisfaction with treatment will be assessed with a questionnaire developed for this study consisting of items from the NIDA CTN Counselor Feedback Protocol Form (Forman et al., 2007).

Therapeutic alliance. The strength of the therapeutic relationship will be assessed through the revised Helping Alliance Questionnaire (HAQ-II, Luborsky et al., 1996). This assessment will entail the completion of both a therapist and client version of this measure. It will be administered after each CRAFT-T session.

Screening and Other Descriptive Measures

Demographics of CSO & IP. This assessment will be developed for the current study and will include questions about the participant's race, age, employment status, relationship type, and education.

Biopsychosocial. This form will be developed for the current study and will be used to assess CSO's and IP's status on the study exclusion criteria (see Tables 2 & 3).

Therapist survey. A substantial amount of treatment outcome variance can be attributed to therapist effects (Crits-Christoph & Mintz, 1991). It is important to characterize the study therapists. This survey, developed specifically for the current study, will include demographic characteristics, years of clinical experience, clinical beliefs, and training background. The therapist will complete this measure prior to being assigned study patients.

DSM-IV criteria on substance use disorders. The substance use section of the Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon, & Williams, 1996) will be used with the IP to document the opiate dependence diagnosis.

Locator information. Each CSO and IP will be asked for several phone numbers and other contact information so that there can be ongoing contact with the RA to reduce subject attrition.

BUP/NX medication record. A medication record form will be completed from the clinic record indicating days and dosages of BUP/NX administration during the patient's detoxification.

Treatment Session Summary. The Treatment Session Summary will include questions about several important session parameters (length, primary focus, etc.) as well as serve as a checklist for tasks that the therapist needs to complete (e.g., recording the session).

Treatment Services Review (TSR). The TSR is used to characterize the types and frequency of services participants receive in the research program and elsewhere. The TSR has shown good validity and reliability and has shown relationships between services and treatment outcomes (McLellan et al., 1992).

Treatment Services Review for CSOs. The types of treatment services received by the CSOs will be assessed with the use of a modified version of the Treatment Services Review (Revised instrument provided in personal communication by Kirby, 2003).

Treatment Adherence Measures

A summary of treatment adherence-related measures is given in Table 1.

Therapist treatment adherence and competence. In order to test the efficacy of CRAFT-T compared to CSO-TAU, it must be established that the CRAFT-T procedures are being utilized. Checklists will be used to rate each of the CRAFT-T content areas. Independent raters will complete this check on therapy by rating 25% of the treatment sessions. The current study will utilize modified versions of the adherence and competence instruments developed by Drs. Meyers and Smith for previous CRAFT investigations.

Fidelity of treatments administered. The PI will monitor and supervise fidelity of CRAFT-T implementation via the ongoing review of audiotaped sessions. Dr. Meyers will oversee the review of 25% of sessions rated by the PI for an inter-rater reliability check.

Analytical Plan

Participants will be randomized into one of the two treatment groups: CRAFT-T or CSO-TAU. The primary goal is to motivate the IP to remain in treatment. The hypothesis associated with the primary study objective is that CRAFT-T, relative to CSO-TAU, will increase IP participants' retention in substance abuse treatment. Each primary and secondary efficacy outcome measure will be analyzed for the intent-to-treat population.

Primary Outcome Measure

Treatment retention. The purpose of the first primary analysis is to determine if giving a participant CRAFT-T, versus CSO-TAU, impacts the average rate of IP retention in drug abuse treatment. A survival analysis will be performed on the data from the entire study period using a Cox Proportional Hazards model to compare the CSO-TAU and CRAFT-T participants on the length of time to first treatment drop out.

Secondary Outcome Measures

Treatment utilization. The purpose of this analysis is to determine if giving a participant CRAFT-T, versus CSO-TAU, impacts the average rate of attended/scheduled treatment days. The analysis will be carried out assuming a Poisson regression model and a log 'link' function. The mean (or expected value) of the number of attended days given the number of scheduled days will be estimated by using the number of attended days as the response variable, and including the number of scheduled days as a weighting factor or offset variable. The primary independent variable will be modeled by including an indicator variable for treatment type (CRAFT-T or CSO-TAU). Indicator variables for categorically modeled treatment level (outpatient, intensive outpatient) also will be included to control for a possible confounding effect of treatment level on the relation between treatment type and days attended.

Substance use. For a subset of study days, both self-report and objective measures of substance use will be obtained. The concordance rate between self-report, urinalysis and breathalyzer results will be calculated. A GEE similar to that described for the treatment utilization analysis will be used to compare the two treatment groups on days of substance use during each week of the active study phase. Similarly, a GEE will be used to compare the groups on days of substance use during the active study and during the two follow-up periods. An analysis of the relationship between retention and IP drug use also will be performed.

Other secondary outcome measures. The BSI, RHS, and RAB data will be analyzed with an Analysis of Covariance in which the baseline score is controlled. One set of analyses will be conducted on just the active study phase data, while additional sets will include the data from both the active study phase and each of the follow-up periods. Data on the number of weeks in which at least one treatment session is attended during the active study phase and during the two follow-up periods will be analyzed

with GEE. Finally, a survival analysis will be performed on the data from the entire study period using a Cox Proportional Hazards model to compare the CSO-TAU and CRAFT-T participants on the length of time to first treatment drop out from all substance abuse-specific interventions. As described previously, first treatment drop out is defined as failure to attend any treatment provided by Maryhaven or any substance abuse self-help groups for 30 consecutive days. Estimates of the survival function for each treatment group will be calculated using the Kaplan-Meier method. The survival functions will be compared using the log-rank test.

The effect of the study treatment on CSO and IP general functioning and CSO and IP satisfaction with the CSO-IP relationship will be analyzed with repeated measures analysis. The model will include treatment group (CRAFT-T or CSO-TAU) and time (baseline, post-treatment, follow-up 1, and follow-up 2). Analyses of the linear models will be used to test for a difference between CRAFT-T and CSO-TAU in IP attendance at self-help groups and the use of professional services, other than drug abuse treatment. The independent variable is treatment group (CRAFT-T or CSO-TAU). In addition, the analyses will include CSO-IP relationship (parent or other) as covariates. For the analysis of self-help group attendance, the dependent variable is the number of times that the IP attended a self-help group as reported on the TSR.

Discussion

There are several potential difficulties or limitations to the current study protocol. This treatment is of unknown efficacy for the current application. It is possible that the treatment will not be robust enough to retain IPs in their outpatient treatment, particularly during the critical transition from residential detoxification to outpatient. Attrition at follow-up is common in drug abuse treatment research. Fortunately, previous CRAFT research has consistently found an attrition rate of <10% for CSOs. To ensure a high follow-up rate for both IPs and CSOs, the investigators will request that participants provide updated locator information throughout the treatment and follow-up phases of the study. Participants also will receive postcards and reminder calls beginning one month prior to the 3 and 6 months follow-up assessments.

If this preliminary investigation indicates that the modified treatment is efficacious, a larger efficacy evaluation will be needed and justified. The CRAFT-T intervention developed in the current study has the potential to make CSOs effective partners in the treatment process and to improve drug abuse and HIV outcomes for both the IP and the CSO. Perhaps even more important, it has the potential for creating a powerful recovery support in the IP's life, the effects of which may extend well beyond the formal episode of drug abuse treatment.

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ADAPTING THE CRAFT APPROACH FOR USE IN GROUP THERAPY

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Community Reinforcement and Family Training (CRAFT) is an empirically supported intervention that gets treatment-refusing substance users to enter treatment by working through their close friends and family members. In addition, CRAFT decreases the substance user's alcohol or drug use, and improves the concerned family member's own psychological functioning. While this approach primarily has been utilized and empirically tested in an individual therapy format, there is great demand for group therapies in clinical settings. This paper discusses the authors' experience adapting CRAFT for use in a group format, including the key components, procedures, and structure of the group approach. The advantages and disadvantages of such an approach also are presented.

Key words: concerned significant others, treatment engagement, community reinforcement and family training

Over the past 30 years substantial progress has been made through controlled, quasi-experimental and correlational studies in developing and identifying effective psychosocial and pharmacologic therapies for alcohol and other substance use problems. Through the increased use of standardized outcome reviews and meta-analytic techniques, identification of standardized treatments with reproducible evidence of efficacy has been made possible (Finney & Monahan, 1996; Holder, Longabaugh, Miller & Rubonis, 1991; Miller, Wilbourne & Hetteima, 2003; Miller, Zweben & Johnson, 2005). Though no list is identical in the ordering of such treatments, consistently at the top of these rankings are several psychosocial treatment approaches, as well as several pharmacotherapies, including (not rank-ordered):

- 1) Community reinforcement (CRA and CRAFT)
- 2) Brief interventions
- 3) Motivational interviewing
- 4) Social skills training/cognitive-behavioral treatment
- 5) Behavioral marital therapy
- 6) Acamprosate
- 7) Naltrexone
- 8) Antabuse (supervised)
- 9) Contingency management
- 10) Methadone

The dissemination and adoption of evidence-based treatments by community providers in the addiction treatment world, however, has been slow, painstaking and largely unsuccessful for many of the top-ranking psychosocial treatments. There are a variety of issues related to the lack of incorporation of evidence-based treatments into practice, including public and private reimbursement issues, organizational and individual training issues (Carroll & Rounsaville, 2007; Squires, Gumbley, & Storti, 2008), as well as basic philosophical conflicts in the conceptualization of addiction etiology and treatment (White & Miller, 2007).

A particular practical barrier for community treatment providers has been one of resources. Specifically, both inpatient and outpatient treatments have been provided largely in a group format, including psychoeducational groups, process groups and "community" groups. According to the National Institute on Drug Abuse (NIDA, 2003), group therapy is currently the most common treatment for substance use disorders, presumably because it is lower-cost and more convenient. While the clinical lore surrounding this group orientation is that addiction treatment is done most powerfully in groups, research studies do not support this claim. In fact, very few studies have examined the efficacy of group therapy in comparison to individual therapy.

Among this limited number of studies, those that have examined the efficacy of using cognitive behavioral therapy (CBT) in a group format have discovered that group CBT is a viable and efficacious treatment modality for certain disorders. For example, research studies indicated that group CBT was effective in reducing symptoms of social phobia (McEvoy, 2007), substance use (Easton, Mandel, Hunkele, Nich, Rounsaville, & Carroll, 2007; Najavits, Weiss, Shaw, & Muenz, 1998) and both depression and parent-child problems among a sample of depressed mothers of children with behavioral problems (Hye Ha & Ja Oh, 2006). Moreover, group CBT was found to be as effective as individual therapy for the treatment of substance use and obesity (Marques & Formigoni, 2001; Minniti et al., 2007).

Despite these promising early findings for group therapy, the reality is that much more empirical evidence is available for individual therapy formats than for group delivery overall. Regardless, community providers who want to adopt evidence-based substance abuse treatments, such as motivational interviewing and CBT (Anton et al., 2006; Project MATCH, 1997) are driven by staffing and financial constraints, and so are forced to continue with their largely group treatment formats.

In this paper, we present our initial attempts to develop a group treatment protocol drawn from an evidence-based treatment, Community Reinforcement and Family Training (CRAFT). In outlining our efforts to conduct this protocol in a group setting we describe the structure and content of such a group, as well as both the benefits and challenges of providing CRAFT in a group setting. The paper provides a clinical description based on our experience in developing such groups in very different circumstances and clinical settings: a randomized clinical trial in a university setting and a self-pay private practice setting in an urban center.

The CRAFT Approach

Community Reinforcement and Family Training (CRAFT) is a reward-based, motivational model of family therapy aimed at training the relevant family and friends (the “concerned significant others”; CSOs) of treatment-refusing individuals who have a substance abuse problem (the “identified patients”; IPs). CRAFT works to affect the substance users’ behavior by changing the way the family interacts with them.

CRAFT is designed to accomplish three goals. When a loved one is abusing substances and refusing to get help, CRAFT helps families learn practical and effective ways to move their loved one toward treatment, to reduce their loved one’s alcohol and drug use, and to simultaneously improve their own lives (Smith & Meyers, 2004). This comprehensive behavioral program accomplishes these objectives while avoiding both the detachment espoused by Al-Anon (Al-Anon Family Groups, 1984) and the confrontational style taught to families by the Johnson Institute Intervention (Johnson, 1986). CRAFT has proven to be significantly more effective in engaging treatment-resistant substance users in comparison to the Johnson Institute Intervention and Al-Anon (or Nar-Anon) facilitation therapy (Meyers et al., 2002; Miller et al., 1999), while CRAFT and these traditional approaches all have been found to improve CSO functioning and increase CSO-IP relationship satisfaction.

As a primarily cognitive-behavioral approach, CRAFT is a skills-based therapy designed to impact the CSO in multiple life areas (e.g., self-care, pleasurable activities, problem-solving, goal setting) in addition to addressing IP resistance to change. CRAFT teaches the CSO behavioral and motivational strategies for changing interactions with the IP (e.g., giving or withdrawing positive reinforcement, positive communication) such that sober behavior is more rewarding to the IP than continued alcohol and drug use. When delivered in an individual setting, therapists select various components and procedures from the CRAFT “menu” on the basis of CSO needs. The precise treatment starting point depends on the IP’s behavior and context, as well as the

CSO's emotional state, experience and history. Furthermore, therapist use and modeling of empathy, optimism, and positive reinforcement is a critical part of the treatment process.

Specifically, CRAFT teaches several skills, including:

- 1) Domestic violence precautions
- 2) Functional analysis of the IP's behavior
- 3) Positive communication
- 4) Reinforcement strategies
- 5) CSO self-care
- 6) IP treatment engagement

Importantly, many of these skill elements are valuable for CSOs regardless of whether their IP enters treatment, as the skills assist CSOs in navigating and maintaining a positive trajectory for themselves as well as for the IP. It is for these same reasons that we find it extremely worthwhile for CSOs to continue attending CRAFT groups even after their IP enters treatment.

Development of a Group Protocol

CRAFT lends itself to adaptation to a group format, in that there are many structured activities and tasks that are used readily in a group setting. Additionally, as in all cognitive-behavioral approaches, the importance of role-playing as part of CRAFT cannot be overstated. A group setting provides abundant opportunities for role-playing of skills in a practice setting that extends beyond merely talking to one's therapist. CRAFT is also a motivationally-oriented approach that works to actively develop CSO empathy for the IP, as well as to provide support and encouragement to the CSO. Increasing CSOs' empathy and understanding of their IP's substance use is targeted by considering the costs and benefits of their loved one's use of substances, as well as through direct modeling of empathy by the therapist.

Below we outline some of the elements we have focused on in working with the CRAFT protocol in a group, as well as group procedures

and logistics. Next we cover some of the advantages and challenges of working with CRAFT in a group. We will describe our experience developing a group CRAFT protocol in two different settings.

Structure of Group

The structure of the CRAFT groups can vary based on whether the group is a "closed" (often referred to as a fixed group) or an "open" group (i.e., a revolving or rolling group). In a closed group protocol, all group members begin the group at the same time, and once treatment has begun, no new members are enrolled (Yalom, 2005). The techniques and skills presented to group members are designed to build on the concepts presented in previous sessions. Thus, in a CRAFT protocol, early sessions may focus on building CSO motivation to change and increasing optimism and confidence in group members, while later sessions address ways in which CSOs can help engage their loved ones into treatment. An advantage of a closed group in which all members start and end therapy together is an increase in cohesion among group members. In addition, the closed group protocol allows for a more structured and predictable delivery of topics, in a sequence the therapists can develop in advance. However, it can take a long time to "fill" a group, and consequently there may be a period of weeks from the time a CSO initially contacts a treatment facility about entering a CRAFT group to the scheduled start of the next group. When CSOs are not able to begin a group in a timely manner, they may lose their motivation to enter treatment. Furthermore, attrition can have a greater impact on closed groups, because if a number of CSOs drop out of treatment, only a few members will be left in the group and there will be no opportunity to enroll new members (NIDA, 2003; Yalom, 2005).

In contrast, the composition of open groups changes as new members join the group and older members leave the group. Closed groups can be time-limited, in which each member attends the group for a certain time period or participates in a set number of

sessions. Open groups instead can be flexible, with members attending sessions as long as deemed necessary (Yalom, 2005). Open groups enable members to begin attending group sessions in a timely manner, and consequently CSOs can enroll in the group when their motivation is high. Moreover, senior group members can help newer members through shared experiences, successes, and optimism. Conversely, it is more challenging in open groups to present concepts in a predictable, sequential fashion, as key concepts (e.g., functional analysis, positive reinforcement) sometimes need to be reviewed with newer members “out of sequence” to make the material understandable. However, during this type of review process, “older” members can share their experience with newer members and highlight their successes and failures with CRAFT techniques.

The size of CRAFT groups can vary. Smaller groups (4-6) allow for more intimacy, as well as the opportunity for more in-depth participation, exploration, and behavioral rehearsal. Larger groups (8-12 members) introduce more perspectives, and are less impacted by client attrition. However, larger groups can be less intimate and provide less opportunity for rehearsal. CRAFT protocols can vary in terms of the number of sessions offered to CSOs. While it is important for the groups to meet regularly and at least one time per week, the number of sessions can range from the minimum required to cover the core topics of CRAFT (i.e., 8-12 sessions) to being structured as an open-ended group. The latter format allows for behavioral training and didactic instruction, as well as the type of ongoing support and feedback typically provided in less structured “process” groups.

In terms of the role of CRAFT group therapists, as in many CBT-oriented groups, therapists are active, at times didactic, with the specific goals of maintaining the focus, direction and optimism of the group. Furthermore, therapists must ensure that all members are participating and that particular members are not dominating the group (Center for Substance Abuse Treatment, 2005). Due to the sensitive

nature of many topics in this approach, it is important for therapists to create an environment in which all members feel comfortable.

We have structured the CRAFT groups conducted to date with two co-therapists, in part because co-therapists allow for more complete attention to both group process and content (Yalom, 2005). The challenges of group CRAFT are substantial for one therapist, as it involves dealing with a didactic teaching agenda, attention to group intellectual as well as emotional processing, and behavioral rehearsal and resistance to such rehearsal. Furthermore, given that emergency events are not infrequent in the lives of CRAFT group members dealing with excessive substance using loved ones, it is useful to have a second therapist for addressing these crises (either inside or outside of the group).

As in any CBT approach, homework is an integral part of CRAFT. Homework allows for the practice of new skills or techniques, and results in increased confidence in new behaviors. Common homework assignments include the practice of communication skills, the modification of CSOs’ reactions to their IP’s behavior, and the introduction of enjoyable activities for CSOs. Each session includes a review of the previous homework assignment, and praise and encouragement is offered for all attempts at completing the assignments. If CSOs report that they struggled with the homework, the assignment can be reviewed, and perhaps role-played again in session. When group members are not compliant with homework tasks, the therapists explore any barriers. The remaining group members can then share their experience with the assignment, or problem-solve obstacles that may have interfered with the homework completion.

Although there is not a specific manual for group CRAFT, the Smith and Meyers’ (2004) guide for treatment providers, “Motivating Substance Users to Enter Treatment: Working with Family Members,” serves as the foundation for therapists to learn the CRAFT techniques. In addition, the self-help manual, “Get Your Loved One Sober:

Alternatives to Nagging, Pleading, and Threatening” (Meyers & Wolfe, 2004) can be used to accompany groups. This latter book describes key CRAFT techniques and offers practice exercises for CSOs. These exercises can be presented both as in-session exercises as well as homework assignments. In addition, sessions and group instructions developed from these materials by the first author and colleagues are also available.

Group Procedures

While the format we are describing is a group treatment, it is typical and important to have an initial individual evaluation of each CSO client before entry into the group. During this 1-2 hour evaluation, a variety of areas are explored with CSO, including the specifics of their situation and their IP’s substance use, their own substance and psychiatric history, prior incidences of domestic violence, previous treatment and self-help experience, and expectations of treatment. In addition, they are asked to sign a Group CRAFT Consent Form stipulating therapists’ limits of confidentiality as well as agreements that group members maintain each other’s confidentiality and behave respectfully toward one another. CSOs are also given an overview of what the CRAFT approach entails and what they can expect from the group sessions.

CRAFT is a semi-structured therapeutic approach. The first few minutes of each session are spent checking in with group members, both to determine the status of the homework assignments, and to see if anyone has experienced a crisis. Some session time may be devoted to a crisis situation, but therapists must balance attending to clients’ immediate needs with maintaining structure within the group. After this initial check-in, each session has a designated topic. This portion of the session includes an introduction of the topic, during which a skill or technique is taught to the CSOs. Next, the group members take turns participating in the role-play while other members and the therapists provide feedback. For example, if the session topic is how to talk to your loved one

about entering treatment, the therapists will describe effective and ineffective ways of conducting this discussion. They will then model an effective way of asking an IP to enter treatment. Finally, the group members will role-play this technique. At the end of the session, group members are asked to complete homework assignments that practice their newly learned skill.

CRAFT Components

There are a number of key elements to the CRAFT protocol, as outlined above. Below we will discuss how these key components can be presented in a group format.

Domestic Violence Precautions. Due to the strong relationship between substance use and incidents of domestic violence, it is necessary to assess previous violent behavior by the CSO and IP. CSOs are taught to identify possible triggers to violent behavior (e.g., if the IP tends to be violent after drinking with friends). Group members also are asked to make a Safety Plan in one of the group sessions. A Safety Plan entails a detailed strategy of how CSOs can extricate themselves from a violent or potentially violent situation at home. The Safety Plan may include how the CSO will escape the situation, a destination, and a safe person for the CSO to contact. Group therapy can both facilitate and hinder CSO disclosures of past domestic violence or concerns about future domestic violence. If other group members report incidences of domestic violence, members who may be apprehensive about discussing their own fears or concerns regarding domestic violence may feel more comfortable opening up to the group. Nonetheless, due to the stigma associated with domestic violence, some individuals may not feel comfortable discussing such topics in group. Thus, the opportunity for individual counseling regarding domestic violence should be available to group members.

Functional Analysis. In CBT approaches in general, a central element in understanding and solving targeted negative behaviors (e.g., substance use) is the completion of a functional

analysis. In the case of CRAFT, this analysis is conducted with a person (the CSO) other than the one having the problem (the IP). That is, the CSO completes a functional analysis of the IP's substance use. CSOs are helped to identify antecedents to their IP's substance use, to detail the type and quantity of substance used, and to identify both the positive and negative consequences of substance use for their IP *as best they understand it*. Not only does the functional analysis help CSOs identify patterns of substance use, but it facilitates a greater overall understanding of their loved one's substance use. This insight into *why* the IP is abusing substances often increases the CSO's empathy for the IP. We have found this element of CRAFT particularly powerful when conducted in a group setting, as it becomes clear to CSOs that a number of their reactions and understandings are shared by others. Oftentimes CSOs have lived with a sense that they "don't get" why their IP continues to behave destructively, why well-meaning attempts to help have been ignored, and what this in turn implies about their own importance (or lack thereof) in their relationship. A functional analysis brings many of these issues out in a very clear and rational way that allows members to understand not only that they are not alone, but that their rationale and their IP's rationale for behaviors are not bizarre, abnormal, and may even make a lot of sense.

Communication. An ongoing skill emphasized in CRAFT is positive communication. CSOs are taught key communication skills, such as the importance of brief and positive communication. They are taught to be specific in their communication, to attach labels to their feelings, to convey understanding to others, to accept partial responsibility for the issue under discussion, and to offer their help in resolving the problem (Smith & Meyers, 2004). After these skills are discussed, group members are asked to role-play with one another. The role-play allows for immediate practice of a skill set, as well as feedback from others. While role-play is also part of individually-delivered CRAFT, role-play in a group of peers seems to add a realism and urgency to the practice that may well translate to

better performance *in vivo*. Additionally, as with many of the group CRAFT procedures, there is a feedback loop anticipated by clients that adds emotional weight to the practice. That is, clients report on the results of role-plays practiced in the group to their peers in the following group session, which again adds to the impact of the group practice.

Reinforcement. CRAFT focuses heavily on the importance of positive reinforcement. CSOs are helped to identify previous ways they have reacted to their loved one's substance use; an exercise that often produces a lengthy list of reactions that most CSOs readily admit were counterproductive. Frequently the CSOs report that they have tried punishing IPs for their behavior, whereas few CSOs have tried rewarding positive IP behavior or abstinence. Group members are assisted in developing a list of reinforcers for their IP that encompasses both small rewards (e.g., verbal recognition of the IP's positive behavior) and larger rewards (e.g., a trip to a baseball game or an enjoyable evening out). CSOs also are taught how to ignore or discourage negative IP behavior. Emphasis is placed on the potential benefit of allowing naturally occurring consequences of substance use, as opposed to stepping in and rescuing the IP (e.g., regularly calling in sick for an IP with a hangover). The concept of reinforcement can be confusing at times for CSOs because it can be difficult for them to differentiate between "enabling" behaviors (which inadvertently support continued substance use) and "rewarding" behaviors (which support *non-using* behaviors). CSO's often have been involved with some aspect of the treatment world (e.g., rehab "family week", Al-Anon), and from these experiences they have come to believe that *any* CSO involvement signifies a "co-dependent" or "enabling" behavior. Thus, these topics need to be discussed and understood in the group.

CSO Self-Care. Oftentimes CSOs come to treatment reporting that they are stressed, tired, depressed, angry, lonely, and ashamed. They have tried everything they can do to change their loved one's behavior -without success. They may feel ostracized by friends or family members because of their loved one's

substance use. The CSO group in itself can be a rewarding experience for CSOs. Group members frequently are surprised (and relieved) to find that others have experienced similar situations; that they are not alone in this process. An integral part of the CRAFT approach is the improvement in the CSO's own lives, which begins with the prioritization of their self-care. Homework assignments may consist of CSOs identifying and engaging in activities they find enjoyable and rewarding. In our experience, the discussion and planning of self-care is one of the most compelling and rewarding aspects of group CRAFT for clients. In addition to this being a forum for finally receiving permission to focus on themselves, CSOs also are able to experience *successfully supporting and helping another person* (group member); a hugely frustrated desire for many years with their substance using IP. In fact, this turns out to be a very positive "glue" for group unity and for experiencing the group as fulfilling. Importantly, the concept of self-care may become confused with Al-Anon's idea of detachment from the IP. CRAFT does not ask CSOs to detach from their loved ones; rather they are encouraged to make their own lives an equal priority.

IP Treatment Engagement. A primary goal of CRAFT is to engage the IP into treatment. CSOs are taught to look for specific "windows of opportunity" in which the IP may be more willing to consider entering treatment. Furthermore, CSOs are taught the necessary positive communication skills so that they know how to invite their loved one to enter treatment, and are prepared to respond to either an IP refusal or an IP's acceptance of the need for treatment. CSOs also are informed of optimal ways of arranging for an intake appointment, and the logistics of their IP beginning treatment for substance use.

Advantages of Group CRAFT

CRAFT delivered in a group setting offers a number of potential advantages over an individual therapy approach. These can include: a) normalizing a number of difficult emotional reactions CSOs often have in learning CRAFT,

b) sharing deeply felt emotional experiences (both current and past) with others who have also experienced these difficulties, c) learning from other's successes and failures in implementing various behavioral interventions, d) providing a more "real life" venue for behavioral rehearsal, e) normalizing ambivalence through understanding its ubiquity in a group, and f) sorting through the cultural "baggage" and messages stating that any involvement with substance using IPs is "enabling".

Often, CSOs enter therapy feeling extremely isolated and ashamed. A group comprised of individuals with shared experiences provides support and a normalization of their situation (Yalom, 2005). Group members often begin treatment saying, "I couldn't talk to anyone about my loved one's substance use" or, "I'm so ashamed and embarrassed about my loved one's behavior." In a group format, members are able to share in their struggles with their IP. They also can support one another when dealing with self-punishing voices, such as regrets regarding their past, as well as the ongoing blaming of themselves for their loved one's substance use. CSOs commonly make statements such as, "I'm too lenient," or, "I'm too harsh," or, "I don't know how to handle this." CRAFT therapists and group members can help CSOs be responsible for their future reactions to their IP, without blaming themselves for past incidents. At the same time, some CSOs are highly resentful, expressing thoughts such as, "Why should I have to change?" "Why should I reward *any* behavior?" "What am I getting out of this?" CRAFT group members can discuss with each other how they, in addition to their loved one, can benefit from specific CRAFT techniques.

Group members can support their peers in a way that therapists cannot. Typically the group members put a great amount of credence in what the other group members have said or done. Group members who have had success implementing CRAFT techniques are particularly inspiring. Observing peers alter their

relationship with their IP, interfere with the IP's substance use, and engage the IP into treatment instills hope and confidence in CSOs that is much more meaningful than a CRAFT therapist describing CRAFT's success rate. Interestingly, it is perhaps an even more powerful interaction and "teaching moment" when group members see a "failed" attempt by a fellow group member. For instance, having a client report back about a negative interaction that occurred while asking the spouse to enter treatment offers a chance to understand several important points: 1) the key to success is willingness to keep trying, not the specific reaction of an IP at any given moment, 2) failed interactions offer feedback from the IP and direction for the future, 3) "practice makes perfect" – there is no perfect way to proceed, only practice and refinement in moving forward, and 4) "failures" are common, and by extension "survivable".

As discussed earlier, another benefit to the group format is the "practice arena" it provides to members. Role-playing with group members enables peers and therapists to give immediate feedback. CSOs can role-play new communication skills, positive reinforcement strategies, limit-setting, and talking to their loved one about entering treatment with other individuals who are experiencing similar situations. A group of CSOs also enhances the sharing of ideas and brainstorming.

A group CRAFT format also provides CSOs with the opportunity to work through ambivalence or concerns they may have about implementing CRAFT techniques. For instance, CSOs may feel incapable of simply allowing for the naturally occurring consequences of their loved one's substance use. Nevertheless, when they see others implement this task with their IPs and speak highly of the outcome, they are more apt to try to implement it themselves. Additionally, both limit-setting as well as positive reinforcement strategies can push CSOs out of a long-established "comfort zone". CSOs either report that they do not want to hurt or abandon their IP, or that they have "had it" and tough love is the only real option. CSOs are also periodically concerned that some of the CRAFT procedures may actually be requests for

CSOs to engage in "enabling" behaviors. Group members can address these concerns easily and provide reassurance because of the success they have experienced. Overall, CRAFT pushes clients to try new, less comfortable strategies "because what you have been doing doesn't seem to be helping". Discussed in a group, this airing of perspectives normalizes ambivalence and validates it in the presence of others. This appears to have the effect of freeing clients from having to hang onto their ambivalence and guardedness, because others are also willing to a) admit to it, and b) try something new.

Special Challenges in CRAFT Group Delivery

An important strength of CRAFT is its module-like flexibility; that is, therapists are expected to evaluate which skills are most relevant at that moment for a given client both strategically (e.g., "He's not ready to hear a word about stopping drinking"), emotionally (e.g., "I'm terrified to even mention cooking a nice dinner if he thinks it's related to coming home sober"), and motivationally (e.g., "I'm not taking 'partial responsibility' for anything that bastard does"). In a group setting, there is greater danger of confusion and disruption of progress because of more limited opportunities to attend to these person-specific nuances. This can occur in two ways. First, there is limited time to deal with the specifics of any one client's circumstances. Consequently the often intensive work needed to plan specific steps of action with a client ("what will you say first tonight, what will you do if he does x, y or z") must be abbreviated or addressed more generally so as to apply to all group members. Groups can be structured to allow for individual time for processing and feedback, as well as presentation and practice of new material, but one or the other sides of that equation may suffer, depending on the composition of the group.

Secondly, as mentioned, there are a limited number of "modules" to be covered in the CRAFT protocol (i.e., positive reinforcement, functional analysis, positive communication, etc.). One of the clinical strengths and beauties of CRAFT is the flexibility of ordering this material in a manner

deemed most useable and practical to the client. In both closed and open groups, client progress and circumstances vary. In this respect, material for any given session cannot be attuned to each individual in terms of the content covered in the didactic portion. Group leader skill in including all of the group members in the discussion and in making the material relevant is thus critical. At the same time, it can be useful to highlight these client differences, with the goals of stressing the importance of being able to adapt to different circumstances, and demonstrating that the process of change is unique for each person. This is often a powerful way to normalize the variety of circumstances clients are dealing with; a “different strokes for different folks” clinical moment ideal for capitalizing on motivating clients to continue on their own path.

A typical part of a CBT group is the assignment of homework, which entails clients practicing skills they are learning in group, and reporting back to process the outcomes, both positive and negative. This “behavioral” aspect of treatment is a critical part of the learning process in CBT. From one group session to the next, however, both planned and unplanned events (and at times crises) occur in clients’ lives. In dealing with these events, as well as homework outcomes, it can be a particularly taxing management issue to provide feedback specific enough to a given individual such that it is a meaningful learning experience, as well as general enough for the other group members so that they can benefit from its problem-solving aspects. Indeed, this is a challenge of many therapy groups, regardless of whether they are CBT-oriented.

Our experience in developing CRAFT groups also has led us to believe that careful attention must be paid to group composition. Controlled research studies usually include specific inclusion and exclusion criteria that create a fairly homogenous group. In the community treatment world, it is an open question as to how one best composes a CRAFT group. We have attempted several combinations, including mixing spouses/partners with parents

of adolescents; married partners with boyfriend/girlfriend partners; and woman-only spouse/partners with mixed sex groups. Although all groups seem to benefit from certain aspects of these “mixes”, there are obvious clinical struggles that ensue in some combinations. For instance, a girlfriend/boyfriend partner’s most compelling option may often realistically be “This is not what I signed up for 6 months ago; I’m out of here”. This contrasts sharply (and often unempathically) with a wife of 20 years who wants to protect her children from the trauma of a separation/divorce situation. Likewise, we have found that woman-only groups are able to achieve a level of intimacy and trust that seems to shift in mixed sex groups. This is particularly true in relation to issues of sexuality and betrayal. While the groups are not designed as “process” groups, there is nevertheless a substantial amount of emotional processing and discussion that is enhanced by greater safety and trust.

One final issue in terms of group composition is in an arena that requires much more discussion than this paper can undertake; namely, the issues presented by parents of adolescents are substantially different than those of intimate partners. In addition to questions of legal rights, relative lack of autonomy of the adolescent, and the fact that adolescents may be less motivated toward improving their relationship with adults, there is also the enormously complicating issue of parental coordination. That is, the first order of business for parents in CRAFT is “Can we agree on what the issues are and what we want the outcome to be?” Typically this is not a ‘given’ with parents, and can take substantial time to process and to arrive at an agreement.

A discussion of challenges for group CRAFT would be incomplete without noting that the dominant model for understanding addiction in the United States is a combination of the “disease” model and the “spiritual model” of alcoholism (Miller & Hester, 2003). The latter is based in a strong 12-step orientation and has often involved self-help groups such as Al-Anon

or Nar-Anon for loved ones. In addition to whatever positive or negative experience the CSO may have had in such groups, CSOs also may have gleaned a specific understanding of the “addict” and the “disease” from such experiences. Research has shown that CSOs feel psychological relief by participating in such programs (e.g., Miller et al., 1999), but if certain inherent conceptual conflicts are not addressed they can interfere with the effective use of CRAFT skills. Perhaps most prominent among these is the idea from Al-Anon and Nar-Anon programs of “detaching with love.” In CRAFT, we are teaching CSOs to stay involved with their loved ones, to influence them positively to change, *and* to take care of themselves. As Meyers and Wolfe (2004) state, “Taking the driver’s seat requires that you do two things: 1) believe you have the right to drive, and 2) believe you have the power to steer”. If clients have been taught that any involvement on their part will only make things worse (“enable” further substance use or be part of a “co-dependent” pattern), then this idea of active involvement – “taking the drivers seat” – will seem like a bad idea. In a group setting, a participant who strongly holds this position can inject into the group a sense of self-doubt and guilt for trying to help the IP. This can delay the forward progress of a group in which members already are learning skills that are difficult for them to effectively incorporate.

All of these issues: crisis management and protocol adherence, modular flexibility and ability to respond with material most appropriate to that group, group composition, and initial orientation of group members are empirically testable. We have presented an overview of issues as we have encountered them clinically to highlight areas of exploration. Overall, our experience indicates that given careful attention to the above issues and considerations, CRAFT is a powerful protocol well suited for a group format.

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