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Recovery from Substance Abuse: The Role of Unsupportive Social Interactions

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Recovery from Substance Abuse: The Role of Unsupportive Social Interactions

A dissertation submitted in partial fulfillment of
the requirements for the degree of Doctor of Philosophy
at Virginia Commonwealth University

by

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ABSTRACT

RECOVERY FROM SUBSTANCE ABUSE: THE ROLE OF UNSUPPORTIVE SOCIAL INTERATIONS

By Michelle M. Schmitt, M.A., M.S.

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It has been estimated that over 20 million individuals struggle with substance abuse and/or dependence each year. Theories of addiction and recovery have long incorporated the notion of social support and helping relationships to facilitate adjustment. However, the literature investigating the role of social support is fraught with contradictions. In addition, in substance abusing populations, researchers have just begun to investigate social support as having negative, as well as positive implications. Historically with these populations, interpersonal conflict and loss of relationships were investigated as negative life events, rather than types of unsupportive social interactions. This study was designed to explore how positive and negative social relationships are associated with adjustment among individuals struggling with addiction.

Ninety-seven individuals, who were currently participants in two Drug Court programs, completed measures of global positive social support (the 6-item Social

Support Questionnaire), recovery-specific positive social support (Important People & Activities Instrument, brief version), recovery-specific unsupportive social interactions (Unsupportive Social Interactions Inventory), recovery-specific cognitive threat appraisals, and well-being (Situational Confidence Questionnaire and Center for Epidemiologic Studies Depression Scale). Information regarding treatment attendance and positive urine toxicology reports was gleaned from treatment records. Results suggested that global positive social support accounted for the greatest proportion of variance in the well-being outcomes of self-efficacy for recovery and depression. Global positive social support eclipsed the role of recovery-specific unsupportive social interactions in relation to well-being. However, recovery-specific unsupportive social interactions were found pertinent to this population. None of the survey variables were significantly related to treatment attendance, and only self-efficacy for recovery was related to continued drug use (urine toxicology screenings). Implications for future research and interventions to enhance the well-being of individuals in recovery are discussed.

CHAPTER 1

INTRODUCTION

In a 2001 survey, it was estimated that in the United States 16.6 million persons over the age of 11 could be classified as dependent on alcohol or illicit substances (Substance Abuse and Mental Health Services Administration, 2001). Although substance abuse is diagnosed by the behavior of an individual, it is often considered a social problem. Thus, in the United States, many agencies are enlisted to address this social dilemma. Among these are the criminal justice system, educational systems, and the mental health and public health systems.

In response to this social issue, professionals in the mental health field have developed theories and treatment regimes addressing substance use and abuse. Many of the theories incorporate environmental factors and social support as part of the recovery process (e.g., Kaplan, 1975; Prochaska & DiClemente, 1982). Despite the inclusion of social support in the theory and treatment of substance abuse, the study of social support in the process of recovery has produced mixed results.

Researchers have operationalized the construct of social support in a variety of ways. Some have examined global social support, and others have looked at recovery-specific support. As there is now wide agreement that social support is a multifaceted

construct (e.g., Cohen & McKay, 1984), researchers have studied various aspects of support, such as perceived and received support, among individuals in recovery. No global or recovery-specific aspect of social support has been consistently shown to be related to successful recovery.

The health-enhancing effects of social support have been documented in a large body of literature. However, theories proposing that social interactions have costs as well as benefits have existed for decades (e.g., Thibaut & Kelley, 1959). Over the past two decades, in research with substance abusing populations, conflict within the social network and loss of relationships have been conceptualized as negative life events rather than as negative social interactions. There are consistent findings that as stressful life events, both conflict and loss within the social network of someone who abuses substances are related to poor treatment outcome and relapse (see Westermeyer, 1989 for a review). As stressful life events, conflict and loss within social networks have been operationalized as all or nothing events. In this manner, conflict and loss within an individual's social network were coded as either having happened or not. However, this conceptualization may be a forced simplification of the dynamics of social relationships.

In one study of individuals dealing with addiction, the concept of negative social interactions was expanded beyond conflict to include other types of unsupportive or upsetting responses received from other people (Havassy, Wasserman, & Hall, 1995). Results from the Havassy et al. study indicated that when measured as unsupportive social interactions, 'conflict' within an individual's social network was not related to relapse. However, the interpretations utilizing the findings of Havassy and his associates

are limited in that the construct of unsupportive social interactions was measured with only 5 items rather than a more comprehensive and standardized scale. It also appears that Havassy and her associates examined unsupportive social interactions that were not specific to the recovery process. A more recent study investigated the role of different types of social support from both positive, non-substance-using, and negative, current substance using, members of an individual's social network (Galaif, Nyamathi, & Stein, 1999). With a large sample of urban homeless, substance abusing women, these researchers utilized structural equation modeling and found the following predictive paths: more negative social support, more depression and less positive coping predicted current drug use; more negative coping, more depression and less positive coping predicted drug problems; and, more negative social support, more depression and less positive coping predicted physical drug dependence. Positive social support did not play a role in any of the significant predictive pathways for any outcome measure. Galaif and her associates differentiated positive and negative social support based on the substance abuse status of the network member rather than on the perception of the message as experienced by the person in recovery.

The body of literature linking conflict within an individual's social network and relapse has not guided the creation of interventions that have increased rates of recovery. Treatment interventions to bolster abstinence-specific support have generally failed to increase abstinence significantly (e.g., Lichtenstein, Glasgow, & Abrams, 1986). Interventions decreasing conflict in the family and support network may not be addressing the breadth of negative social interactions. As research suggests that social

support and negative social interactions are not opposite ends of the same continuum, interventions aimed at increasing "support," may be overlooking the role of negative social interactions. Additionally, the construct of "conflict" as traditionally measured with substance abusers, may not be addressing the full range of negative messages this population receives. Thus, it is important to investigate other factors in order to find some of the links that may be missing. Negative social interactions may be among the important factors in the process of recovery from addiction.

The intent of the current study was to elaborate on the work of Havassy et al. (1995) by extending the measurement of unsupportive social interactions beyond a handful of questions and utilizing a standardized measure. It was also the intent of the current study to build on the work of Galaif et al. (1999) by differentiating perceived support from other types of social support, such as tangible aid. As well, it was the intent of the current study to clarify the meaning of positive and negative social interactions by classifying the *messages* as perceived by the *receiver*, individual in recovery, rather than classifying the message based on the *sender*. Additionally, in the current study, the concepts of social support and unsupportive interactions are further delineated into global support, and the interactions and responses specific to an individual's recovery. This is an initial step in moving the substance abuse literature in line with the growing body of literature which indicates that positive and negative social exchanges represent independent constructs that are, at most, minimally related (e.g., Davis, Brickman, & Baker, 1991) and that global support should be differentiated from recovery-specific support (e.g., Beattie, Longabaugh, Elliott, Stout, Fava, & Neol, 1993). In this study,

outcome was operationalized as depression, self-efficacy for recovery, treatment attendance, and number of positive urine toxicology reports.

The purpose of this study was to explore the role that social support and stressor-specific unsupportive social interactions play in the psychological adjustment of individuals dealing with substance abuse. First, I examined the relationship between global social support and recovery-specific social interactions. I also examined the relationship between positive social interactions, both global and recovery-specific, and unsupportive social interactions. It was hypothesized that global and recovery-specific social support would correlate only moderately. Additionally, it was hypothesized that unsupportive social interactions would correlate only moderately with positive social support, both global and recovery-specific. Second, utilizing the theoretical framework of Lazarus and associates (e.g., Lazarus, 1966; Lazarus & Folkman, 1984), I examined the relationships of the stress of recovery (i.e., threat appraisals of the recovery process), and recovery-specific positive and unsupportive social interactions to outcome. It was hypothesized that positive support for recovery would account for a more favorable outcome (i.e., less depression, fewer physical symptoms, and greater self-efficacy for recovery) above and beyond what was accounted for by the stress of recovery. As well, it was hypothesized that negative social interactions regarding recovery would be associated with less favorable outcome (i.e., more depression, less self-efficacy for recovery, a lower attendance percentage at treatment sessions, and more positive urine toxicology reports). In addition, it was hypothesized that negative social interactions

would account for a significant proportion of outcome above and beyond the stress of recovery and positive support for recovery.

CHAPTER 2

LITERATURE REVIEW

The most recent estimates indicate that the number of people in the United States who have ever used an illicit substance has increased. In the National Household Survey on Drug Abuse in 1997, it was estimated that about 35% of the United States population has ever used an illicit substance and over 10% of these have used during the past year (Substance Abuse and Mental Health Services Administration, 1997). In the 2001 National Household survey, these numbers rose to 41% having used an illicit substance with almost 13% of them having used in the past year (Substance Abuse and Mental Health Services Administration, 2001). In this same 2001 survey, it was estimated that 16.6 million persons over the age of 11 could be classified as dependent on alcohol or illicit substances. Of these people, 1.1 million persons received treatment at substance abuse specialty facilities over the past year and an additional 5 million people were in need of treatment, but did not receive any assistance (Substance Abuse and Mental Health Services Administration, 2001). These numbers amount to a significant cost to society in both time and funds. One example of this cost to society is the amount of time lost in the work force due to substance use, not only for the user, but for family members as well. In addition, a large amount of time and funding are invested the criminal justice system and in treatment programs dealing with substance misuse.

According to the most recent Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994), substances of abuse fall into 11 classes that include: the legal substances of alcohol, caffeine, nicotine; and without a prescription, the illicit substances of amphetamine, cannabis, cocaine, hallucinogens, inhalants, opoids, phencyclidine (PCP), sedatives, hypnotics, and anxiolytics. Substance dependence as defined in the DSM-IV includes symptoms such as: tolerance; withdrawal; the ingestion of a substance in larger amounts or over a longer period of time than intended; the persistent desire or unsuccessful attempts to control use; spending a great deal of time in obtaining and/or recovering from the substance use; the reduction of important social, occupational, or recreational activities due to use; and continued use despite persistent or recurring adverse effects. The DSM-IV criteria for substance abuse include a pattern of use that causes significant impairment and/or distress in fulfilling a major life role at home, school or work; placing oneself in hazardous situations, such as driving while intoxicated; legal problems; and/or social and interpersonal problems. Inherent in these criteria is the loss of control surrounding use of the substance, as well as a disruption or loss of relationships and/or roles in one's life. It follows that recovery would include cessation of substance use, as well as coping with stressors in roles at home, work, and school and in the realm of interpersonal interactions. Among the factors that contribute to coping are the relationships an individual has with other people.

This study was designed to explore how positive and negative social relationships are associated with adjustment among individuals who are dealing with an addiction. The

areas of literature most pertinent to this investigation include: social support and recovery; self-efficacy for recovery; and, depression among those in recovery. As well, the literature regarding court-ordered treatment, and more specifically Drug Courts, is germane in gaining insight to the specific pool of participants for this investigation.

Articles for the literature review were located by utilizing the PsycInfo database. Terms for substance abuse included: *substance* adjacent to *abuse*; *chemical* adjacent to *dependency*; *addiction*; *drug* adjacent to *dependency*; *drug* adjacent to *abuse*; *alcoholism*; *drug* adjacent to *rehabilitation*; *alcohol* adjacent to *rehabilitation*; *recovery*. These terms were each coupled with a social support term by utilizing the term "and." Terms for social support included: *social* adjacent to *support*; *negative* adjacent to *social* adjacent to *support*; *unsupportive*; *tough* adjacent to *love*; *family* adjacent to *conflict*; *undermining*; *unhelpful*; *social* adjacent to *strain*; *social* adjacent to *relationship*; and *social* adjacent to *network*. The terms for substance abuse were then coupled with a mandated treatment term again utilizing the term "and." Terms for mandated treatment included: *mandated*; *court-ordered*; and *voluntary* (as the term 'voluntary' is encompassed in the term 'involuntary,' utilizing the shorter of the two terms identified articles with either term). In addition, terms for substance abuse were also coupled with the terms *self-efficacy* and *depression*.

To ascertain articles regarding Drug Courts, as well as court ordered treatment, the Criminal Justice Abstracts and Criminal Justice Periodical Index were also searched. Terms utilized in the search were: *drug* adjacent to *court*, *court* adjacent to *ordered*, *court*

adjacent to *mandated*, and *incarceration*. These terms were then coupled with the terms *drug*, *substance* and *alcohol*.

The Social Science Citation Index (SSCI) was then searched by utilizing the names of authors. For social support and substance abuse, the authors of three key articles were used: Bennett, McMahon, and Rosenberg. Articles located from the SSCI were selected for the literature review if the study investigated social support with a population using substances other than nicotine. Articles focusing on populations other than adults, not utilizing samples from North America, and not published in English were excluded.

Theories of Recovery

Theories of addiction and recovery have long incorporated the notion of social support and helping relationships to facilitate coping. Kaplan (1975) proposed that the process of becoming a substance abuser involves an increasing reliance on the substance to manage negative feelings about the self. When confronted with stressful situations or the demands of daily living, the individual turns to the substance, which becomes the major means of self-enhancement and eventually becomes a maladaptive coping strategy. Prochaska and DiClemente (e.g., 1982, 1983) proposed a five-stage model of behavior change for smoking cessation that includes helping relationships in both the Action and Maintenance stages. Prochaska and DiClemente's model has been empirically supported with individuals in the process of stopping smoking, as well as other forms of behavioral change, such as addictions (e.g., DiClemente & Hughes, 1990; Prochaska, Velicier, Rossi, & Goldstein, 1994). Marlatt and his colleagues have developed a widely accepted

model of relapse prevention that includes social factors and support (Brownell, Marlatt, Lichtenstein, & Wilson, 1986; Marlatt & Gordon, 1985). One of the oldest and most widely recognized programs addressing recovery is the 12-step based program of Alcoholics Anonymous (AA), which has been expanded to address a wide variety of issues such as other drugs, overeating, and gambling. Social support is a basic tenet of the 12-step programs. The central role of the sponsor is one example of the integration of social support into the 12-step programs. In addition, Step 5 of the 12-step programs is "Admit[ting] to God, to ourselves, and to another human being the exact nature of our wrongs" (Alcoholics Anonymous World Service, Inc., 1978, p. 59) which explicitly includes the involvement of someone else in the recovery process. Research suggests that people addicted to alcohol and/or other drugs who voluntarily participate in the 12-step approach do benefit, in terms of initial results, as well as maintenance of recovery (e.g., Gartner & Reissman, 1984).

Research on Social Support and the Recovery Process

Despite the inclusion of social support in the theory and treatment of addiction, the study of social support in the process of recovery has produced mixed results. One discrepancy in the research is how social support is defined and operationalized. Conceptualizations of social support have differed with respect to context. Rather than defining social support in terms of specific context, some investigators have measured the global aspects of social support, answering the question, "Does the person in recovery have others in his or her life who are concerned and care about him or her in some way?" In contrast, other researchers have measured social support in the specific context of a

person's recovery process, addressing the question, "Does the person in recovery have others who support his or her sobriety and/or treatment?"

Global Aspects of Social Support. The concept of global social support is not a unitary construct, but an omnibus term (Sarason, Sarason, & Pierce, 1990). There is evidence that global social support, more specifically perceptions of available support, serves as a moderator (buffer) between life stress and psychological outcomes (e.g., Cohen & Hoberman, 1983b; Cohen & McKay, 1984; Cohen & Wills 1985b; Sandler & Lakey, 1982; Wethington & Kessler, 1986). In studies of substance abusing populations, researchers have taken various approaches to assessing whether individuals in recovery have global social support, other people in their lives who are concerned and care about them in some way. Additionally, there has been variation in the outcomes related to recovery that researchers have chosen to investigate.

Some investigations have examined a single aspect of global social support. Support of esteem, also called reassurance of worth, is one of these aspects of social support examined in substance abusing populations. Booth, Russell, Yates, Laughlin, Brown, and Reed (1992a) studied a group of male veterans for 1 year after they had completed a 21-day inpatient program for alcoholism. During the 1 year follow-up, 34% of the men were readmitted for alcohol problems. The only two variables found to be associated with readmission were (1) lack of reassurance of worth from family and friends, and (2) two or more previous hospitalizations. These two variables were also found to be independent of one another. In addition, when the number of previous hospitalizations was controlled for, the effects of reassurance of worth on length of time

to readmission appeared stronger. However, a clear conclusion about esteem support can not be drawn on the basis of a single investigation.

Another dimension of social support that has been investigated is perceived support, which is an individual's belief that help would be available if needed (Blazer, 1982; Kessler & McLeod, 1984). Among a sample of veterans, Rosenberg (1983) found that perceived support, operationalized as feelings and experiences that occur in relations with family and friends, was unrelated to how long relapsed patients were abstinent before relapsing, or how long they drank during the relapse before returning to treatment. He found no differences in level of perceived support between the group who relapsed and a matched group who did not relapse within the year of follow-up after completing the same inpatient treatment program. Similarly, Sinsey (1993) investigated perceived social support in a sample of registered nurses with addictions and found that perceived support was not significantly associated with length of time in recovery. However, there was a significant inverse relationship between amount of perceived support and level of depression. Sinsey concluded that perceived social support may not assist with the recovery process, but that it may buffer against depression in this population. Similarly, Dodge and Potocky (1999) found that more perceived social support from family and friends predicted higher self-esteem and less depression, but not severity of addiction in a sample of female substance abusers in inpatient treatment.

Contrary to the these findings regarding perceived social support, Westreich and associates (Westreich, Heitner, Cooper, Galanter & Guedi, 1997) found that perceived social support from family was related to completing a 21-day voluntary residential

substance abuse treatment program. However, what they found was that individuals who were homeless, as well as those who perceived less social support from family upon entering treatment, were more likely to complete the program. Perceived support from family was correlated with the ability to find shelter with family members. Westreich and his associates concluded that experiencing higher levels of perceived support from family, coupled with the ability to a secure stable place to reside, enabled individuals other alternatives than dealing with their substance abuse in treatment.

Other researchers have investigated more than one aspect of global social support and have not found an association between the measures of social support and outcome. Tarasenko (1990) investigated the self-image of women with recurring alcohol problems in relation to their social appraisal, their perceptions of how others see them. Women were divided into two groups based on recovery-- "successful" and "unsuccessful." Tarasenko found that the unsuccessful group of women could be divided into two sub-groups based on images of self-before they began drinking and self-now: one sub-group with very high self-image before and very low self-image now, and the other sub-group with little difference between the self-image before and now. In contrast, the successful group of women displayed a unitary pattern, with no difference between self-image before and self-image now. Because differences in self-image did not distinguish women who were successful in recovery from those who were not successful, Tarasenko concluded that in this population social appraisal is not a unidimensional construct.

McMahon and his associates (McMahon, Kouzekannani, & Malow, 1999) completed a study in which they combined several aspects of global social support as

measured by the Perceived Support Network Inventory (PSNI; Oritt, Paul, & Behrman, 1985) and found no association between scores on the PSNI and treatment completion or substance use at follow-up. They completed a retrospective study of men who had dropped out of residential treatment for cocaine abuse and matched comparisons who completed treatment. After controlling for time in treatment, no differences in perceived social support or substance use were found between the groups at both the 3- and 6-month follow-ups. In this study, the measure of perceived support incorporated into a single score the size of the supportive social network, initiation of support seeking behavior, perceived availability of support, satisfaction with support, perceived multidimensionality of the support network, perceived support reciprocity, and perceived network conflict.

In a more recent study, McMahon (2001) again utilized the PSNI (PSNI, Oritt et al., 1985) combining several aspects of global social support and found results contrary to his 1999 study. In this study, he tracked men who had completed at least three weeks of inpatient treatment for cocaine dependence over a 12-month post-treatment period. He broke the groups into 'non-relapsers' (n = 123) and 'relapsers' (n = 172). As hypothesized, he found that higher levels of detached personality type, higher levels of life stress at follow-up, lower levels of perceived social support at follow-up and fewer members in a person's social network at follow-up contributed significantly to the prediction of relapse group membership. However, higher levels of perceived support at intake also significantly predicted relapse. As this final finding was contrary to expectations, he performed follow-up within group repeated measure analyses and found

that the individuals in the non-relapse group reported a significant increase in average perceived social support between intake and follow-up. In contrast, individuals in the relapse group reported no difference in perceived social support from intake to follow-up.

In one retrospective study, Joe and Simpson (1983) investigated several aspects of global social support and found mixed results. They looked at the make-up of both reference group and intimate support systems, as well as involvement in non-drug related social activities to see if these variables differentiated groups of individuals who were addicted to opiates with various outcomes based on opioid use 6 years after they originally were in treatment. Reference group variables were represented by the amount of free time individuals spent with others who were actively using the year prior to treatment, the year prior to the interview, and a change score between these two time periods. Family affiliation variables included living with parents either the first year out of treatment or the year prior to the interview, amount of contact with relatives, and perceived support from family for problems. Non-drug social activities included the amount of leisure time spent in athletics, hobbies, reading and attending non-drug related social events in the year prior to treatment, the year prior to follow-up, and a change score. The investigators contacted close to 1,000 individuals who had received a variety of treatment modalities including methadone maintenance, therapeutic communities, outpatient drug-free treatments, and outpatient detoxification programs, and a comparison group of individuals who completed only the intake process in any of these programs. They interviewed the clients 6 years after each had ended the respective program. Joe and Simpson identified that the former clients fit into five categories: (1)

intermediate abstinence- no treatment, individuals who stopped daily opioid use during initial treatment and limited treatment in the subsequent 6 years; (2) delayed abstinence-treatment or jail/prison, individuals who terminated daily opioid use during the 6 years following their original treatment in conjunction with receiving more treatment or jail/prison sentences; (3) delayed abstinence- no treatment or jail/prison, individuals who did not terminate daily use during treatment, but did cease use at some point during the 6-year period without receiving more treatment or jail/prison; (4) substitution- individuals who stopped using opioids on a daily basis, but began heavy use of non-opioid drugs; and, (5) continued use. Using discriminant analyses, Joe and Simpson found that none of the family affiliation variables, nor involvement in non-drug related social activities differentiated between any of the five outcome groupings. They did find that the amount of time spent with other people who were using drugs both prior to treatment, in the year prior to the interview, and the change score differentiated the continued use group from the other four groups. Those who continued their use of opioid drugs spent more time with others who used at both points in time and thus, had a significantly smaller change score. There were no differences between any of the other four groups on these reference group variables. Thus, variables associated with family contacts and positive social activities were not associated with continued use, but affiliation with substance abusing peers was associated with continuation of opiate use.

Some researchers have investigated and found several aspects of global social support to be related to outcome. Bennett (1988) investigated stress, self-esteem and social support in a non-random sample of 18 - 30 year old alcoholics who had self-

identified as being in recovery. Social support was delineated into total functional support (perceived affect, affirmation and aid), total network support (number in network, duration of relationships and frequency of contact), and total loss (number of categories of persons and amount of support lost) (Norbeck, Lindsey, & Carrieri, 1981, 1983). Bennett found that the aspects of social support experienced by the young alcoholics did not differ from that of staff at a large university medical center. He found that total functional support, total network support, and total loss were each significantly related to self-esteem. Bennett concluded that social support not only buffered the negative effects of high stress on self-esteem, but that social support was also directly related to self-esteem.

Still other researchers operationalized and examined multiple aspects of global social support in a slightly different manner. Brennan and Moos (1990) investigated social resources associated with drinking problems within a sample of individuals aged 55 - 65. After controlling for gender, marital status and life stressors, Brennan and Moos found that social resources from six domains (spouse, child, extended-family, friends, work, and financial) predicted a significant amount of the variance in alcohol consumption, alcohol problems, depression and self-confidence. Having fewer social resources in these six specific areas predicted worse psychological outcome, more substance use, and more substance-related problems.

Rather than investigating specific aspects of global social support, some researchers have operationalized social support with a single unidimensional measure. Among investigations utilizing a unidimensional measure of social support, some

findings indicate no relationship between support and outcome. Goehl, Nunes, Quitkin and Hilton (1993) used a single measure of social support that combined tangible support, appraisal, sense of belonging and self-esteem. With a sample from a methadone treatment facility, Goehl and associates found that unidimensional social support was not significantly correlated with clean urine screens, or with negative or positive affect over a 3-month period. In a separate study, Nyamathi (1991) utilized a unidimensional measure of global social support developed by Zich and Temoshok (1987), which combines social availability, emotionally-sustaining behaviors, problem-solving behaviors, indirect personal influence, and environmental action. Nyamathi found that this unidimensional measure of social support made a nonsignificant contribution to the prediction of emotional distress in a sample of women in drug rehabilitation and homeless shelters.

Other researchers who have operationalized global social support with a single unidimensional measure have found a relationship between support and outcome. In structured interviews, Chitwood and Morningstar (1985) found differences on several outcome measures between treatment clients and non-treatment clients whose drug of choice was cocaine. Individuals in treatment reported more marital and relationship break-ups, were more likely to be unemployed, and reported more long-term depression. Forty percent of those in treatment reported having no close friends. In a different investigation, Booth and associates (Booth, Russell, Soucek, & Laughlin, 1992b) utilized the Social Provisions Scale (SPS; Cutrona & Russell, 1987) which assesses guidance, reliable assistance (tangible support), reassurance of worth (esteem), attachment (emotional bond), social integration, and the opportunity to provide nurturance. Booth et

al. found that this unidimensional measure of social support was a significant predictor of depression above and beyond self-esteem, neuroticism, extraversion, social desirability, amount of substance use and psychiatric status.

Finally, marital status has been utilized as an objective indicator of global social support. Some of the literature suggests that becoming married is associated with a decline in substance use and in problem or high-risk use (Horowitz & White, 1991; Miller-Tutzauer, Leonard, & Windle, 1991; Roberts, Leonard, & Senchak, 1992a, 1992b). However, this finding has not been consistently replicated (Booth et al., 1992a, 1992b). In breaking down and investigating specific aspects of marriage, some researchers have shown that a lack of intimacy within marriage predicts problem drinking (Klassen, Wilsnack, Harris, & Wilsnack, 1991; Roberts et al., 1992b). Broadening the concept of marriage, Savada and Pak (1994) found that being in a committed relationship during the third decade of life was associated with fewer alcohol-related problems and less alcohol consumption. In their longitudinal study, Savada and Pak found that individuals who were not in a relationship were more prone to problem drinking, and that those in relationships who consumed more alcohol and had more adverse consequences related to drinking were more likely to be without a partner a year later.

In summary, among researchers investigating the relationship between recovery and social support, the definitions of global social support vary widely. Paralleling the various operational definitions of the construct are a multitude of results. This makes it difficult to draw conclusions about the relationship between global social support and outcome in substance abusing populations. Thus, the question, “Does the person in

recovery have others in his or her life who are concerned and care about him or her in some way?" does not seem to be the optimal approach to understanding the relationship between social support and recovery. The operational definition of social support with measures of global support may be too broad to identify how social support is related to the stress of recovery.

Recovery-Specific Social Support. Evidence suggests that global social support should be differentiated from social support that is substance- and recovery- specific (Beattie, Longabaugh, Elliott, Stout, Fava, & Neol, 1993; Beattie & Longabaugh, 1997; George & Tucker, 1996). In a number of studies, researchers have investigated support specific to substance use and cessation.

Several types of recovery-specific support have been examined and found not to be associated with outcome among individuals dealing with addictions. Brennan and Moos (1990) found no differences between problem and non-problem drinkers on the following types of recovery-specific support: guidance (the provision of advice and/or information); practical support (support that is tangible); social integration (others who share similar interests); and the opportunity to provide nurturance to others. Similarly, Booth et al. (1992a) found that recovery-specific guidance, practical support, social integration and providing nurturance did not differentiate alcoholic men who relapsed from those who did not over a 1-year period. In a different study, the amount of perceived support, received support, size of social network, or frequency of interaction did not differentiate individuals in recovery from heroin addiction who relapsed from those who maintained abstinence over a 3-month follow-up period (Rhoads, 1983).

Additionally in a sample of individuals who had completed treatment for cocaine, the amount of recovery-specific tangible support predicted neither abstinence nor relapse over a 6-month period (Havassy, Wasserman, & Hall, 1995).

Results seem to indicate that the aforementioned aspects of recovery-specific social support are not related to outcome for individuals dealing with an addiction. However, evidence regarding the association between other types of recovery-specific social support and outcome is not as clear. One of these aspects is received support. Oyabu and Garland (1987) operationalized received support as the participation of family or friends in the treatment process of individuals in a 28-day inpatient program for alcoholism. They defined actual support received as the number of family members and friends who participated in joint therapy sessions and the number of joint therapy sessions held. They found that patients in the program did improve, both increasing their levels of self-esteem and decreasing their levels of depression. However, these improvements were not significantly related to the amount of actual support received during the program. In a 3-month follow-up study with individuals who had been released from a heroin detoxification program, Rhoads (1983) found that the reported amount of received support increased over time and the amount of heroin use decreased; however, the two variables were not related to each other.

The only dimension of social support that those investigating health in general agree is closely related to outcome is perceived social support (Antonucci & Israel, 1986; Blazer, 1982; Sandler & Barrera, 1984; Wethington et al., 1986). It follows that perceived support, which is an individual's belief that help would be available if needed

(Blazer, 1982; Kessler et al., 1984), is the single aspect of social support that has garnered the most attention in the recovery-specific literature. However, the evidence linking recovery-specific perceived support to outcome in substance abusing populations is still unclear.

Among the studies indicating no association between perceived recovery-specific social support and outcome is Oyabu and Garland's (1987) investigation with patients in inpatient treatment for alcoholism. Well-being was operationalized as levels of self-esteem and levels of depression, both of which improved over the duration of treatment. Findings indicated that the amount of support for treatment the patients perceived from their support network was not associated with psychological well-being at the beginning or end of the 28-day treatment. Similarly, in their year-long investigation with alcoholic veterans, Booth et al. (1992b) did not find a significant relationship between the amount of perceived support for abstinence and either relapse or readmission to treatment. Booth and associates had participants complete a measure of perceived social support twice; first, regarding interactions with family and friends, and a second time regarding interactions with patients and staff in the treatment facility. The measure of social support combined perceptions of guidance, tangible support, reassurance of worth and opportunity to provide nurturance (Cutrona et al., 1987). They found that the male veterans differentiated between perceived support associated with the treatment setting versus the perceived support from family and friends, rating the support from each source differently. However, neither measure of perceived social support was associated with relapse or being readmitted to treatment in this sample of veterans. In a recent study,

Gregorie and Snively (2001) assessed perceived support in women who had completed inpatient treatment by asking if their friends and separately, family, encouraged them not to use substances. They were not able to investigate differences in treatment outcome along these two dimensions as the overwhelming majority of women who participated in the study reported that their friends (88%) and family (94%) were encouraging. Therefore, perceived level of social support was not associated with outcome.

Contrary to the aforementioned findings, in several studies, recovery-specific perceived support has been found to have associations with increased subjective well-being and better treatment outcomes (e.g., Beattie et al., 1993; Longabaugh & Beattie, 1985). Havassy et al. (1995) found that among a group of individuals completing treatment for cocaine abuse, the only aspect of social support predictive of abstinence at 12-week and 6-month follow-up points was the amount of perceived social support for recovery. Lower levels of perceived support predicted relapse in this population even when baseline levels of mood were controlled for. In her longitudinal investigation with individuals involved with treatment for heroin use, Rhoads (1983) found that participants reported increased amounts of perceived support for recovery over time. She also found that for women, the amount of perceived social support predicted depression over 1- and 2-month lags, with more support leading to less depression. For these women, an interaction was found between stressful life events and amount of perceived support. Stressful events and low perceived support were related to increased levels of depression, anxiety, and drug use at the 1- and 2-month follow-ups. For men, similar but weaker

associations were found. In addition, men with low levels of perceived support became more anxious as the level of good, as well as bad, life events increased.

Moving beyond studies of pre-existing groups of individuals in recovery, there are investigations which utilized random assignment to assess the effects of several aspects of social support and differing treatment regimes on outcome. Herman et al. (2000) investigated the influence of recovery-specific social support on drinking outcome over 18 months for individuals with dual diagnoses, substance abuse and mental illnesses, who were randomly assigned to an inpatient mental health unit or an inpatient unit that addressed their dual diagnoses. They found that individuals who completed the mental health only program, who expressed low intentions of maintaining abstinence; and, had no family involvement during their hospitalization (defined by visits during their stay), had a significantly higher rate of substance use at the 18-month follow-up point. Individuals who completed the dual diagnosis program, who expressed strong intentions to stay sober, and had high levels of family involvement during their hospitalization, had the lowest rate of use at 18-months post-treatment. They found that an individual's level of perceived support for sobriety from their support network, as measured as part of the Addiction Severity Index interview (ASI; McLellan, Luborsky, Woody, & O'Brien, 1980), was significantly related to rate of use at 18 months. However, they also found that completing the dual-diagnosis treatment offset the effect of perceived support for sobriety. Thus, perceived support for sobriety did not account for variance in drinking outcome above and beyond what was accounted for by the

different treatments (i.e., mental health only versus mental health coupled with substance abuse).

Longabaugh, Beattie, Wirtz, Noel, and Stout (1995a) combined several aspects of recovery-specific social support, simultaneously investigating perceived support, received support, and social investment (the number and amount of contact an individual reported having with others in his or her social network). The investigators randomly assigned individuals in substance abuse outpatient treatment to one of three treatment groups and then examined outcome based on the participants' perceived level of social support for abstinence and social investment, as measured in the Important People and Activities interview (IPA; Longabaugh, Wirtz, & Clifford, 1995b). The treatment groups differed in the amount of participation required of a significant other and the participant's larger support network (received support) in couple and group therapy formats. At 18-month follow-up, the researchers found that the overall rate of abstinence did not differ among the treatment groups. However, when the substance abusers' initial level of perceived social support for recovery and social investment were factored in, there was a significant interaction between type of treatment and level of support on recovery. In the treatment that included extended work with a significant other, individuals who abused substances who initially perceived low levels of social support for abstinence *or* reported low investment with their social network fared best. In contrast, the participants who fared worst in this treatment were those who initially perceived low levels of social support for abstinence *and* reported low investment with their social network. The treatment that had brief involvement with a significant other was the least effective for

participants who perceived low social support for abstinence *or* reported low social investment. This treatment was most effective with participants who perceived either both low *or* both high levels of social support for abstinence and investment in their support network. Thus, it appears that matching treatment approaches for recovery with level of perceived social support may be an important factor in achieving sobriety.

Project MATCH is the largest and most statistically powerful clinical trial of psychotherapies undertaken to date. It was designed to investigate hypotheses regarding matching individual client factors to factors associated with different forms of alcohol treatment. This nationwide study included both aftercare therapy following inpatient or day hospital treatment, as well as standard outpatient therapy. Participants were randomly assigned to one of three manual-guided 12-week, individual treatments: Motivational Enhancement Therapy (MET), 12- step Facilitation Therapy (TSF), or Cognitive-Behavioral Coping Skills Therapy (CBT). Client characteristics examined included: gender, cognitive impairment, conceptual level, psychiatric severity, sociopathy, alcohol involvement, typology of alcoholism, meaning-seeking, and social support for drinking versus abstinence as measured with the Important People and Activities interview (Longabaugh, Wirtz, & Clifford, 1995b). A variety of follow-up data were collected from participants and from a family member or friend, who served as a collateral, on a quarterly basis for 15 months following the end of the 12-week treatment. Only one of the 16 hypothesized individual characteristic by treatment type 'matches' was supported: For participants with low psychiatric severity pre-treatment, those who received the 12-step facilitation had more abstinent days than those treated with cognitive-behavioral

therapy. The researchers also found that social support for drinking/abstinence was prognostic of positive drinking outcomes over time (Project MATCH Research Group, 1997).

As part of the Project MATCH study, Longabaugh and his colleagues (Longabaugh, Wirtz, Zweben, & Stout, 1998) found that treatment intervention can mediate the effect of support for continued substance use from members of an individual's social network. At the 3-year follow-up, the researchers found that individuals in the TSF group did attend more AA meetings than individuals in either of the other two groups. Additionally, for individuals who reported high network support for drinking at baseline, those in the TSF group had better outcome (i.e., more days abstinent), than those in either the MET or CBT groups. For individuals who reported networks with low support for drinking at baseline, there were no differences in outcome between any of the 3 groups. The researchers tested the casual chain for all 3 groups and concluded that involvement with AA supporting abstinence served as a partial mediator for individuals with networks that had originally been supportive of their continued substance use.

On the other hand, in a similar, but smaller scale, study where participants were randomly assigned to three different groups, Rychtarik, Conners, Whitney, McGillicuddy, Fitterling, and Wirtz (2000) did not find interactions between social support for continued drinking and treatment setting on outcome measures of substance use at 18 months post-treatment. In this study the groups received theoretically similar treatments, but in varying doses and intensities. The first group received 28-day inpatient

treatment; the second group received intensive day treatment which was held during business hours on weekdays in conjunction with the 28-day inpatient program; the third group received standard outpatient treatment which consisted of four individual and four groups sessions over a 28-day period. Thus, individuals with higher levels of social support for continuing use did not fare better with a more or less intensive treatment setting. The researchers did find that individuals with high substance involvement or low cognitive functioning did better with inpatient treatment, and individuals with low substance involvement did better with either of the two outpatient treatments.

Sobell, Sobell, and Leo (2000) attempted to intervene in the recovery-specific social support of married problem drinkers by randomly assigning spouses to two different conditions. All of the problem drinkers received the same amount and type of treatment. Each spouse received two 60-minute sessions with a therapist plus reading materials. The spouses in the 'natural support' group were given reading similar to what the problem drinkers received. The spouses in the 'directed support' group were instructed on how they could be a "continuing agent of treatment" by assisting their spouse in identifying high-risk drinking situations, devising and carrying out plans to deal with high-risk situations, and constructively dealing with relapses by stopping the slip as soon as possible and construing it as a learning experience rather than a failure. Pre-treatment scores of drinking severity, self-efficacy for recovery, and the family environment did not differ between the two groups. At 12-months post-treatment, there were no differences between the two groups in the drinking habits of the identified problem drinker measured by proportion of days abstinent, proportion of low, moderate

and high consumption days, and mean number of drinks per day. Thus, the researchers' intervention to bolster recovery-specific social support did not amount to change in the recovery process. However, it should be noted that the differing types of social support previously discussed in this review of the literature, such as perceived, received, global or recovery-specific, were not assessed in this study. Thus, it is unclear if the intended intervention of bolstering support for recovery was actually achieved by the spouse, and/or if any changes by the spouse were perceived by the individual in recovery as supportive.

In summary, the investigations examining the relationship between recovery-specific social support and recovery parallel those examining global social support and recovery. Researchers have utilized a variety of operational definitions of the construct of recovery-specific social support and found a variety of results. Once again, this makes it difficult to draw conclusions about the relationship between recovery-specific social support and outcome in substance abusing populations. Thus, the question, "Does the person in recovery have others who support his or her sobriety and/or treatment?" does not seem to be the optimal approach to understanding the relationship between social support and recovery. It may be that individuals do not differentiate between their perceptions of global and recovery-specific social support.

Global vs. Recovery-Specific Social Support

Several researchers have investigated whether individuals in recovery distinguish the experience of global social support from support that is recovery-specific. George and Tucker (1996) recruited participants through local newspapers to investigate the help-

seeking behaviors of individuals with problems with alcohol. They interviewed and compared three groups: individuals who began treatment to address their issues with alcohol within the past 6 months, individuals who began attending AA to address their issues with alcohol within the past 6 months, and individuals who had yet to seek treatment or attend AA. The groups did not differ on frequency or quantity of alcohol use, problem-drinking duration, number of prior attempts to quit drinking, longest period of sustained abstinence or scores on the Alcohol Dependence Scale (ADS; Skinner & Horn, 1984). Help-seeking was associated with greater alcohol-related psychosocial problems, especially in the interpersonal domain, but not with heavier alcohol use. Treated individuals reported having significantly more members in their social support network than individuals in the other two groups. However, there were no differences between the groups on any measure of social support that individuals reported receiving from their social networks, including: functional support as assessed by the Norbeck Social Support Questionnaire (NSSQ; Norbeck et al., 1981), availability of tangible support as assessed by the Interpersonal Support Evaluation list (ISEL; Cohen, Mermelstein, Kamarck, & Hoberman, 1985a), or perceived support as assessed by the Provision of Social Relations scale (PSR; Turner, Frankel, & Levin, 1983). Participants were asked three additional questions regarding each network member they had identified: (1) the extent each network member knew about the participant's own drinking problem and/or participation in treatment/AA; (2) how often each drank regularly with the participant; and, (3) whether each encouraged, discouraged, or were ambivalent about (a) the participant's drinking practices, and (b) the participant's seeking

treatment/AA participation. There were no between-group differences in total network awareness of participants' drinking or number of network members who drank. Untreated individuals did report significantly more encouragement to continue drinking from significant others, other family members, and school/work colleagues than did individuals in either of the other two groups. Analyses as a function of network relationships showed the only group differences in the friend category. Individuals attending AA received significantly more encouraging, discouraging and mixed messages regarding their alcohol use from friends than did untreated individuals. Individuals in treatment received an intermediate amount of the three types of messages, but only the comparison between treated and untreated participants for encouragement to drink by friends was significant. Results seem to emphasize the social nature of help-seeking and point to a separation between general social contextual variables and alcohol-specific social influences.

As a different facet of their randomized treatment study, Beattie and Longabaugh (1997) investigated global and recovery-specific social support in the 7 to 12 months after treatment had ended. They operationalized global support from family and friends with the Perceived Social Support self-report instrument (PSS; Procidano & Heller, 1983), as well as the number of people in each participant's social support network. Recovery-specific social support was assessed utilizing the Important People and Activities interview (IPA; Longabaugh et al., 1995a), which assesses encouragement for abstinence from family, friends and co-workers, the average of the drinking statuses for each individual in the participant's network (participants were asked to rate each

individual in their network as light, moderate, or heavy, drinkers) and each participant's embeddedness in an abstinent lifestyle regarding his or her participation in 12-step programs. The outcome measures of alcohol use were self-reported proportion of days abstinent and proportion of days of heavy drinking (6 or more standard drinks) during the 6-month period under investigation. Subjective well-being was another outcome measure. Subjective well-being was operationalized by the Psychological Functioning Inventory (PFI; Feragne, Longabaugh, & Stevenson, 1983) which asks each participant about positive affect, negative affect, and life satisfaction over the past 30-day period. Beattie and Longabaugh (1997) found that perceived global social support was correlated with subjective well-being and that the relationship was consistent after controlling for other variables. However, none of the recovery-specific measures of social support, (i.e., the drinking status of important others, embeddedness in an abstinent lifestyle or encouragement for abstinence), were correlated with subjective well-being. Additionally, neither of the global indicators, (i.e., perceived social support and the size of one's social support network), were related to proportion of days drinking or abstinent. The encouragement of abstinence, the drinking status or important others, and embeddedness in an abstinent lifestyle were significantly positively correlated with proportion of days abstinent, but only encouragement from family was significantly negatively correlated to proportion of days of heavy drinking. When other social relationships were controlled for, only the encouragement for abstinence added incremental variance to the prediction of drinking outcomes and only perceived social support added incremental variance to

subjective well-being. These findings again seem to point to the need for differentiating global from recovery-specific social support.

In sum, the seemingly vast array of results in investigations of social support and recovery is not surprising, given that the method of defining and then operationalizing the concept of social support, as well as the concept of outcome, has been as varied as the population of substance abusers surveyed. However, it does appear that individuals in recovery experience global social support and social support that is recovery-specific separately. Thus, research investigating the relationship of social support and the recovery process should differentiate global from recovery-specific social support. Another factor that may be clouding the results in the literature on outcomes with substance abusers may be the notion that social support is always positive. Social exchange theory suggests that social relationships involve both costs as well as benefits (Thibaut & Kelley, 1959). There is a growing body of literature that has examined the effects of supportive, as well as unsupportive, interactions on coping and psychological distress in a variety of populations.

Negative Side of Social Support

The large body of literature linking social support to stress, coping, and psychological distress has focused on the health-enhancing effects of social support. However, theories proposing that social interactions have costs, as well as benefits, have been proposed for decades (e.g., Thibaut et al., 1959). Negative social interactions have been defined as affectively unpleasant, resistive, conflictual, hostile, or hurtful

transactions rather than the mere absence of aid (e.g., Coyne, Wortman, & Lehman, 1988).

Results from previous studies investigating the negative aspects of social interactions have revealed that an inverse correlation exists between perceived levels of negative social exchange and psychological well-being across a variety of populations. These populations include college students (Ingram, Betz, Mindes, Schmitt, & Smith, 2001a; Lakey, Tardiff, & Drew, 1994; Lepore, 1992; Ruehlman & Karoly, 1991), medical students (Brenner, Norvell, & Limacher, 1989), married individuals (Schuster, Kessler, & Aseltine, 1990) and elderly adults (Finch, Okun, Barrera, Zautra, & Reich, 1989; Okun, Melichar, & Hill, 1990; Rook, 1984).

Researchers have found that negative and positive social exchanges represent independent constructs that are, at most, minimally related (Davis, Brickman, & Baker, 1991; Finch et al., 1989; Ingram et al., 2001a; Lakey et al., 1994; Revenson, Schiaffino, Majerovitz, & Gibofsky, 1991; Rook, 1984; Ruehlman et al., 1991). Some findings indicate that measures of negative social exchange are more strongly related to psychological adjustment than are positive network interactions (Brenner et al., 1989; Fiore, Becker, & Coppel, 1983; Ingram et al., 2001a; Norris, Stephens, & Kinney, 1990; Rook, 1984; Schuster et al., 1990). However, this finding has not always been duplicated (e.g., Siegel, Raveis, & Karus, 1994).

There is a growing body of research focusing on negative responses that an individual receives from others concerning a specific stressful life event. Some of the populations experiencing stressful life events that have been investigated include persons

living with HIV (Ingram, Jones, Fass, Neidig, & Song, 1999; Siegel et al., 1994), people who have experienced multiple losses in their lives due to death of others (Ingram, Jones & Smith, 2001b), patients with rheumatoid arthritis (Kraaimaat, Van Dam-Baggen, & Bijlsma, 1995; Manne & Zauta, 1989; Revenson et al., 1991), recovering stroke patients (Norris et al., 1990; Stephens, Kinney, Norris, & Ritchie, 1987), caregivers to family members with Alzheimer's disease (Fiore et al., 1983; Pagel, Erdley, & Becker, 1987), victims of rape (Davis et al., 1991) and pregnant minority teenagers (Rhodes & Woods, 1995). Results indicate that there is a significant association between greater amounts of stressor-specific unsupportive behaviors and decreased psychological well-being. In addition, there may be gender differences, with women being somewhat more likely than men to experience unsupportive social interactions (Ingram et al., 1999; Schuster et al., 1990; Turner, 1994).

Ingram and associates (2001a) have defined stressor-specific unsupportive social interactions as the unsupportive or upsetting responses that an individual receives from others regarding a specific life event. They developed a comprehensive measure of the construct that could be used across studies of a variety of stressful life events (e.g., bereavement, living with cancer or HIV, job loss, fertility problems, the end of a relationship with a spouse/partner).

Unlike other life stressors in which attempts to provide social support may be misconstrued as disturbing rather than helpful (Wortman & Lehman, 1985), social support within the context of addiction is fraught with contradictions. Individuals who misuse substances often shun, and are shunned by, sober social networks and build

networks consisting of others who also misuse substances. Thus, losing established social ties and creating new ones may be a positive step in recovery. As the concept of "tough love" indicates, family and friends may act contrary to traditional definitions of support to facilitate the person who abuses substances accepting responsibility for his or her problem and the consequences it engenders. Individuals who abuse substances have often damaged their relationships with sober family and friends, in attempts to gain their substance of choice or while under the influence of substances. Thus, family and friends may be so emotionally injured that providing the addict with alliance, acceptance, esteem and tangible support may be beyond their own need for self-protection. In addition, individuals who abuse substances often come from family backgrounds that include abusive and neglectful relationships. Thus, the provision and experience of personal acceptance, esteem and tangible support was not a regular part of belonging to these families. What a person in recovery perceives as positive versus negative support may also be difficult to ascertain. Depending on the person's readiness to change and stage of recovery, he or she may perceive as positive social support either behaviors of network members that encourage abstinence, or conversely, behaviors that facilitate the person's use of substances.

Over the past two decades, within substance using populations, both conflict within social networks and the loss of socially supportive relationships have been investigated. There seemed to be consistent findings that both conflict within social networks and loss of socially supportive relationships are related to substance use and to relapse after treatment. For example, among a sample of individuals addicted to opiates,

Kosten, Rounsaville, and Kleber (1986) found that new, not chronic, arguments at work or with family members or dating partners, as well as exits (divorce, legal separation, end of dating relationships, and death of family members or close friends) predicted drug use over a 2 ½ year period. Similarly, Cummings, Gordon, and Marlatt (1980) found that 30% of relapse episodes occurred in association with self-reported interpersonal conflicts. Along these same lines, in a series of studies, Moos and his colleagues (e.g., Bromet & Moos, 1977; Finney, Moos, & Mewborn, 1980; Moos, Finney, & Cronkite, 1990) found that lack of conflict in the family is associated with both short- (6-month) and long-term (2-year) recovery from addiction. In his review of the literature, Westermeyer (1989) stated that both conflict and loss in personal relationships have been negatively correlated with treatment success and tied to relapse.

Within the substance abuse literature, both conflict and loss within social networks have been conceptualized and measured as stressful life events, rather than negative social interactions. As stressful life events, conflict and loss within social networks have been operationalized as all or nothing events. However, there are flaws with this operational definition. This conceptualization may be a forced simplification of social relationships. Although the loss of a relationship is more readily conceptualized in an all or nothing manner [e.g., the definition utilized by Kosten et al. (1986) that exits are divorce, legal separation, the end of dating relationships, and the death of family members or close friends], not all losses in relationships are this clear. For instance, when a friend relocates, an individual may experience a sense of loss despite still being able to be in contact through the telephone. As well, it is more difficult to understand conflict

within a relationship as an all or nothing event, as there are many nuances as well as circularity in relational conflicts. Additionally, as mentioned previously, individuals may experience unsupportive or upsetting responses from others that they do not label as simply "conflictual" and that diminish their overall well-being. Thus, focusing on conflict and loss within social networks as life events may not provide the full picture regarding the multifaceted experiences of individuals dealing with addiction.

As stated earlier in this paper, social support researchers have begun to investigate negative social interactions expanding beyond conflict and loss in personal relationships. In one study of individuals in recovery, researchers assessed conflict as one aspect of the broadened concept of negative social interactions, and found results that diverged from past conclusions (Havassy et al., 1995).

Havassy and associates (1995) examined self-reported negative interactions using five items from the Social Transaction Scale (STS; Lehmann, Shinn, Allen, & Simko, 1983). The STS assesses negative messages an individual receives, using items such as "How often does someone give you advice when you don't really need it?" Their sample of cocaine abusers was predominately male (73%) and multiracial, consisting of half Caucasians (51%), and half African Americans (49%). Havassy et al. found that the negative messages from members of participants' support network were not significantly related to continued abstinence or relapse at 12 weeks or 6 months after inpatient treatment. Self-reports of abstinence were corroborated with urine toxicology screening. The findings of Havassy et al., which deviate from previous findings about the relationship among conflict and loss in personal relationships and relapse, may point to

the distinction between conflict in interpersonal relationships and unsupportive messages in interactions experienced by individuals in recovery.

Despite the seemingly consistent link between conflict within the social network and relapse, treatment interventions to bolster abstinence-specific support have generally failed to increase abstinence significantly (e.g., Lichtenstein, Glasgow, & Abrams, 1986). Interventions decreasing conflict in the family and support network may not be addressing the breadth of negative social interactions. As research suggests that social support and negative social interactions are not opposite ends of the same continuum (e.g., Davis et al., 1991; Finch et al., 1989; Ingram et al., 2001a; Lakey et al., 1994; Revenson et al., 1991; Rook, 1984; Ruehlman et al., 1991), interventions aimed at increasing "support," may be overlooking the role of negative social interactions. Additionally, the construct of "conflict" as previously measured with substance abusers as an all or nothing event that either happens or does not, may not be addressing the full range of negative messages that this population receives.

A more recent study may be indicative of the role of a different definition of negative social support in the recovery process. Galaif, Nyamathi, and Stein (1999) examined the roles of social support, both positive and negative, as well as the use of positive and negative coping styles with a sample of 1,179 homeless, substance abusing women in the Los Angeles area. They operationalized positive social support with the following three items regarding interactions with non-drug using friends, family and partners: 'listened to your problems,' 'accompanied you to appointments to provide moral support,' and 'show they love or care for you.' Negative social support was

operationalized with the same three questions regarding substance using friends, family, and partners, plus two other questions: ‘have a good time with,’ and ‘provide food or place to stay.’ Coping styles were defined with active styles being positive and avoidant styles as negative. The outcome measures included level of depression, drug use over the past 6 months, current level of physical dependence on substances, and problems drug use caused in life in the past 6 months, including the areas of medical/physical health, relations with family/friends, attention/concentration, work, money/finances, fights/arguments, and legal difficulties. Galaif and her associates utilized structural equation modeling and confirmatory factor analysis methods. The only significant predictive paths that were identified included the following: more negative social support, more depression and less positive coping predicted current drug use; more negative coping, more depression and less positive coping predicted drug problems; and, more negative social support, more depression and less positive coping predicted physical drug dependence. Positive social support did not play a role in any of the significant predictive pathways for any outcome measure.

The study by Galaif and her associates seems be a step in a direction of integrating the findings in the general health literature regarding the impact of negative social support with a sample of substance abusing individuals. However, in their operationalization of positive and negative social support, Galaif and associates seemed to have combined important distinctions in types of social support indicated by the previously mentioned social support literature. First, they combined multiple aspects of social support in both the positive and negative realm, e.g., tangible support with

perceived support. Additionally, the definition of all messages and support from non-drug using support members as positive, and all messages and support from drug user as negative, may be conceptually flawed.

Thus, one of the purposes of the proposed study is to continue the integration of findings within the larger body of health literature. To this extent, the proposed study will clarify and expand on the work examining the role of unsupportive interactions with individuals struggling with substance abuse. This study will examine a broader range of unsupportive messages than the 5-item measure used by Havassy et al. (1995). Additionally, it also appears that Havassy and her associates examined unsupportive social interactions that were not specific to the recovery process. This study will utilize a measure of unsupportive interactions that is stressor-specific and has been validated with individuals dealing with a variety of stressful health issues (i.e., Figueiredo, 1997; Ingram et al., 1999; Mindes, Ingram, Kliewer, & James, 2003). In addition, this study will differentiate and examine aspects of social support shown to be distinct. Thus, only the concept of perceived support will be utilized. Furthermore, recovery-specific support will be measured separately from global support, and positive social interactions will be assessed distinctly from negative social interactions.

Stress of Recovery and Cognitive Appraisal

The same event may be defined and experienced completely differently by different individuals. For example, the death of a parent may appear to be a negative event for everyone. However, if the parent is elderly and had been suffering from a long-term debilitating illness, death may be a welcome release. Or in the case of a parent who

has been terrifyingly abusive, death may be almost something to celebrate. Within the substance abuse literature, the experience of general life stressors or negative life events which are external to the person, such as the death of a significant other or the loss of a job, has not been consistently linked to seeking treatment, completing treatment, or long-term recovery and relapse (for reviews, see O'Doherty & Davies, 1987; Velicer, DiClemente, Rossi, & Prochaska, 1990). Internal processes, such as negative affect, positive coping skills, and cognitive attributions, have been found to mediate the effects of external life events on relapse (see Marlatt, 1996 for a review).

As cited in the previous section, the correlation between negative social interactions and psychological adjustment has been explored with groups of individuals experiencing a variety internal stressful life events, e.g., rheumatoid arthritis, pregnancy, and HIV. Dealing with a substance abuse disorder can be conceptualized as similar to other medical issues, as an internal stressful life event. Similar to external life events, different individuals may not define and experience the same internal life event in similar ways. Rook (1992) noted that in several studies with individuals dealing with internal stressful life events, a sizable number of participants reported having no unsupportive interactions with others. There is a paucity of research examining the mechanisms that may contribute to understanding why some individuals claim not to experience unsupportive interactions or how negative interactions affect well-being (Lakey et al., 1994). However, it does seem apparent that there are individual differences in how an individual experiences and manages stressful life events. Internal cognitive processes may be one mechanism to account for these individual differences.

Lazarus and his colleagues have developed a theory of stress and coping that takes into account the individual nature of the impact of any event (e.g., Lazarus, 1966; Lazarus & Folkman, 1984). They defined stress as a relationship between the person and the environment that is cognitively appraised by the person as relevant to his or her well-being, and in which the person's resources are taxed or exceeded (Folkman & Lazarus, 1985).

Within this framework, cognitive appraisals have been further delineated into two separate types. Primary appraisals are the evaluation a person makes as to whether he or she has anything at stake in the encounter with the environment (Lazarus, 1966). Stressful appraisals are characterized by threat, which is the potential for harm or loss, or challenge, which is the potential for growth, mastery or gain (Folkman et al., 1985). Thus, primary appraisal equates to the evaluation of the stressfulness of a situation. Secondary appraisals are the evaluation of what, if anything, can be done to overcome or prevent harm or to improve the prospect of benefit in the encounter. Thus, secondary appraisal is an evaluation of possible coping responses.

In sum, the literature indicates that rather than investigating negative life events external to the person struggling with substance abuse, it is important to assess the stressfulness of the recovery process itself. Rather than defining the stress of recovery as a unitary experience, the theoretical framework set forth by Lazarus and his colleagues highlights the individualized experience of the stress of recovery, by emphasizing the cognitive threat appraisals that an individual has regarding his or her own process of recovery. Within this framework, the stress of recovery is operationalized as an

individual's primary threat appraisal. An individual's primary appraisal of the stress (threat) of the recovery process is likely to impact his or her adjustment. Additionally, the impact of an individual's threat appraisal on his or her adjustment to the stress of recovery may depend, in part, on his or her perceptions of positive and negative social interactions.

Self-efficacy for Recovery

As mentioned in the previous section regarding the theory of stress and coping proposed by Lazarus and colleagues, secondary cognitive appraisals are an individual's evaluation of his or her possible coping responses. This concept closely parallels Bandura's (1977) concept of self-efficacy, which has played a central role in cognitive-behavioral approaches to treatment of addictive behaviors. Bandura (1995) defined perceived self-efficacy as an individual's belief in his or her capabilities to organize and execute courses of action required to manage specific prospective situations. Efficacy beliefs are hypothesized to affect every phase of personal change from whether a person considers changing a behavior, to whether a person succeeds in initiating a change, and finally to whether the change is maintained over time (Bandura, 1992). As the major clinical focus of recovery is maintaining change over time, a low sense of self-efficacy would be expected to increase vulnerability to relapse (Bandura, 1992). In the drug and alcohol literature, self-efficacy has generally been operationalized as judgments about one's ability to remain abstinent when confronted with situations or experiences that tempt use (Stephens, Wertz, & Roffman, 1995). There is a substantial body of evidence that supports a positive association between self-efficacy and both treatment outcome and

abstinence (e.g., Annis & Davis, 1988a; Burling, Reilly, Moltzen, & Ziff, 1989; DiClemente, 1981; Sitharthan & Kavanagh, 1990; Stephens, Wertz, & Roffman, 1993). Thus, in cross-sectional studies, efficacy beliefs regarding abstinence have been utilized as an indicator of predicting abstinence.

Depression Among Those in Recovery

Depression has often been utilized as an outcome measure with substance abusing populations because it is noted as the most frequently occurring comorbid disorder with substance abuse (Kessler, Crum, Warner, Nelson, Schulenberg, & Anthony, 1997; Lippmann, Manshadi, Christie, & Gultekin, 1987; Robins, 1974; Salloum, Mezzich, Cornelius, Day, Daley, & Kinisci, 1995). At this time, it is not clear where depression fits into the pattern of substance use and recovery, given that a causal link between level of substance use or abuse and depression has not been made (Brown & Schuckit, 1988). However, it does seem clear that individuals who abuse substances experience higher rates of depression than people in the general population (e.g., Abram, 1990). Additionally, whether measured pre-treatment or post-treatment, level of depression has been found to influence recovery from addiction (Bennett, 1988; Brown et al., 1998; Curran & Booth, 1999; Greenfield et al., 1998; Hatsukami & Pickens, 1982; Hodgins, el-Guebaly, Armstrong, & Dufour, 1999; Mackenzie, Funderburk, & Allen, 1999; MacMurray, Nessman, Haviland, & Anderson, 1987; Overall, Reilly, Kelley, & Hollister, 1985; Rosenberg, 1983). Therefore, assessing depression with individuals in the process of recovery from substance abuse continues to be prudent.

Court-Mandated vs. Voluntary Clients

Court-ordered clients in treatment for substance abuse issues have been labeled by therapists as resistant, unmotivated, hard to reach, and hostile (Goldstein, 1986; Miller & Rollnick, 1991; Rooney, 1992). In studies based on the Prochaska and DiClemente Stages of Change theory described in a previous section (e.g., Prochaska et al., 1982, 1983), it has been found that significantly more voluntary clients in substance abuse treatment are in the contemplation, action and maintenance phases, compared to court-ordered clients in substance abuse treatment who are more often uninvolved or in the precontemplation phase (O'Hare, 1996). Additionally, clients with substance abuse diagnoses make up the majority of court-ordered clients seeking mental health treatment (O'Hare, 1996). Compared to substance abuse treatment programs comprised of 25% or fewer court-ordered clients, substance abuse treatment programs comprised of 75% or more court-ordered clients had significantly more clients who failed to comply with their treatment plan (Howard & McCaughrin, 1996). Specifically, court-ordered patients were more likely to miss scheduled appointments, not follow through with assignments outside treatment sessions, and not be forthright and honest with therapists. However, in the same study comparing substance abuse programs with high or low composition of court-ordered clients, there were no differences in the number of clients meeting the goals of their treatment, ending the misuse of alcohol or drugs.

The body of literature on court-ordered substance abuse treatment is almost as varied as the literature on substance abuse and social support. The approach, duration, setting, and follow-up time period of treatment programs, as well as the type of substance

abuse client served varies greatly from study to study. Additionally, there is little consistency in the definition or operationalization of what constitutes successful outcome, i.e., substance use, and/or recidivism as re-arrest or reconviction. Recent research has focused on the complexity of the coercion construct, as well as the variety within the distinction between clients who may or may not qualify as mandated and/or coerced into substance abuse treatment. For instance, are clients coerced only if a judge or other court official threatens further sanctions, or can a client be considered coerced if a significant other or employer threatens further sanctions? As well, is legal coercion an all-or-nothing phenomenon, such that simple dichotomies comparing court-ordered/involved clients to voluntary clients address the construct, or do levels of coercion, such as low, medium, and high exist (Farabee et al., 1998; Knight et al., 2000; Marlowe et al., 2001; Taxman et al., 1999; Young, 2002)? In one review of the literature (Wild, 1999), 850 articles were found on mandated substance-user treatment. However, 81% of the articles (668) were non-empirical, i.e., opinion pieces, legal interpretations and program overviews.

Gendreau and his colleagues tackled the argument of "nothing works" for treatment with individuals who have committed crimes, by focusing on the question of "what works". They assert that the classification of 'mandated' or 'not mandated' is not the important aspect of treatment, as the important focus is matching aspects of the individual to aspects of treatment (Andrews et al., 1990; Gendreau, 1996). Gendreau and his colleagues state that the key to treatment 'that works' is matching appropriate treatment settings to an offender based on 'criminogenic needs', such as antisocial

attitudes and behaviors regarding authority, leisure activities, interpersonal relationships, association with criminal minded peers, substance abuse and other mental health concerns, as well as attitudes toward work. They also state that those offenders at 'high-risk' of recidivating need more 'intensive treatment' approaches, calculating 'risk' with actuarial indicators of recidivism, including criminal history, education and employment achievement, as well as family factors, such as child rearing practices. Gendreau and his colleagues indicate that with offender populations the typical outcomes in treatment vs. no-treatment control group studies show reductions in recidivism of 10-18%. Gendreau and colleagues assert that the appropriate question is not 'what works', but what is an acceptable rate in the reduction of recidivism to warrant the cost of treatment?

One critique of Gendreau and his colleagues' work is that they do not specifically identify which 'aspects' of the individual 'match' with what specific 'aspects' of a treatment program (Lab & Whitehead, 1990). Much literature has been generated in an attempt to identify the aspects of treatment programs and/or offenders that contribute to treatment success (see reviews by Miller, 1985; Rotgers, 1992; Weisner, 1990; Wild et al., 1995); however, few aspects of treatment programs and/or characteristics of offenders show consistent results. As previously described, Project MATCH is the largest and most statistically powerful clinical trial of psychotherapies ever undertaken and was designed to test 'matching' individual characteristics of alcoholics to aspects of different treatment programs. Results of this nationwide study challenge matching hypotheses. These results may also illuminate the difficulties of identifying and matching aspects of individuals who commit a wide variety of crimes to various aspects of treatment programs.

What has been consistently shown is that no matter what the treatment or the offender characteristics, court-ordered substance abuse clients remain in treatment longer than voluntary clients and length in treatment is consistently positively correlated with more positive outcome (for reviews, see De Leon, 1988, McLellan et al. 1996; Wells-Parker, Bangert-Drowns, McMillen, & Williams, 1995). In addition, court-mandated treatment has been found to reduce criminal recidivism (see Lipton, 1994 for a review).

Drug Courts

The link between drug and alcohol abuse and crime is indisputable. Nationally, data collected in 23 cities indicate that at time of arrest 51-83% of men and 41-84% of women were under the influence of at least one illicit drug (U.S. Department of Justice, National Institute of Justice, 1996). Research regarding the prediction of success of offenders while on parole or probation consistently identifies substance use as a key indicator of risk (Petersilia & Turner, 1987). The delivery of substance abuse treatment linked to, or within, the criminal justice system is not new. Since California began its Civil Addict Program (CAP) program in 1961, all 50 states now have substance abuse treatment within jail, and/or prison facilities and/or treatment as an alternative to incarceration. Courtrooms specifically dedicated to processing and hearing drug cases began in Chicago and New York in the early 1950's. These 'drug-specific courts' and other efforts in managing drug cases in alternative ways through the courts, i.e., with expedited case processing, special probation programs, etc., were deemed not sufficiently effective for a numbers of reasons. Difficulties with these past drug-specific courts/programs include: limited provision or linkage to drug treatment, fragmented case

management and follow-up with the division of these responsibilities between multiple agencies, and obstacles with probation officers or the court in monitoring treatment progress or compliance (Belenko, 1998).

The first Drug Court, in Dade County, Florida, sought to rectify the difficulties and obstacles experienced by past programs. The Drug Court model differs from previous efforts in important ways. The Drug Court model links the courtroom– the judge, and both prosecutor and defense counsel, directly with treatment providers. Typically, a jurisdiction has a single Drug Court judge who originally processes and then follows all Drug Court defendants/participants. This Drug Court judge works with staff from a single Drug Court treatment program. Probation officers for Drug Court participants operate within the Drug Court treatment program, or at least, directly in conjunction with the Drug Court treatment staff. This arrangement eliminates gaps in communication between treatment, probation, and the court. It also provides closer and more frequent community supervision, including drug tests, than other forms of community or pretrial supervision (Belenko, 1998). During treatment, there is ongoing contact with the court affording the rapid introduction of positive and negative sanctions from the judge based on treatment progress. In this manner, the coercive power of the court is utilized to promote abstinence and other pro-social behaviors in a community-based treatment setting. Participants report to the Drug Court judge on a regular basis rather than only in response to program or probation violations. This allows the participants to experience the judge in a different role, serving as a method of praise and positive reinforcement rather than in only the traditional punitive manner.

The Dade County Drug Court began the most recent wave of treatment as an alternative to incarceration programs in 1989. The enactment of the Violent Crime Control and Law Enforcement Act of 1994 provided $56 million to fund Drug Courts. In May of 2001, there were 688 Drug Courts in operation (U.S. Department of Justice, Office of Justice Programs, 1998). By June of 2002, the number had grown to 946 Drug Courts in 48 states, Guam, the District of Columbia, Puerto Rico, and a number of Native American Tribal courts (U.S. Department of Justice, Office of Justice Programs, 2002). The most recent statistics from the Office of Justice Programs Drug Court Clearinghouse and Technical Assistance Project (U.S. Department of Justice, Office of Justice Programs, 2002) show that over 300,000 adults and 12,500 juveniles have been enrolled; and 73,000 adults and 4,000 juveniles have graduated from Drug Court programs. The Drug Court model appears to be firmly rooted and continuously growing, touching a considerable number of individuals with substance abuse issues.

Statement of the Problem

The intent of the current study was to elucidate the role and types of social support in the recovery process of individuals in recovery from substance abuse. Individuals in recovery were recruited through Drug Court programs as a sample of convenience. However, the Drug Court as a treatment model was not evaluated. This study integrated several distinctions outlined in the literature regarding types of social support, including: the important role of perceived support in predicting health outcome (Antonucci et al., 1986; Blazer, 1982; Sandler et al., 1984; Wethington et al., 1986); differentiating global positive social support from support that is recovery-specific

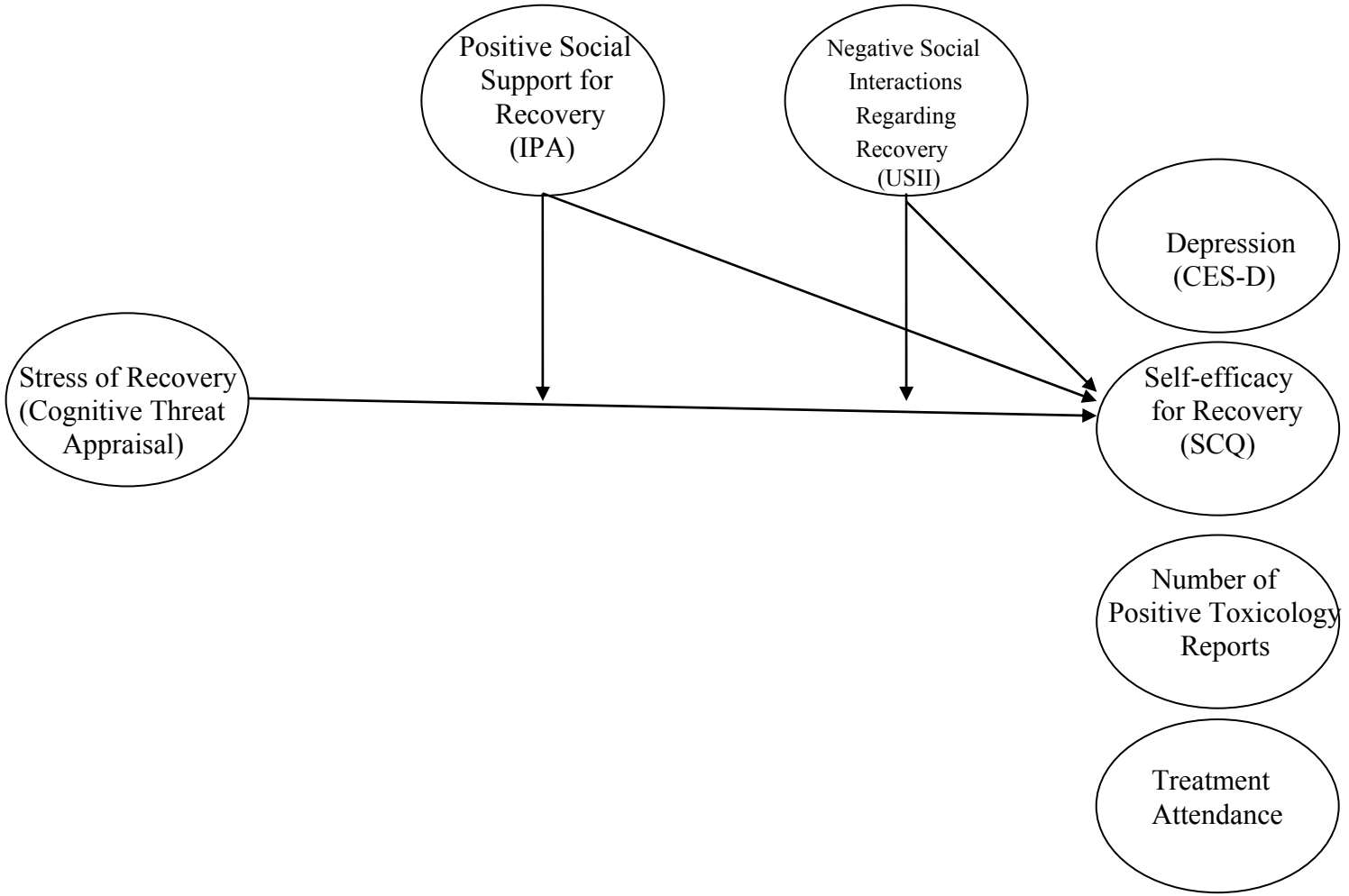
(Beattie, et al., 1993; Beattie et al., 1997; George et al., 1996); as well as, differentiating positive from negative social interactions (Davis et al., 1991; Finch et al., 1989; Ingram et al., 2001a; Lakey et al., 1994; Revenson et al., 1991; Rook, 1984; Ruehlman et al., 1991). It was also the intent of this study to elaborate on the two studies that have made strides toward examining the previously mentioned aspects of social support. In this manner, this study extended the measurement of unsupportive social interactions utilized by Havassy et al. (1995) beyond a handful of questions and employed a standardized measure. Additionally, this study clarifies the construct of support utilized by Galaif et al. (1999) by differentiating perceived support from other types of social support, such as tangible aid. As well, this study clarifies the meaning of positive and negative social interactions by classifying the *messages* as perceived by the *receiver* (i.e., the individual in recovery), rather than classifying the message based on the *sender*. This study employed and tested the distinctions between perceived global and recovery-specific, supportive and unsupportive interactions within the theoretical framework of Lazarus and associates (e.g., Lazarus, 1966; Lazarus et al., 1984). Within this framework, the stress of recovery is operationalized as an individual's primary threat appraisal (i.e., experienced level of stress). An individual's primary threat appraisal regarding the process of recovery is likely to impact his or her adjustment. Additionally, the impact of an individual's threat appraisal on his or her adjustment may depend, in part, on his or her perceptions of positive and negative social interactions (see Figure 1).

Hypotheses

Based on the literature reviewed, it appears that perceptions of available recovery-specific social support are distinct from perceptions of available global social support. The literature indicates that general life stress does not play a direct role in an individual's

recovery process. In this study, the stress of recovery, which is separate from general life stress, was defined by the cognitive threat appraisal of recovery. It appears that perceptions of recovery-specific positive social support and unsupportive social

Figure 1


Positive Social Support for Recovery (IPA)
Negative Social Interactions Regarding Recovery (USII)
Depression (CES-D)
Stress of Recovery (Cognitive Threat Appraisal)
Self-efficacy for Recovery (SCQ)
Number of Positive Toxicology Reports
Treatment Attendance

interactions may have direct effects on adjustment, as well as indirect effects on the influence that cognitive appraisals have on adjustment. To this extent, the following hypotheses were proposed: (1) Based on previous research regarding social support (Beattie et al., 1993; Beattie et al., 1997; George et al., 1996), global social support would correlate only moderately with social support that is substance- and recovery-specific. Additionally, based on other previous research dealing with negative social exchange (Davis et al., 1991; Finch et al., 1989; Ingram et al., 1999; Lakey et al., 1994; Revenson et al., 1991; Rook, 1984; Ruehlman et al., 1991; Schmitt, 1999), recovery-specific unsupportive social interactions will correlate only moderately with social support, both global and recovery-specific.

(2) First, as outlined in the theoretical framework of Folkman and Lazarus (1985), the stress of recovery would account for a significant amount of the variance in outcome. Thus, higher cognitive threat appraisals regarding the process of recovery would be associated with more depression, less perceived self-efficacy for recovery, a lower percentage of attendance at Drug Court therapy groups, and more positive toxicology screenings. Second, positive social support for recovery would account for a significant amount of the variance in outcome beyond the variance accounted for by the stress of recovery. Greater positive support for recovery would be inversely correlated with depression and number of positive toxicology reports, and positively correlated with perceived self-efficacy for recovery and attendance percentage. Third, recovery-specific unsupportive social interactions would predict a significant amount of the variance in outcome beyond the variance explained by the stress of recovery and social support.

Negative social interactions regarding recovery would be positively correlated with depression and number of positive toxicology reports and negatively correlated with perceived self-efficacy for recovery and attendance percentage.

CHAPTER 3

METHOD

Participants

The sample for this study was drawn from men and women who were involved with the Richmond Drug Court program located in Richmond, Virginia or the Fulton County Drug Court program located in Atlanta, Georgia. Participants were individuals on probation or parole attending court-ordered substance abuse treatment as part of the drug court programs during the data collection period.

The researcher and/or assistant attended three Drug Court counseling sessions between May and October of 2002, at the Richmond Drug Court and three counseling sessions between September and October 2002, at the Fulton County Drug Court. A total of 108 Drug Court clients were approached about the study; 62 clients at the Fulton county program and 46 clients at the Richmond program. Fifty-two individuals at the Fulton county program and 45 individuals at the Richmond program (97 total) agreed to participate and signed consent forms. This represents a participation rate of 84% at Fulton County, 98% at Richmond and an overall participation rate of 89%. One participant from the Fulton County program was excluded from the data analyses because that individual did not complete more than half of the questionnaire.

The most recent national survey of Drug Court programs estimates that 72% of Drug Court clients are male; ethnically, 42% are white non-Hispanic, 38% are African American, and 17% are Hispanic; 76% have received some form of substance abuse treatment in the past; 74% have at least one prior felony conviction; 56% have been previously incarcerated; and 49% are unemployed when they enroll (American University, 2001). Similar to these numbers, the sample for this study was 75% male; 76% had received some form of substance abuse treatment in the past; and 35% were unemployed. This sample differed from the national averages ethnically in that this sample was 84% African American, 8% white Non-Hispanic and only 3% of other ethnic backgrounds; and 93% of participants indicated that they had been incarcerated at some time in the past. Demographic information about the sample as a whole is summarized in Table 1 (categorical demographic variables) and Table 2 (continuous variables).

The majority of the participants in this study were male, single and African-American. The age of participants ranged from 18 - 53. The mean age was 33.37 (*SD* = 9.24). Almost 70% of participants had a high school education or less. Forty-four percent were working full-time. As previously mentioned, at the time of the survey, 35% were unemployed. Participants lived in a wide range of settings, from living alone to living in a group setting of 20 (*M* = 3.72, *SD* = 2.62). The largest percentage (41%) lived in households with incomes under $15,000 a year. Almost half (45%) identified that they were currently single, with another 25% stating that they had never been married, but were currently ‘partnered’.

Table 1

Categorical Demographic Characteristics of Participants

Variable	*n*	%[a]
Gender		
Male	72	75
Female	21	22
No response	3	3
Racial/Ethnic Background		
African American	81	84
Caucasian	8	8
Other	3	3
No response	4	4
Highest Education Level		
Less than High School	33	34
High School Graduate or Equivalent	34	35
Some Trade or Technical School	3	3
Trade or Technical School Graduate	3	3
Some College	15	16
Bachelor's Degree	4	4
Graduate/Professional Degree	1	1
No response	3	3
Current Employment Status		
Employed Full-time	42	44
Employed Part-time	7	7
Unemployed	34	35
Parent/Student/Volunteer	4	4
Medical/Disability Leave	5	5
No response	4	4

(table continues)

Table 1 *(continued)*

Categorical Demographic Characteristics of Participants

Variable	*n*	%[a]
Annual Household Income		
Under 14,999	39	41
15,000-29,999	19	20
30, 000-44,999	6	6
45,000-59,999	6	6
60,000-74,999	1	1
75,000-89,999	1	1
No response	24	25
Relationship Status		
Single	43	45
Never married, but partnered	24	25
Married/Remarried	9	9
Separated/Divorced	13	14
Widowed	3	3
No response	4	4
Previously Incarcerated		
Yes	89	93
No	4	4
No response	3	3
Currently on Probation		
Yes	66	69
No	25	26
No response	5	5
Currently on Parole		
Yes	6	6
No	79	82
No response	11	11

(table continues)

Table 1 *(continued)*

Categorical Demographic Characteristics of Participants

Variable	*n*	%[a]
Current Offenses		
Driving on a suspended license	1	1
Drug related	42	44
Felony – unspecified	1	1
Forgery	5	5
Manslaughter	1	1
Theft	5	5
Violation of probation/parole	6	6
No response or Not applicable	35	36
Currently Taking Prescription Medications		
Yes	19	20
No	71	74
No response	6	6
Issues Addressed with Prescription Medication		
Depression	3[b]	15
Gout	1	5
High Blood Pressure	6[b]	30
Kidney Disease	1	5
Pain	6	30
Pregnancy (prenatal vitamins)	1	5
Unspecified health concern	2	10
Years Using on a Daily Basis		
Less than 1 year	2	2
1 – 5 years	16	17
More than 5 years	66	69
Never used on a daily basis	9	9
No response	3	3

(table continues)

Table 1 *(continued)*

Categorical Demographic Characteristics of Participants

Variable	*n*	%[a]
Age First Realized Substance Use As a Problem		
Before 20th birthday	31	32
20 – 29	35	36
30 – 39	17	18
40 or older	4	4
Use never a problem	3	3
No response	6	6
Ever Had a Positive Urine Toxicology Screening While at the Drug Court (self-report)		
Yes	59	61
No	29	30
No response	8	8
Currently Court-Ordered to Attend 12-step Meetings		
Yes	82	85
No	8	8
No response	6	6
Currently Have a 12-step Sponsor		
Yes	69	72
No	24	25
No response	3	3
Current Attendance at 12-step Meetings		
7 or more meetings a week	15	16
5 – 6 meetings a week	14	15
3 – 4 meetings a week	28	29
1 – 2 meetings a week	22	23
2 – 3 meetings a month	1	1
1 meeting a month	1	1
Less than 1 meeting a month	6	6
No response	9	9

(table continues)

Table 1 *(continued)*

Categorical Demographic Characteristics of Participants

Variable	*n*	%[a]
Lifetime Attendance at 12-step Meetings		
1 – 10	14	15
11-20	8	8
21 – 30	2	2
31 – 40	7	7
41 – 50	6	6
51 – 60	6	6
61 – 70	3	3
71 – 80	3	3
81 – 90	4	4
91 – 100	6	6
101 – 110	3	3
111 or more	22	23
No response	12	13
Ever Sought Counseling for Non-Substance Use Related Issue		
Yes	32	33
No	55	57
No response	9	9
Issues Addressed in Non-Substance Use Related Counseling		
Anger management	2[b]	6
Child abuse	2	6
Court-ordered for crime other than drugs	4	12
Depression	8[b]	24
General mental health and personal growth	7	21
Money management	1	3
Psychotropic medication	1	3
Relationship issues	2	6
Stress	1	3

[a] May add up to more or less than 100% due to rounding error.
[b] One person indicated more than one category and is counted in two separate categories.

Table 2

Quantitative Demographic Characteristics of Participants

Variable	*M*	*SD*	Minimum	Maximum
Age	33.37	9.24	18	53
Number in Household	3.72	2.62	1	20
Number of Incarcerations (number of times released)	5.53	3.99	1	21
Length in Community Since Last Incarceration (in days)	353.97	609.03	1	4081
Length of Last Incarceration (in days)	222.06	360.07	1	1825.0
Length in Drug Court Program (in days)	217.47	188.27	1	839
Length of Most Recent Sobriety (in weeks)	79.99	170.47	0	988.0
Length of Most Recent Clean Time (in weeks)	55.05	105.04	0	758.2
Helpfulness of 12-step Meetings[a]	3.32	1.10	0	4

[a] Response scale: 0 = *Not at all*; 1 = *Not very helpful*; 2 = *Somewhat helpful*; 3 = *Helpful*; 4 = *Very helpful*.

Almost all (93%) acknowledged having spent some time during their lives in jail or prison. There was a wide range in the lengths of most recent incarceration, from 1 day to over 5 years (M = 222.06 days, SD = 360.07 days). As well, the time participants stated that they had been back in the community since their most recent incarceration also varied widely, from 1 day to 11.5 years (M = 353.97 days, SD = 609.03 days). Close to 70% of participants stated that they were currently on probation, with an overlapping 6% who also indicated currently being on parole. It is interesting to note that despite the program inclusion status of being on probation or parole, 26% of the participants indicated that they were not currently on probation or parole with the court. Eighty-five percent of participants also indicated that they were currently court-ordered to attend 12-step meetings. It is not surprising that drug related offenses were the most frequently cited as a current offense (44%).

Participants indicated they had tried a wide array of substances in their lifetime (see Figure 2). Cocaine, marijuana, alcohol, and opiates were the most frequently cited as a substance of choice (see Figure 3). A large proportion of participants (69%) indicated a history of using substances on a daily basis for 5 years or more. More than half of the participants (61%) reported having had at least one positive urine toxicology screening test indicating the use of alcohol or other drugs while in the Drug Court program. The average length for participants' current recovery period was approximately 18 months of sobriety from alcohol and 13 months of clean time from drugs. Almost three-quarters (72%) of participants reported that they have a 12-step sponsor and 83%

Figure 2

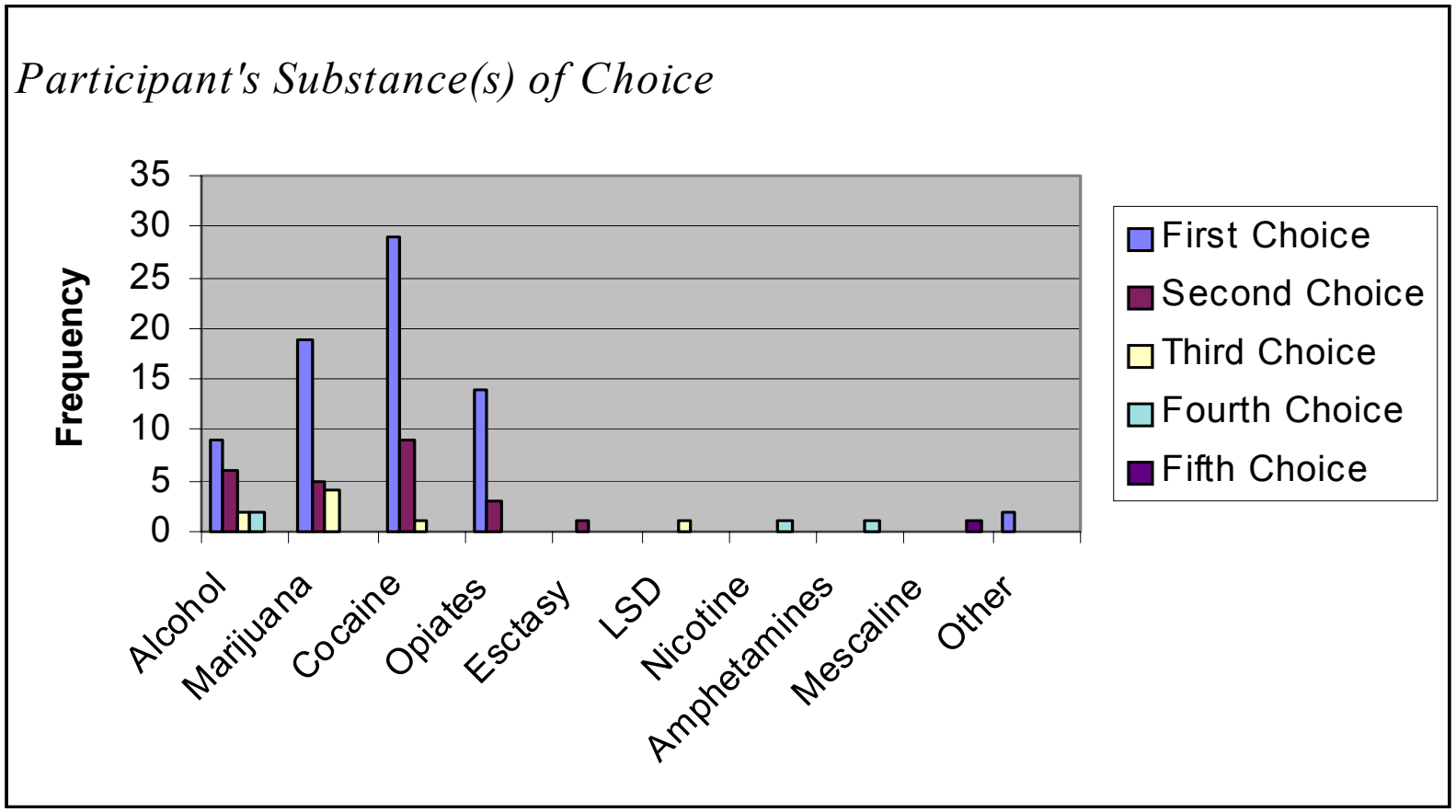
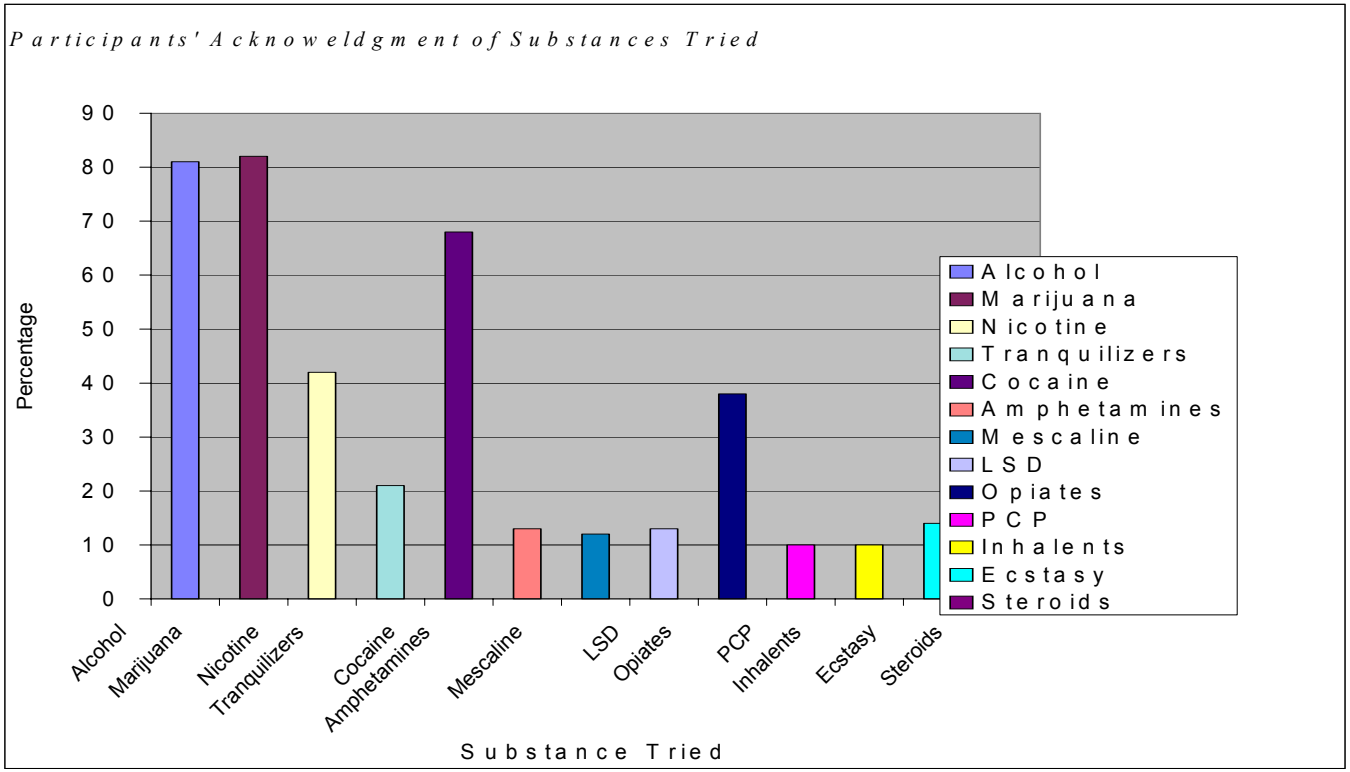

Participant's Substance(s) of Choice
Frequency
35
30
25
20
15
10
5
0
Alcohol
Marijuana
Cocaine
Opiates
Esctasy
LSD
Nicotine
Amphetamines
Mescaline
Other
First Choice
Second Choice
Third Choice
Fourth Choice
Fifth Choice

Figure 3


Participants' Acknowledgment of Substances Tried
Percentage
90
80
70
60
50
40
30
20
10
0
Alcohol
Marijuana
Nicotine
Tranquilizers
Cocaine
Amphetamines
Mescaline
LSD
Opiates
PCP
Inhalents
Ecstasy
Steroids
Substance Tried
Alcohol
Marijuana
Nicotine
Tranquilizers
Cocaine
Amphetamines
Mescaline
LSD
Opiates
PCP
Inhalents
Ecstasy
Steroids

reported that they are currently attending at least one 12-step meeting a week. Participants' history of formal substance abuse treatment is listed in Table 3.

Nineteen individuals indicated that they were currently taking prescription medications. Individuals reported taking medication for a wide variety of physical health concerns. The only mental health concern participants reported currently taking medication for was depression. Thirty-two individuals indicated that they had been in counseling for non-substance related issues.

Procedure

Prior to data collection, the researcher obtained approval for this study from the ethics committee (IRB) at Virginia Commonwealth University. The researcher or an assistant attended the court-ordered therapy groups within each of the drug court facilities. The consent forms (see Appendix A) and pencils were distributed to the group. The researcher or research assistant explained to the potential participants that the purpose of the study was to learn more about the experiences of people in recovery and about positive and negative messages they received from others regarding their recovery. The voluntary nature of the study and the assurance of confidentiality and anonymity from the treatment program were explained. The consent forms were collected and the questionnaire packets were distributed. For individuals who choose not to participate in the study, the regularly scheduled group was held in another meeting room. To compensate for the limited reading levels of some of the participants, the researcher or

Table 3

Participants' Reported History of Substance Abuse Treatment

Treatment modality	Number of times	*n*	%[a]
Detoxification Unit	0	47	48
	1	19	19
	2	10	10
	3	3	3
	4	2	2
	5	1	1
	No response	15	15
Hospital (non-detox)	0	72	74
	1	5	5
	2	3	3
	3	2	2
	4	1	1
	No response	14	14
Residential	0	51	52
	1	12	12
	2	10	10
	3	8	8
	4	2	2
	No response	14	14
Outpatient	0	30	31
	1	34	35
	2	13	13
	3	3	3
	4 or more	2	2
	No response	15	15

[a] May add up to more or less than 100% due to rounding error.

assistant read the questionnaire aloud to the two participants who requested it. The researcher or assistant remained in the room while the participants filled out the questionnaires and answered any questions that arose. When the participants completed the questionnaires, they sealed their questionnaire in an envelope with only the participant number listed on the outside of the envelope and the researcher or assistant collected the packets. The average amount of time to complete the consent process and the questionnaires was approximately 60 minutes.

In lieu of financial reimbursement, each of the participants was given credit for one hour of community service. Participants in the Drug Court programs are required to participate in community service hours. The number of community service hours required of each participant varies depending on the sentencing by the Drug Court judge. In addition, community service hours are utilized as sanctions during the program.

At a separate time, the program staff obtained records regarding participants' attendance and toxicology reports (see Appendix B). This information was then added to the individual's other data by matching the participant number on the questionnaire packet to the participant number on the treatment record recording sheet. At no time was the individual participant's information obtained in the questionnaire packet seen by the treatment facility or court personnel. The information gathered in the questionnaires was used for research purposes only and not for any treatment purpose.

Measures

Social Support Questionnaire. The Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983) is a measure of global perceptions of perceived available support. The modified six-item short form of the SSQ was used in this study (SSQ6; Sarason, Sarason, Shearin, & Pierce, 1987; see Appendix C). Each of the six questions contains two parts. The first part in the original form asks the respondent to list the initials of individuals that he or she can depend on in times of need in a variety of situations. In the form that was used in this study, the respondent was simply asked to report the number of people rather than the initials representing those individuals. A total Number subscale score was calculated by finding the mean across the six items. The second part of each question addresses how satisfied the respondent is with his or her perceived available support. Answers are based on a 6-point Likert scale: 1 = *very dissatisfied*; 2 = *fairly dissatisfied*; 3 = *a little dissatisfied*; 4 = *a little satisfied*; 5 = *fairly satisfied*; and 6 = *very satisfied*. A total Satisfaction subscale score was obtained by calculating the mean across all six satisfaction ratings (a maximum mean score of 6). Internal consistency reliability coefficients for the SSQ6 span from .90 to .93 for both the number of supportive individuals and satisfaction with support (Sarason et al., 1987). The internal consistency reliability coefficient in this study for the SSQ6 Number scale was .93 and for the Satisfaction scale was .92. The SSQ and SSQ6 have been found to be highly correlated. In addition, the SSQ and SSQ6 have similar correlations with other social support indices and various personality and social competence variables (Sarason et al., 1987).

Important People and Activities Instrument. The Important People and Activities Instrument (IPA; Longabaugh, Wirtz, & Clifford, 1995b; see Appendix D) was originally developed in an interview format to gather information on the support an alcoholic receives from his or her network. The authors developed a brief nine-question pencil and paper, self-report version in an attempt to ascertain information similar to the original interview format. The original version was targeted only to individuals struggling with alcohol. Thus, for this study, the wording was modified to reflect drinking and drug use. The brief format sequentially queries an individual about three separate groups of people in his or her life: family, friends, and co-workers. A participant is asked the same set of three questions with regards to each group of people in his or her life. The first question in the set asks a participant to rate how each particular group reacted to his or her substance use, with the response options of 5 = *Encouraged it*, 4 = *Accepted it*, 3 = *Neutral*, 2 = *Didn't accept it*, 1 = *Left or made you leave when you were drinking or using*, 0 = *Have no family/friends/co-workers*. These items assess the perceived support for substance use. The second question in each set asks a participant to rate how important these people are to him or her, with the response options of 5 = *Extremely important*, 4 = *Important*, 3 = *Somewhat important*, 2 = *Not very important*, 1 = *Not important at all*, 0 = *Have no family/friends/co-workers*. These items assess the investment of an individual in his or her social network. The final question in each set asks a participant to identify how many of these important people also use substances, with the response options of 5 = *All of them*, 4 = *Most of them*, 3 = *Some of them*, 2 =

None of them, 1 = *Have no family/friends/co-workers*. These items assess support for substance use.

On the recommendation of the authors of the scale, the three items regarding an individual's investment in his or her social network were not utilized in this study. However, there were conceptual and statistical concerns regarding combining the remaining six items according to the authors' recommendations. First, the three items that query about the reactions of family, friends and co-workers to a participant's substance use are assessed utilizing a 5-point scale. However, the questions assessing the amount of substance use by family, friends and co-workers uses a 4-point scale. There are difficulties associated with combining scores of various response scale ranges. Secondly, conceptual issues were raised regarding the questions pertaining to the reactions of others to a participant's use and the concept of measuring 'recovery-specific social support'. As previously mentioned, the response options regarding the reactions of others range from '*Encouraged it*' and '*Accepted it*' to '*Didn't accept it*' and '*Left or made you leave while you were drinking or using*'. Encouraging use is certainly not a form of 'recovery-specific social support'. However, not accepting someone's use or not wanting to be around while someone is using is also not a clear indicator of a participant perceiving social support for recovery.

Due to these concerns, as well as the fact that the scale is still in the process of development, an IPA Total score was not calculated per the authors' suggestions. Instead, two subscales were constructed. A Reaction of Others score was calculated utilizing the mean of the first of the three items in each set. Higher scores on this subscale indicate

that people in a participant's life were more encouraging or accepting of their continued substance use. The final three items in each set were averaged to determine an Others' Use score. Higher scores on this subscale indicate more substance use by friends, family and co-workers.

Scores on the original IPA have been found to be negatively related to substance use, and positively correlated with abstinence (Beattie, Longabaugh, Elliott, Stout, Fava, & Noel, 1993; Longabaugh, Beattie, Wirtz, Noel, & Stout, 1995a). The written form is still in the pilot stage of development. Thus, psychometric data are not available at this time (W. H. Zywick, personal communication, April 3, 2003). Due to the nature of the constructs involved, measures of internal consistency reliability were not calculated for either of the subscales.

Unsupportive Social Interactions Inventory. The Unsupportive Social Interactions Inventory (USII; Ingram, Betz, Mindes, Schmitt, & Smith, 2001a; see Appendix E) is a self-report measure that assesses upsetting responses received from others regarding a specific stressful event. In the current study, the stressful life event was defined as recovery from substance abuse. The USII is a 24-item scale. Eleven items were added on an exploratory basis because they were thought to be particularly relevant to recovery from substance abuse. However, the 11 exploratory items were not examined as part of this study. For all of the items, respondents rated how much of a particular response they received from others on a 5-point Likert scale: 0 = *none* to 4 = *a lot*. A Total score was obtained by computing the mean of the responses on the original 24 items (maximum mean score of 4). The original USII also has four subscales: Distancing, Bumbling,

Minimizing and Blaming. Due to sample size and issues regarding statistical power, only the Total score was utilized in hypothesis testing in the current study.

In the two samples utilized in the development of the scale, Ingram and associates (2001a) reported internal consistency reliability coefficients of .86 and 90 for the Total scale of the original USII. They also found correlations between the USII scales and measures of depression, psychological distress, interpersonal sensitivity, physical symptoms, and social support (Ingram et al., 2001a). In the current study, the internal consistency reliability coefficient for the USII Total score was .91.

Cognitive appraisal questionnaire. Folkman and Lazarus (1985) implemented this list of 15 emotions to assess the primary cognitive appraisal of stressful situations (cognitive appraisal questionnaire; see Appendix F). In the present study, participants were asked to rate the extent to which they experienced each of the emotions about their recovery utilizing a 5-point Likert type scale: 1 = *Not at all* to 5 = *A great deal*. The cognitive appraisal questionnaire contains four subscales: threat, challenge, harm, and benefit. This study focused on the perceived level of stress of recovery. Thus, only the threat subscale was utilized. The threat subscale includes the emotions "worried," "fearful," and "anxious."

Folkman and Lazarus (1985) found discriminant validity between types of cognitive appraisals, as different types of appraisals occur at different stages of coping. Threat and challenge appraisals are correlated with the anticipation of an event, while harm and benefit appraisals are correlated with outcomes that have already occurred. Researchers have found that the more an individual anticipates a situation to be difficult,

perceives himself or herself to be less in control, and has made unsuccessful attempts to deal with stressors experienced in the past, the more threat emotions the individual is likely to report (Folkman et al., 1985; Silver & Wortman, 1980; Thompson, 1981). Folkman and Lazarus (1985) reported Cronbach's alpha for the threat subscale as .80. In the current study, the Cronbach's alpha for the threat subscale was .65.

Center for Epidemiologic Studies Depression Scale. The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977; see Appendix G) is a 20-item self-report inventory measuring depression. The following components of depressive symptomology are reflected in the items: depressed mood, feelings of helplessness and hopelessness, feelings of guilt and worthlessness, loss of appetite, sleep disturbances, and psychomotor retardation. Examples of items are: "I did not feel like eating," "My sleep was restless," and "I felt sad." Respondents were asked to indicate how often they experienced each symptom during the past week. Responses were made utilizing a four point scale: 0 = *rarely or none of the time (less than one day)*; 1 = *some of the time (1-2 days)*; 2 = *occasionally or a moderate amount of the time (3-4 days)*; and 3 = *most or all of the time (5-7 days)*. Individual item ratings were summed to create a total score. Total scores range can from 0 to 60, with higher scores indicating greater levels of depressive symptomology.

As reported in the instrument development study (Radloff, 1977), internal consistency reliability was .85 in the general population and .90 in the psychiatric patient sample. Nuttbock and associates found internal consistency reliability of .86 with a sample of over 690 homeless, mentally ill, substance abusers (Nuttbock, Rahav, Rivera,

Ng-Mak, & Link, 1998). In the sample of this current study, the internal consistency reliability was .81. Data supporting the scale's validity include correlations with clinical ratings of depression, self-report measures of depression, and the magnitude of life events (Radloff, 1977). In past research, it has been generally accepted that scores of 16 and higher on the CES-D are indicative of clinical depression (Radloff & Locke, 1986, chap. 9). The CES-D has been used previously with substance abusing individuals (e.g., Caetano, 1987; Harmer, Sanderson, & Mertin, 1999; Oslin, O'Brien, & Katz, 1999) and been found associated with risk of relapse at 12-month follow-up (Bobo, McIlvain, & Leed-Kelly, 1998).

Situational Confidence Questionnaire. The Situational Confidence Questionnaire (SCQ; Annis & Graham, 1988b; Appendix H) is a 39-item self-report inventory designed to assess the concept of perceived self-efficacy in relation to substance use. The scale was based on Bandura's definition of self-efficacy as the belief on the part of an individual that he or she has the ability to effectively cope with a particular high-risk situation (Bandura, 1977). The high-risk situations assessed in the scale are based on the work of Marlatt and his associates (Marlatt, 1978, 1979; Marlatt & Gordon, 1980). High-risk situations were found to fall into two major classes: (1) situations involving other people, in which the influence of another person is involved with the substance use; and, (2) personal states, in which substance use involves a response to a psychological or physical event within the person. Situations involving other people is subdivided into three categories: social pressure to use, conflict with others, and pleasant times with others. Personal states is subdivided into five categories: urges and temptations, physical

discomfort, testing personal control, unpleasant emotions, and pleasant emotions. Examples of items are: “If I felt that I had let myself down,” “If there were problems with people at work,” and “If I felt confident and relaxed.” Participants were asked to rate their confidence at the present moment that they could resist using in each situation from 0% = *not at all confident* to 100% = *very confident*. A total confidence score was obtained by calculating the mean score across all 39 situations.

From the scale development samples, internal consistency reliability for the total confidence score was reported to be .98 in alcohol and drug abusers (Annis et al., 1988b). Internal consistency reliability was also reported to be .98 in a sample of 90 veterans in recovery (Irving, Seidner, Burling, Pagliarini, & Robbins-Sisco, 1998) and .96 in a sample of 33 individuals attending Alcoholic Anonymous (Schmitt, 1999). The internal consistency reliability for the sample in the current study was .99. Data supporting the scale’s validity include correlations with measures of consumption, depression, hopelessness, and outcome expectancy (Annis et al., 1988b). For individuals in treatment, SCQ scores have also been found predictive of post-treatment time to relapse (Greenfield, Hufford, Vagge, Muenz, Costello, & Weiss, 2000). Various forms of the SCQ have been widely used in the past decade to assess self-efficacy for recovery, as both independent and dependent variables in the substance abuse literature (e.g., Allsop, Saunders, Phillips, & Carr, 1997; Goldbeck, Myatt, & Aitchison, 1997; Kominars, 1997; Sklar & Turner, 1999).

Demographic questionnaire. A demographic questionnaire was utilized to assess participant characteristics including: age, gender, race/ethnicity, level of education,

employment status, income level, number of individuals in the household, relationship status, history of incarceration, most recent release from incarceration, current medical/medication status, substances ever used, substance(s) of choice, length of difficulties associated with substance use, substance abuse treatment history, length of most recent period of sobriety, length in current program, occurrence of positive toxicology reports from urine screenings, length of time in recovery, history of association with 12-step groups, and mental health history (see Appendix I).

Treatment and Toxicology Reports. Objective behavioral outcome measures were treatment attendance and substance use as measured by random urine toxicology screenings. Records of these two variables were ascertained from treatment records by program staff (see Appendix B). These data were then matched to survey data utilizing participant number. As this was a cross-sectional research design, participants had been involved with the drug court programs for various amounts of time. To adjust for the range of lengths in treatment, a percentage score was calculated for the attendance outcome variable. The attendance percentage was calculated by subtracting the number of unexcused absences from the total number of treatment sessions possible and then dividing by the total number of treatment sessions possible. Limited information kept in the treatment records precluded calculating a percentage score for the urine toxicology screening outcome variable for almost half of the sample. Therefore, the simple count of positive urine toxicology screenings was utilized. It was possible to calculate a percentage of positive toxicology screenings for 57 participants. Positive toxicology reports, indicating substance use, were returned for only 5% of the screenings. This is

similar what has been reported by other Drug Court programs, e.g., 5.4% in Santa Clara, California (Belenko, 1998), 3.7% reported in Butler County, Ohio, and 2% in Kenton County, Ohio (Belenko, 2001). However, these are all somewhat lower than the national drug court program average of 10% positive (Cooper, 1997).

The Fulton County Drug Court has a part-time laboratory technician who performs urine toxicology screenings with a machine on-site. The screenings test and detect the following substances: cocaine at 150 nanograms per milliliter (ng/ml), methamphetamine at 300 ng/ml, opiates at 300 ng/ml, THC at 50 ng/ml, and alcohol at a .02 blood/alcohol content level. The counselors at the Richmond Drug Court perform the urine toxicology screenings utilizing a hand-held device and 'testing strips'. These strips screen and detect the following substances: cocaine at 300 ng/ml, THC at 50 ng/ml., barbiturates at 200 ng/ml, benzodiazepines at 25 ng/ml, PCP at 25 ng/ml, amphetamines at 1000ng/ml, methamphetamines at 500 ng/ml, and opiates at 300 ng/ml. If this on-site 'litmus test' returns a positive result that a client disagrees with, that individual sample is then sent out to a lab for further analysis. Staff report that less than 1% of the positive results are 'contested' by program participants and subsequently sent out to a lab for verification.

Order of Measures

In the questionnaire packets, the outcome measures were placed prior to the measures of the independent variables. As depression has been linked to recovery, the questionnaire assessing confidence regarding recovery was placed before the measure of depression. Among the independent variables, the questionnaire regarding global social

support was placed prior to the measure specifically targeting the recovery process. In this manner, the researcher attempted to avoid the potential of influencing an individual's frame of reference. Therefore, the order of the measures was as follows: SCQ, CES-D, SSQ6, cognitive appraisal questionnaire, IPA, USII, and demographic questionnaire.

CHAPTER 4

RESULTS

Preliminary Data Screening

Before conducting analyses, the dataset was examined for missing data. If a participant completed at least 80% of the items on a scale, he or she was given a score for that scale. For scales that were 80% or more complete, any missing items were replaced with the mean of the items that were completed by that individual participant. Participants who did not complete at least 80% of the items on any given scale were excluded in analyses utilizing that scale.

Comparisons Between Fulton County Sub-groups

Due to a clerical mishap, data regarding attendance and urine toxicology screenings were not available for 16 participants from the Fulton County program. The two sub-groups from Fulton County were compared to ascertain if the sub-group with missing attendance and toxicology data was different than the sub-group with complete data. Comparisons between categorical demographic variables indicated that the two sub-groups are similar to one another (see Table 4). The two sub-groups did not differ on educational level, employment status, income level, currently being on probation, ever

Table 4

Comparisons Between Fulton County Sample Sub-groupings on Categorical Demographic Variables

	With attendance & toxicology data	Without attendance & toxicology data		
	n	*n*	χ^2	*p*
Gender	34	14	-	-
Male	29	12		
Female	5	2		
Ethnicity	34	14	-	-
African-American	27	14		
Other	7	0		
Education	34	14	0.12	0.73
Less than HS/GED	14	5		
More than HS/GED	20	9		
Employment	33	14	0.39	0.53
Full-time	11	6		
Other	22	8		
Annual Household Income	26	11	0.58	0.45
Under 14,999	13	7		
Over 15,000	13	4		
Relationship Status	34	14	-	-
Partnered/Married	8	6		
Not Partnered	26	8		
Incarcerated Before	33	15	-	-
Yes	32	13		
No	1	2		
Currently on Probation	33	13	0.38	0.54
Yes	16	5		
No	17	8		
Currently on Parole	32	13	-	-
Yes	1	0		
No	31	13		

table continues

Table 4 *(continued)*

Comparisons Between Fulton County Sample Sub-groupings on Categorical Demographic Variables

	With attendance & toxicology data	Without attendance & toxicology data		
	n	*n*	χ^2	*p*
Currently Taking Prescription Medication	33	13		
Yes	7	5	-	-
No	26	8		
Substances Tried				
a. Alcohol	34	15	-	-
Yes	27	14		
No	7	1		
b. Amphetamines	34	15	-	-
Yes	6	2		
No	28	13		
c. Barbiturates/ Tranquilizers	34	15	-	-
Yes	6	3		
No	28	12		
d. Cocaine	34	15	0.01	0.95[a]
Yes	23	10		
No	11	5		
e. Ecstasy	34	15	-	-
Yes	6	1		
No	28	14		
f. Opiates	34	15	-	-
Yes	7	4		
No	27	11		
g. Inhalants	34	15	-	-
Yes	5	1		
No	29	14		

table continues

Table 4 *(continued)*

Comparisons Between Fulton County Sample Sub-groupings on Categorical Demographic Variables

	With attendance & toxicology data	Without attendance & toxicology data		
	n	*n*	χ^2	*p*
h. LSD	34	15	-	-
Yes	7	2		
No	27	13		
i. Marijuana	34	15	-	-
Yes	30	13		
No	4	2		
j. Mescaline	34	15	-	-
Yes	5	2		
No	29	13		
k. Nicotine	34	15	0.31	0.58
Yes	13	7		
No	21	8		
l. PCP	34	15	-	-
Yes	6	0		
No	28	15		
m. Steroids	34	15	-	-
Yes	0	0		
No	34	15		
n. Other Substance(s)	34	15	-	-
Yes	0	0		
No	34	15		
Substance(s) of Choice	25	13	-	-
Alcohol	3	3		
Other	22	10		

table continues

Table 4 *(continued)*

Comparisons Between Fulton County Sample Sub-groupings on Categorical Demographic Variables

	With attendance & toxicology data	Without attendance & toxicology data		
	n	*n*	χ^2	*p*
How Many Years of Substance Use on a Daily Basis	32	12	1.08	0.30[b]
5 years or fewer	7	1		
More than 5 years	25	11		
Age First Realized Substance Use as a Problem	30	14	0.02	0.88[c]
Before age 20	10	5		
20 or above	20	9		
Self-reported Positive Toxicology Screenings While at Drug Court	32	14	-	-
Yes	25	11		
No	7	3		
Since Most Recent Sobriety Date, 12-step Meeting Attendance	32	14	-	-
Daily	11	12		
Less than daily	21	2		
Currently Court Ordered to Attend 12-step Meetings	33	15	-	-
Yes	26	15		
No	7	0		
Currently Have a 12-step Sponsor	34	15	-	-
Yes	31	11		
No	3	4		

table continues

Table 4 *(continued)*

Comparisons Between Fulton County Sample Sub-groupings on Categorical Demographic Variables

	With attendance & toxicology data	Without attendance & toxicology data		
	n	*n*	χ^2	*p*
Number of 12-step Meetings Attended in Lifetime	32	14	0.41	0.52
1-80	15	8		
81+	17	6		
Received Therapy for Issue Other Than Substance Use	33	15	3.50	0.06
Yes	16	3		
No	17	12		

Note. A dash appears where χ^2 was not calculated because one or more cells had an expected frequency of much less than 5.

[a] One cell (25%) with an expected frequency of 4.90; remaining cells (75%) with expected frequencies of 5.0 or greater.

[b] Five individuals who indicated 'Never used on a daily basis' were dropped from this analysis.

[c] Three individuals from Fulton County who indicated 'Use has never been a problem' were dropped from this analysis and one cell (25%) had an expected frequency of 4.77; remaining cells (75%) with expected frequencies of 5.0 or greater.

having used cocaine or nicotine, years of daily substance use, age first realized substance use as a problem, lifetime attendance at 12-step meetings or having sought therapy for a non-substance use related issue. Due to the small sample sizes involved in comparing the two sub-groups within the Fulton County program, it was not possible to complete a Chi-Square analysis for every categorical demographic variable. There were some variables in which one or more categories had an expected frequency of less than 5 and it was not possible to condense the categories to rectify this situation. However, when one group had small numbers, the other group appeared to have a similar pattern of scores. Comparisons between continuous demographic variables, as well as the survey variables between the two sub-groups also show that there are no significant differences between the two (see Table 5). The two sub-groups did not differ in age, number living in household, self-reported number of prior incarcerations, length in community since last incarceration, length of most recent incarceration, length in the Drug Court program, length of most recent sobriety and clean time, rating of helpfulness of 12-step meetings, or substance abuse treatment history, coded as the number of times in detox, hospital (non-detox), residential, outpatient or other treatment setting. There were also no significant differences between the two sub-groups on any of the survey variables. The loss of attendance and toxicology data appears to have happened in a non-systematic fashion. Thus, the two Fulton County sub-groups are combined into a single Fulton County group comprised of data from all 51 participants who completed the survey.

Table 5

Comparisons Between Fulton County Sub-groupings on Continuous Demographic Variables

	With attendance & toxicology data			Without attendance & toxicology data				
	n	*M*	*SD*	*n*	*M*	*SD*	*t*	*p*
Age	33	32.76	9.49	13	34.54	10.39	0.56	0.58
Number in Household	31	3.97	3.61	11	4.27	2.69	0.26	0.80
Number of Incarcerations (recorded as number of times released)	31	7.00	5.03	13	5.62	3.95	-0.88	0.38
Length in Community Since Last Incarceration (in days)	25	446.72	884.25	9	349.56	294.39	-0.32	0.75
Length of Last Incarceration (in days)	26	155.75	293.45	15	201.53	394.65	0.42	0.67
Length at Drug Court (self-reported in days)	31	256.39	193.65	13	245.77	140.50	-0.18	0.86
Length of Most Recent Sobriety (self-reported in weeks)	30	113.85	204.08	12	22.23	16.22	-1.54	0.13
Length of Most Recent Clean Time (self-reported in weeks)	28	68.58	139.37	12	25.09	13.57	-1.07	0.29
How Helpful Have 12-Step Meetings Been [a]	33	3.18	1.21	13	3.38	0.65	0.73	0.47

(table continues)

Table 5 *(continued)*

Comparisons Between Fulton County Sub-groupings on Continuous Demographic Variables

	With attendance & toxicology data			Without attendance & toxicology data				
	n	*M*	*SD*	*n*	*M*	*SD*	*t*	*p*
Treatment history – Number of times in each modality								
Detox	31	0.71	1.00	13	0.77	1.01	0.18	0.86
Hospital (Non-detox)	31	0.10	0.54	13	0.46	1.20	1.05	0.31
Residential	31	0.61	1.17	13	0.69	1.03	0.21	0.83
Outpatient	31	0.97	1.22	13	1.15	1.07	0.48	0.64
Other treatment modality	31	0.10	0.30	13	0.00	0.00	-1.79	0.08
Survey Variables								
Situational Confidence Questionnaire (SCQ)	36	72.88	29.93	15	82.32	26.43	1.06	0.29
Center for Epidemiology Scale– Depression (CESD)	35	17.97	8.83	15	17.07	10.69	-0.31	0.76
Social Support Questionnaire Satisfaction Subscale (SSQ6)	35	4.51	1.35	14	5.03	0.77	1.69	0.10
Folkman Threat Appraisal Subscale	35	5.60	2.91	16	5.81	3.35	0.23	0.82
Important People & Activities (IPA) Reactions of Others Subscale	35	2.34	0.88	16	2.44	0.86	0.36	0.72
Important People & Activities (IPA) Others' Use Subscale	35	2.01	0.68	16	2.15	0.58	0.69	0.49
Unsupportive Social Interactions Inventory (USII)	34	1.66	0.76	14	1.96	0.59	1.34	0.19

[a] Response scale: 0 = *Not at all*; 1 = *Not very helpful*; 2 = *Somewhat helpful*; 3 = *Helpful*; 4 = *Very helpful*.

Comparisons Between Richmond and Fulton County

Before combining the samples from the Richmond Drug Court with the Fulton County Drug Court, comparisons were made to ascertain any differences between the two groups. Comparisons between the Richmond and Fulton County groups on categorical demographic variables are in Table 6 and comparisons on continuous demographic and survey variables are listed in Table 7. The Richmond and Fulton County groups did not differ on most of the demographic variables. The two groups differed significantly on only six demographic variables. These were as follows: the mean of the Richmond sample was lower regarding number of times released from jail/prison: ($M = 4.43$, $SD = 2.67$) than the mean of the Fulton County sample ($M = 6.59$, $SD = 4.73$), $t = -2.63$, $p \leq .01$; more Richmond participants reported currently being on probation, χ^2 (1, $N = 91$) = 33.72, $p \leq .01$; more Richmond participants indicated that they had ever tried opiates, χ^2 (1, $N = 93$) = 14.53, $p \leq .01$; more Fulton County participants self-reported having had a dirty toxicology screening while in the Drug Court program, χ^2 (1, $N = 88$) = 5.49, $p \leq .05$; since a participant's most recent sober/clean date, Richmond participants reported attending 12-step meetings less frequently, χ^2 (2, $N = 87$) = 13.48, $p \leq .01$; and more Fulton County participants indicated that they currently had a 12-step sponsor, χ^2 (1, $N = 93$) = 7.18, $p \leq .01$. It was not possible to complete a Chi-Square analysis with each of the demographic variables. For some variables, there were categories with expected frequencies of much less than 5 and it was not possible to condense the categories to rectify this situation. For example, the expected frequencies regarding if a participant had

Table 6

Comparisons Between Richmond and Fulton County Groups on Categorical Demographic Variables

	Richmond	Fulton County		
	n	*n*	χ^2	*p*
Gender	45	48	3.63	0.06
Male	31	41		
Female	14	7		
Ethnicity	44	48	0.66	0.42
African-American	40	41		
Other	4	7		
Education	45	48	0.73	0.39
Less than HS/GED	14	19		
More than HS/GED	31	29		
Employment	45	47	3.61	0.16
Full-time	25	17		
Other (student, mom, part-time, disabled, retired)	7	9		
Unemployed	13	21		
Income	35	37	1.59	0.45
Under 14,999	19	20		
15,000-29,999	11	8		
Over 30,000	5	9		
Relationship Status	44	48	1.96	0.16
Partnered/Married	19	14		
Not Partnered	25	34		
Incarcerated Before	45	48	-	-
Yes	44	45		
No	1	3		
Currently on Probation	45	46	33.72	0.00**
Yes	45	21		
No	0	25		

(table continues)

Table 6 *(continued)*

Comparisons Between Richmond and Fulton County Groups on Categorical Demographic Variables

	Richmond	Fulton County		
	n	*n*	χ^2	*p*
Currently on Parole	40	45	-	-
Yes	5	1		
No	35	44		
Currently Taking Prescription Medication	44	46	1.40	0.24
Yes	7	12		
No	37	34		
Substances Tried				
a. Alcohol	43	49	1.90	0.17
Yes	40	41		
No	3	8		
b. Amphetamines	44	49	0.48	0.49
Yes	5	8		
No	39	41		
c. Barbiturates/Tranquilizers	44	49	1.05	0.31
Yes	12	9		
No	32	40		
d. Cocaine	44	49	1.76	0.19
Yes	35	33		
No	9	16		
e. Ecstasy	44	49	0.05	0.83
Yes	7	7		
No	37	42		
f. Opiates	44	49	14.53	0.00**
Yes	27	11		
No	17	38		

(table continues)

Table 6 *(continued)*

Comparisons Between Richmond and Fulton County Groups on Categorical Demographic Variables

	Richmond	Fulton County		
	n	*n*	χ^2	*p*
g. Inhalants	44	49	0.24	0.62[a]
Yes	4	6		
No	40	43		
h. LSD	44	49	1.66	0.20
Yes	4	9		
No	40	40		
i. Marijuana	44	49	0.02	0.90
Yes	39	43		
No	5	6		
j. Mescaline	44	49	0.18	0.68
Yes	5	7		
No	39	42		
k. Nicotine	44	49	0.79	0.37
Yes	22	20		
No	22	29		
l. PCP	44	49	0.24	0.62[a]
Yes	4	6		
No	40	43		
m. Steroids	44	49	-	-
Yes	0	0		
No	44	49		
n. Other Substance(s)	44	49	-	-
Yes	1	0		
No	43	49		

(table continues)

Table 6 *(continued)*

Comparisons Between Richmond and Fulton County Groups on Categorical Demographic Variables

	Richmond	Fulton County		
	n	*n*	χ^2	*p*
Substance(s) of Choice	35	38	-	-
Alcohol	3	6		
Other	32	32		
How Many Years of Substance Use on a Daily Basis	40	44	0.60	0.45 [b]
5 years or fewer	10	8		
More than 5 years	30	36		
Age First Realized Substance Use as a Problem	43	44	0.48	0.79[c]
Before age 20	16	15		
20 – 29	18	17		
30 or more	9	12		
Self-reported Positive Toxicology Screenings While at Drug Court	42	46	5.49	0.02*
Yes	23	36		
No	19	10		
Since Most Recent Sobriety Date, 12-step Meeting Attendance	41	46	13.48	0.00**
Daily	2	13		
Less than daily, but more than twice a week	18	24		
Twice a week or less	21	9		
Number of 12-step Meetings Attended in Lifetime	38	46	3.76	0.15
1-40	18	13		
41-80	8	10		
81+	12	23		

(table continues)

Table 6 *(continued)*

Comparisons Between Richmond and Fulton County Groups on Categorical Demographic Variables

	Richmond	Fulton County		
	n	*n*	χ^2	*p*
Currently Court Ordered to Attend 12-step Meetings	42	48	-	-
Yes	41	41		
No	1	7		
Currently Have a 12-step Sponsor	44	49	7.18	0.01**
Yes	27	42		
No	17	7		
Received Therapy for Issue Other Than Substance Use	39	48	0.36	0.55
Yes	13	19		
No	26	29		

Note. A dash appears where χ^2 was not calculated because one or more cells had an expected frequency of much less than 5.

[a] One cell (25%) with an expected frequency of 4.73; remaining cells (75%) with expected frequencies of 5.0 or greater.

[b] Nine individuals who indicated 'Never used on a daily basis' were dropped from this analysis.

[c] Three individuals from Fulton County who indicated 'Use has never been a problem' were dropped from this analysis.

* $p \leq .05$. ** $p \leq .01$.

Table 7

Comparisons Between Richmond and Fulton County Groups on Continuous Variables

	Richmond			Fulton County				
	n	*M*	*SD*	*n*	*M*	*SD*	*t*	*p*
Age	45	33.49	8.89	46	33.26	9.67	0.12	0.91
Number in Household	40	3.38	1.44	42	4.05	3.36	-1.19	0.24
Number of Incarcerations (recorded as number of times released)	42	4.43	2.67	44	6.59	4.73	-2.63	0.01**
Length in Community Since Last Incarceration (in days)	33	284.91	381.15	34	421.00	769.13	-0.91	0.36
Length of Last Incarceration (in days)	39	274.16	386.71	41	172.50	329.90	1.27	0.21
Length at Drug Court (self-reported in days)	39	177.10	193.58	44	253.25	178.03	-1.87	0.07
Length of Most Recent Sobriety (self-reported in weeks)	36	68.86	164.59	42	87.67	176.87	-0.48	0.63
Length of Most Recent Clean Time (self-reported in weeks)	39	54.56	91.51	40	55.53	117.93	-0.04	0.97
How Helpful Have 12-Step Meetings Been [a]	42	3.40	1.13	46	3.24	1.08	0.70	0.48
Treatment history – Number of times in each modality								
Detox	38	0.76	1.22	44	0.73	1.00	0.15	0.88
Hospital (non-detox)	39	0.31	0.69	44	0.20	0.80	0.63	0.53
Residential	39	0.92	1.16	44	0.64	1.12	1.15	0.26
Outpatient	38	2.11	8.01	44	1.02	1.17	0.89	0.38
Other treatment modality	37	0.16	0.44	44	0.07	0.26	1.14	0.26

table continues

Table 7 *(continued)*

Comparisons Between Richmond and Fulton County Groups on Continuous Variables

	Richmond			Fulton County				
	n	*M*	*SD*	*n*	*M*	*SD*	*t*	*p*
Survey Variables								
Situational Confidence Questionnaire (SCQ)	43	82.76	19.59	51	75.66	29.01	1.41	0.16
Center for Epidemiology Scale – Depression (CESD)	44	17.86	9.33	50	17.70	9.32	0.09	0.93
Social Support Questionnaire (SSQ6) Satisfaction Subscale	41	4.93	1.28	49	4.66	1.23	1.01	0.31
Folkman Threat Appraisal Subscale	42	5.86	3.52	51	5.67	3.02	0.28	0.78
Important People & Activities (IPA) Reactions of Others Subscale	44	2.48	0.63	51	2.37	0.87	0.71	0.48
Important People & Activities (IPA) Others' Use Subscale	45	1.91	0.52	51	2.05	0.65	-1.20	0.24
Unsupportive Social Interactions Inventory (USII)	42	1.46	0.76	48	1.75	0.72	-1.85	0.07
Attendance Percentage	45	0.97	0.06	36	0.94	0.10	1.65	0.10
Number of Positive Toxicology Screenings	45	2.33	2.80	36	2.22	2.29	0.19	0.85

[a] Response scale: 0 = *Not at all*; 1 = *Not very helpful*; 2 = *Somewhat helpful*; 3 = *Helpful*; 4 = *Very helpful*.

** $p \leq .01$.

been incarcerated before were below 5.0 in two cells. The actual numbers in those cells showed that all but one participant at Richmond and three at Fulton County had been incarcerated before. In most of these instances, the distribution of frequencies from each site appear quite similar; where one site has low numbers in a category, the other has a similarly small number in that same category. In summary, the two groups did not differ on scores on any of the survey questionnaires or the two behavioral outcome variables, attendance percentage and number of positive toxicology screenings (see Table 7). Despite the geographic difference, it appears that the group of participants from the Richmond Drug Court program is quite similar to the group of participants from the Fulton County program.

Internal Consistency

Cronbach's alpha values for all scales used in the statistical analyses are presented in Table 8. Most of the scales demonstrated adequate internal consistency reliability. The Folkman Cognitive Threat Appraisal subscale approached an acceptable level of internal consistency reliability ($\alpha = 0.65$). This low level may be due to the brevity of this 3-item subscale. In addition, there were concerns regarding the Important People and Activities Scale (IPA) subscales and the appropriateness of measuring internal consistency reliability. Given the conceptual concerns with the IPA, as well as the fact that this measure is still in the development process, none of the IPA scores were used in analyses examining the hypotheses.

Table 8

Internal Consistency Estimates for Dependent and Independent Variables

Instrument	Alpha
Social Support Questionnaire (SSQ6)	
Satisfaction	0.92
Important People and Activities Instrument (IPA)	
Reaction of Others	-[a]
Others' use	-[a]
Unsupportive Social Interactions Inventory (USII)	
Total score	0.91
Distancing	0.76
Bumbling	0.68
Minimizing	0.61
Blaming	0.78
Cognitive threat appraisal questionnaire	0.65
Center for Epidemiologic Studies Depression Scale (CES-D)	0.81
Situational Confidence Questionnaire (SCQ)	0.99

[a] Cronbach's alpha was not calculated due to the nature of the subscale.

Normative Data

The means, standard deviations, and ranges for the measured variables are presented in Table 9. For the 6-item Social Support Questionnaire (SSQ6), normative data were available only from one previous study of individuals in recovery. The mean on the SSQ6 Satisfaction scale in that study with a sample size of 33 was 4.96 (*SD* = 0.87). In the present study, the mean on the SSQ6 Satisfaction scale was 4.78 (*SD* = 1.25). Both of these were higher than the mean of 4.58 (*SD* = 1.48) found by Ingram, Jones, Fass, Neidig, and Song (1999) in a sample of individuals living with HIV, another daily, chronic, life-threatening illness. In samples of all women, the means of the SSQ Satisfaction scale were as follows: women with infertility problems (*M* = 4.99, *SD* = 1.20; Mindes, Ingram, Kliewer, & James, 2003), homeless women (*M* = 4.65, *SD* = 1.18; Ingram, Corning, & Schmidt, 1996), and low-income housed women (*M* = 4.72, *SD* = 1.24; Ingram et al., 1996). In the present study, there was one outlier on the SSQ6 Number scale. This individual reported social support numbers three times higher than the next highest score. With this person excluded, the mean on the SSQ6 Number scale was 4.69 (*SD* = 4.28). This is similar to the mean for the above cited sample of individuals living with HIV (*M* = 4.71, *SD* = 3.86; Ingram et al., 1999); women with infertility (*M* = 5.53, *SD* = 3.73; Mindes et al., 2003); homeless women (*M* = 3.68, *SD* = 5.88; Ingram et al., 1996), and low-income housed women (*M* = 5.85, *SD* = 17.69; Ingram et al., 1996), but lower than a previous study with individuals in community 12-step groups in their first year of recovery 7.33 (*SD* = 8.93; Schmitt, 1999).

Table 9

Means, Standard Deviations and Ranges of the Dependent and Independent Variables

Variable	*M*	*SD*	Sample Range	Possible Range
Global social support (SSQ6)				
Satisfaction	4.78	1.25	1 – 6	0 – 6
Number[a]	4.69	4.28	0.5 – 30	not defined
Recovery-specific social Support (IPA)				
Reaction of Others	2.42	0.76	0 – 4	0 – 5
Others' Use	1.98	0.59	0.67 – 3.33	0 – 4
Recovery-specific unsupportive social interactions (USII)				
Total Score	1.61	0.75	0 – 3.50	0 – 4
Distancing	1.44	0.89	0 – 3.67	0 – 4
Bumbling	1.57	0.85	0 – 3.67	0 – 4
Minimizing	1.84	0.81	0 – 3.67	0 – 4
Blaming	1.60	0.95	0 – 3.40	0 – 4
Cognitive threat appraisal	5.75	3.23	0 – 12	3 – 15
Depression (CES-D)	17.78	9.27	2 – 45	0 – 60
Self-efficacy for recovery (SCQ)	78.91	25.27	4.62 – 100.00	0 – 100
Attendance Percentage	96%	8%	58% – 100%	0% – 100%
Positive Toxicology Screenings	2.28	2.58	0 – 11	not defined

Note. SSQ6 = Social Support Questionnaire; IPA = Important People and Activities Instrument; USII = Unsupportive Social Interactions Inventory; CES-D = Center for Epidemiologic Studies Depression Scale; SCQ = Situational Confidence Questionnaire. Higher scores on the SSQ6, IPA Others' Use subscale, USII, Folkman threat appraisal, CES-D, and SCQ indicate higher levels of social support (satisfaction with support), substance use by family, friends, and co-workers, unsupportive social interactions, depression, and self-efficacy for recovery, respectively. Higher scores on the IPA Reaction of Others subscale indicate more acceptance for substance use.

[a] One outlier of 69.83 not included.

In general, participants reported a moderate amount of recovery-specific unsupportive social interactions. The mean for the Unsupportive Social Interactions Inventory (USII) Total score in the present study was 1.61 (*SD* = 0.75). This is comparable to the means found with other samples. In the scale development studies, the college student samples had means of 1.27 (*SD* = 0.66) and 1.14 (*SD* = 0.70) (Ingram et al., 1999). In a similar study with individuals involved with 12-step groups a mean of 1.12 (*SD* = 0.71) was found (Schmitt, 1999). In a sample of individuals living with HIV, Ingram and associates (1999) utilized a modified 18-item version of the USII and found a mean of 1.18 (*SD* = 0.88). In a sample of women with infertility problems, a mean of 1.21 (*SD* = 0.66) was found (Mindes et al., 2003). Similar to what has been reported in other samples, one participant in this study indicated receiving no stressor-specific unsupportive social interactions (e.g., Mindes et al., 2003). Only 4 participants had a Total score of 3.00 or higher. The USII items with the highest and lowest means in the current study are indicated in Table 10.

The outcome measure of depression was the Center for Epidemiologic Studies Depression Scale (CES-D). The mean on the CES-D for this sample was 17.78 (*SD* = 9.27). As previously mentioned in this document, one proposed cut-off score indicating probable depression is 16 (Radloff, 1977). Utilizing 16 as the cut-off score, 44 individuals (45.3%) in the present sample would be labeled depressed. However, using the cut-off score of 16 may label 15% to 20% of general adult population as depressed

Table 10

Selected Item Means from the Unsupportive Social Interactions Inventory

Item		Item Mean
Items with Highest Means		
17.	Someone told me to be strong, to keep my chin up, or that I shouldn't let it bother me [c]	2.52
7.	Someone said I should look on the bright side [c]	2.21
19.	Someone told me that I had gotten myself into the situation in the first place, and that I now must deal with the consequences [d]	2.01
15.	Someone tried to cheer me up when I was not ready to cheer up [b]	2.01
9.	Someone seemed to be telling me what he or she thought I wanted to hear [b]	1.98
Items with Lowest Means		
12.	Someone felt that I should stop worrying about recovery and just forget about it [c]	1.08
20.	Someone did something for me that I wanted to do and could have done for myself, as if he or she thought I was no longer capable [b]	1.20
23.	From the person's tone of voice, expression, or body language, I got the feeling that he or she was uncomfortable talking with me about my recovery [b]	1.20
3.	Someone made "should/shouldn't have" comments about my role in trying to recover from substance abuse, such as, "You shouldn't have _____." [d]	1.28
21.	Someone discouraged me from expressing feelings about my recovery such as anger, hurt or sadness [a]	1.31

Note. [a] Distancing subscale item; [b] Bumbling subscale item; [c] Minimizing subscale item; [d] Blaming subscale item.

(Radloff, 1977; Radloff & Locke, 1986). Barnes and Prosen (1984) further delineated the scoring by suggesting that scores on the CES-D be interpreted as follows: 0-15.5 = "not depressed," 16-20.5 = "mild depression," 21-30.5 = "moderate depression," and 31 or greater = "severe depression." Utilizing the scoring proposed by Barnes and Prosen (1984), the present sample would fall into the following categories: 50 individuals (52.1%) would be not depressed, 13 individuals (13.5%) would be mildly depressed, 21 individuals (21.9%) would be moderately depressed, 10 individuals (10.4%) would be severely depressed, and 2 individuals (2.1%) did not complete enough of this scale to be classified. For samples representing the general population, a CES-D mean of approximately 8 - 10 has been reported (Radloff, 1977; Radloff et al., 1986; Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). With a sample of 60 individuals with drug addiction and 61 individuals with alcoholism, Weissman, Sholomskas, Pottenger, Prusoff, and Locke (1977) reported a CES-D mean of 17.05 (*SD* = 10.69) for those addicted to drugs and a mean of 22.97 (*SD* = 13.58) for those addicted to alcohol. In a sample of individuals in recovery recruited from 12-step groups, a mean of 17.51 (*SD* = 9.60) was found (Schmitt, 1999). Thus, participants in the current study experienced depressive symptoms more than the community samples, and at about an equal rate as other individuals in recovery.

On the measure of self-efficacy for recovery, the mean for this sample was 78.91 (*SD* = 25.27). The mean for the sample utilized for norming the SCQ was 69.9 (*SD* = 22.7; Annis & Graham, 1988b, SCQ manual). Barber and Crisp (1995) found means on the SCQ between 54.2 and 69.5 in six different samples of substance abusers in their first

12 weeks of treatment. Miller, Ross, Emmerson, and Todt (1989) found a mean on the SCQ of 66.1 (*SD* = 24.8) for individuals who had just entered treatment, and a mean on the SCQ of 91.7 (*SD* = 8.7) for individuals who had been abstinent for at least 1 year. Schmitt (1999) found a mean of 82.89 (*SD* = 13.27) for individuals in recovery in 12-step groups with less than a year of sobriety. Thus, the sample in the present study appears to be similar to other samples of substance abusers in their self-efficacy for recovery.

Normative data were not available for cognitive threat appraisals. Folkman and Lazarus (1985) asserted that any score over 1 on the threat or challenge scales equates to feeling some of these emotions. The mean for this sample was 5.75 (*SD* = 3.24) which appears similar to what was found in a group of individuals with less than a year of sobriety in 12-step groups (*M* = 5.36; *SD* = 3.07; Schmitt, 1999).

The measure of recovery-specific social support (the written form of the Important People and Activities Instrument, IPA) is still in development; therefore, normative data are not available. The IPA was chosen for this study because there was no other pencil and paper measures of recovery-specific positive social support. As discussed in the previous chapter, there were concerns about this instrument as a measure of recovery-specific social support. In this sample, the mean on the Reaction of Others subscale was 2.42 (*SD* = 0.76). The mean on the Others' Use subscale was 1.98 (*SD* = 0.59) in this sample. Due to the exploratory nature of the scoring of the IPA in this study, neither of the subscales were utilized in testing the hypotheses.

Correlations between each of the measured variables are listed in Table 11.

Table 11

Correlations Among the Measured Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
Social Support													
1. Global satisfaction	--												
Recovery-specific													
2. Reactions of Others	-0.35**	--											
3. Others' Use	0.15	0.43**	--										
Recovery-specific Negative Social Interactions													
4. Total Score	-0.42**	-0.16	0.10	--									
5. Distancing Subscale	-0.46**	-0.24	0.07	0.87**	--								
6. Bumbling Subscale	-0.31**	-0.08	-0.03	0.86**	0.68**	--							
7. Minimizing Subscale	-0.26	-0.03	0.18	0.83**	0.60**	0.67**	--						
8. Blaming Subscale	-0.39**	-0.17	0.10	0.85**	0.67**	0.61**	0.60**	--					
Stress													
9. Cog. threat appraisal	-0.26	-0.07	-0.06	0.42**	0.31**	0.41**	0.33**	0.37**	--				
Well-being													
10. Self-efficacy for recovery	0.42**	0.15	0.14	-0.28**	-0.27**	-0.25	-0.12	-0.31**	-0.11	--			
11. Depression	-0.61**	-0.33*	-0.05	0.40**	0.41**	0.36**	0.29**	0.32**	0.37**	-0.33**	--		
Behavioral													
12. Treatment Attendance	0.05	-0.09	-0.14	-0.01	-0.11	0.08	0.12	-0.07	0.03	0.21	0.07	--	
13. Drug use (toxicology)	-0.13	-0.10	-0.10	0.02	0.09	-0.05	-0.06	0.07	0.04	-0.30**	-0.09	-0.36**	--

** significant at $p \leq .01$.

Sample Size and Statistical Power

With a total sample size of 96, statistical power was somewhat compromised. Thus, every effort was made to be conservative and limit the number of statistical tests completed. In addition, a significance level of $p \leq .01$ was utilized to adjust for family-wise error rate. Due to some missing data points, the actual *n* for each statistical test varied somewhat. Thus, the statistical power for each test is listed separately in each section below.

Hypothesis 1: Relationships of Unsupportive Social Interactions to Social Support

Based on previous research investigating negative social exchange (e.g., Davis, Brickman, & Baker, 1991; Finch, Okun, Barrera, Zautra, & Reich, 1989; Ingram, et al., 1999; Ingram, Betz, Mindes, Schmitt, & Smith, 2001; Lakey, Tardiff, & Drew, 1994; Revenson, Schiaffino, Majerovitz, & Gibofsky, 1991; Rook, 1984; Ruehlman & Karoly, 1991), it was postulated that recovery-specific unsupportive social interactions would correlate only moderately with social support, both global and recovery-specific.

Analysis of Hypothesis 1

With $n = 85$, statistical power for this Pearson correlation is as follows: if the population correlation is .30 (medium; Cohen, 1969), then statistical power is .59; if the population correlation is .40, then the statistical power is .89; if the population correlation is .50 (large; Cohen, 1969), then the statistical power is .99.

As reported earlier due to issues regarding the measure of recovery-specific positive social support (IPA), the relationship between recovery-specific social support

and recovery-specific unsupporive social interactions was not examined. The data were analyzed using a Pearson correlation to examine the extent to which recovery-specific unsupportive social interactions (USII Total score) was linearly related to global social support (SSQ6 Satisfaction score). The correlation of the USII Total scale to the global social support satisfaction scale is presented in Table 11. As anticipated, the correlation between the USII Total scale and social support satisfaction scale was moderate, but significant ($r = 0.42$, $p \leq .01$).

Hypothesis 2: Relationship of Stress of Recovery, Positive Social Support and Recovery-Specific Unsupportive Social Interactions to Outcome

Hypothesis 2: (a) It was hypothesized that the stress of recovery would account for a significant amount of the variance in outcome. Thus, the stress of recovery, operationalized as greater cognitive threat appraisals regarding the process of recovery, would be associated with more depression, less perceived self-efficacy for recovery, a smaller attendance percentage, and greater number of positive toxicology screenings. (b) It was hypothesized that positive social support would account for a significant amount of the variance in outcome beyond the variance accounted for by the stress of recovery. Positive social support would be inversely correlated with depression and number of positive toxicology screenings and positively correlated with self-efficacy for recovery and attendance percentage. (c) Finally, it was hypothesized that negative social interactions regarding recovery would account for a significant amount of the variance in outcome beyond the variance accounted for by the stress of recovery and social support. Negative social interactions regarding recovery would be positively correlated with

depression and number of positive toxicology screening and inversely correlated to self-efficacy for recovery and attendance percentage. To adjust for the limited statistical power due to sample size, the number of analyses was reduced and interaction effects were not examined.

Analysis of Hypothesis 2

Hypothesis 2 was analyzed using a one set of four hierarchical regression equations, one equation for each of the four dependent variables. Prior to the regression analyses, possible co-variates were examined. The Pearson correlation, *t* test or ANOVA was calculated to determine if age, substance of choice (coded as alcohol versus other substance), employment status (coded as working full-time, unemployed or other) or marital status (coded as partnered versus not partnered) were significantly related to the outcome measures of self-efficacy for recovery (SCQ), depression (CES-D), attendance percentage and/or number of positive toxicology screenings (see Table 12). There were no significant co-variates for any of the four outcome variables. Therefore, the set of four equations, predicting self-efficacy for recovery, depression, attendance and drug use, was calculated as follows: stress of recovery (the cognitive threat appraisal subscale of the Folkman) was entered on the first step, positive social support (the Satisfaction subscale of the SSQ6) was entered on the second step, and recovery-specific unsupportive social interactions (USII Total score) was entered as the third and final step.

The statistical power of R^2 is affected by sample size, alpha, number of IVs, and effect size (Cohen & Cohen, 1983a). A medium effect size of R^2 (.15) and an alpha level of .05 were utilized in computing the statistical power. The equations for self-efficacy for

Table 12

Statistical Tests of the Association Between Outcome Variables and Potential Co-variates

Outcome Variable and Potential Co-variate	Statistic	*p*
Self-efficacy for Recovery - Situational Confidence Questionnaire (SCQ)		
- age	$r = 0.08$	0.48
- relationship status (partnered vs. not partnered)	$t = 1.87$	0.07
- substance of choice (alcohol vs. other)	$t = -0.52$	0.60
- employment status [full-time, unemployed, other (i.e., part-time, student, parenting, etc.)]	$F = 4.35$	0.02
- employment status (full-time vs. other)	$t = 1.15$	0.25
Depression – Center for Epidemiologic Studies Depression Scale (CES-D)		
- age	$r = 0.05$	0.64
- relationship status (partnered vs. not partnered)	$t = -2.44$	0.02
- substance of choice (alcohol vs. other)	$t = -0.53$	0.60
- employment status [full-time, unemployed, other (i.e., part-time, student, parenting, etc.)]	$F = 1.84$	0.17
- employment status (full-time vs. other)	$t = -0.70$	0.49
Attendance Percentage		
- age	$r = 0.03$	0.78
- relationship status (partnered vs. not partnered)	$t = -0.85$	0.40
- substance of choice (alcohol vs. other)	$t = -0.86$	0.43
- employment status [full-time, unemployed, other (i.e., part-time, student, parenting, etc.)]	$F = 0.09$	0.91
- employment status (full-time vs. other)	$t = 0.01$	0.99
Drug Use - Number of Positive Urine Toxicology Reports		
- age	$r = -0.15$	0.19
- relationship status (partnered vs. not partnered)	$t = 1.73$	0.09
- substance of choice (alcohol vs. other)	$t = 0.31$	0.76
- employment status [full-time, unemployed, other (i.e., part-time, student, parenting, etc.)]	$F = 0.59$	0.58
- employment status (full-time vs. other)	$t = -0.90$	0.37

recovery and depression had power between .80 and .85. Due to the clerical mishap and loss of attendance and toxicology data for some participants in Fulton County, the power for these two equations was .70.

The results of the set of regression analyses are displayed in Table 13. In the first equation with self-efficacy for recovery as the outcome, the stress of recovery accounted for 1% of the variance and was not a significant predictor. As expected, positive social support significantly and positively predicted self-efficacy for recovery, above and beyond the variance accounted for by the stress of recovery. Positive social support accounted for 17% of the variance in self-efficacy for recovery. Contrary to predictions, recovery-specific unsupportive social interactions were not a significant predictor of self-efficacy for recovery, accounting for 2% of the variance above and beyond the 1% accounted for by the stress of recovery and the 17% accounted for by positive social support.

In the second equation with depression as the outcome, the stress of recovery was a significant predictor, accounting for 11% of the variance. As predicted, positive social support significantly and inversely predicted depression, above and beyond the variance accounted for by the stress of recovery. Positive social support accounted for 27% of the variance in depression, above and beyond the 11% accounted for by the stress of recovery. Contrary to expectations, recovery-specific unsupportive social interactions did not account for any variance above and beyond the 11% accounted for by the stress of recovery and the 27% accounted for by positive social support.

Table 13

Hierarchical Regression Equations for the Prediction of Self-Efficacy of Recovery, Depression, Treatment Attendance, and Abstinence from Stress of Recovery, Positive Social Support, and Unsupportive Social Interactions

Step and Variable	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
Equation 1: Predicting Self-efficacy for Recovery (SCQ)								
1. Cognitive Threat Appraisals	(1, 78)	.01	.01	0.84	-.80	.87	-.10	-.91
2. SSQ6 Satisfaction Subscale	(1, 77)	.18	.17	15.94	8.47	2.12	.43	3.99**
3. USII Total	(1, 76)	.20	.02	1.62	-5.22	4.11	-.15	-1.27
Overall F (3, 76) = 6.23**								
Equation 2: Predicting Depression (CES-D)								
1. Cognitive Threat Appraisals	(1, 78)	.11	.11	9.61	.91	.29	.33	3.10**
2. SSQ6 Satisfaction Subscale	(1, 77)	.38	.27	34.15	-3.82	.65	-.54	-5.84**
3. USII Total	(1, 76)	.39	.00	.31	.71	1.27	.06	.56
Overall F (3, 76) = 15.91**								
Equation 3: Predicting Treatment Attendance								
1. Cognitive Threat Appraisals	(1, 67)	.000	.000	.03	.00	.003	.02	.17
2. SSQ6 Satisfaction Subscale	(1, 66)	.004	.004	.23	.00	.008	.06	.48
3. USII Total	(1, 65)	.005	.001	.04	.00	.016	.03	.20
Overall F (3, 65) = 0.10								

(table continues)

Table 13 *(continued)*

Hierarchical Regression Equations for the Prediction of Self-Efficacy of Recovery, Depression, Treatment Attendance, and Abstinence from Stress of Recovery, Positive Social Support, and Unsupportive Social Interactions

Step and Variable	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
Equation 4: Predicting Drug Use								
1. Cognitive Threat Appraisals	(1, 67)	.00	.00	.03	.00	.10	.02	.18
2. SSQ6 Satisfaction Subscale	(1, 66)	.01	.01	.51	-.18	.25	-.09	-.72
3. USII Total	(1, 65)	.01	.01	.33	-.29	.51	-.09	-.57
Overall F (3, 65) = 0.29								

Note. Standardized and unstandardized beta coefficients are reported at each step. Threat Appraisal = the Threat Appraisal subscale of the Folkman Cognitive Appraisal Questionnaire; SSQ6 = Social Support Questionnaire; USII = Unsupportive Social Interactions Inventory; CES-D = Center for Epidemiologic Studies Depression Scale; SCQ = Situational Confidence Questionnaire.
** $p \leq .01$.

In the third equation with attendance as the outcome, none of the variables accounted for significant portions of the variance; the stress of recovery, positive social support and unsupportive social interactions each accounted for less than 1% of the variance in attendance.

For the equation predicting drug use (positive urine toxicology screenings), the stress of recovery did not account for any variance. Positive social support accounted for 1% of the variance. Recovery-specific unsupportive social interactions accounted for an additional 1% of the variance above the 1% accounted for by positive social support. Contrary to predictions, neither positive social support, nor unsupportive social interactions were a significant predictor of continued abstinence.

Alternate Analysis

A post-hoc analysis was conducted for several reasons. First, the original version of Hypothesis 2 had been altered. Hypothesis 2 was designed to examine the role of recovery-specific unsupportive social interactions in relation to recovery-specific social support in predicting variance in outcome. However, because of conceptual and psychometric concerns about the measure of recovery-specific support (IPA), the measure of global social support (SSQ6 Satisfaction score) was used to test the hypotheses. Second, the construct of recovery-specific unsupportive social interactions as a type of social interaction, rather than as negative life events (conflict or loss), in the lives of individuals struggling with substance abuse issues is just beginning to be explored. As well, this is the first time that the USII has been used with individuals in formal substance abuse treatment. Thus, it was decided that further exploration of the

measure with this population out-weighed *apriori* hypothesis. Finally, it appeared that the SSQ6 Satisfaction score may have eclipsed the role of USII Total score in predicting variance in outcome. Pearson correlations indicated that the USII Total score was significantly related to the outcomes of self-efficacy for recovery (SCQ), as well as depression (CES-D). To attempt to gain further understanding of the possible role of recovery-specific unsupportive social interactions on the lives of individuals in Drug Court programs, two post hoc hierarchical regression equations were tested to ascertain the ability of the USII to predict outcome above and beyond the stress of recovery. One of the equations examined the outcome of self-efficacy for recovery and the other examined the outcome of depression. Each regression equation had two steps: first, the stress of recovery (the cognitive threat appraisal subscale of the Folkman Cognitive Appraisal Questionnaire) was entered; then, recovery-specific unsupportive social interactions (USII Total score) was entered in the second and final step.

As previously stated, the statistical power of R^2 is affected by sample size, alpha, number of IVs, and effect size (Cohen et al., 1983a). A medium effect size of R^2 (.15) and an alpha level of .05 were utilized in computing the statistical power. These two regression equations had power between .85 and .90.

The results of the pair of regression analyses are displayed in Table 14. In the first equation with self-efficacy for recovery as the outcome, the stress of recovery again accounted for 1% of the variance and was not a significant predictor. Recovery-specific unsupportive social interactions accounted for 7% of the variance above and beyond the 1% accounted for by the stress of recovery. This additional variance accounted for by

Table 14

Hierarchical Regression Equations for the Prediction of Self-Efficacy of Recovery and Depression from Stress of Recovery and Unsupportive Social Interactions

Step and Variable	*df*	R^2	ΔR^2	ΔF	*B*	*SE B*	β	*t*
Equation 1: Predicting Self-efficacy for Recovery (SCQ)								
1. Cognitive Threat Appraisals	(1, 83)	0.01	0.01	0.88	-0.79	0.84	-0.10	-0.94
2. USII Total	(1, 82)	0.07	0.07	5.91	-9.50	3.91	-2.43	-2.43*
Overall F (2, 82) = 3.42*								
Equation 2: Predicting Depression (CES-D)								
1. Cognitive Threat Appraisals	(1, 83)	0.12	0.12	11.10	0.98	0.29	0.34	3.33**
2. USII Total	(1, 82)	0.20	0.08	8.25	3.85	1.34	0.31	2.87**
Overall F (2, 82) = 10.16**								

Note. Standardized and unstandardized beta coefficients are reported at each step. Threat Appraisal = the Threat Appraisal subscale of the Folkman Cognitive Appraisal Questionnaire; SSQ6 = Social Support Questionnaire; USII = Unsupportive Social Interactions Inventory; CES-D = Center for Epidemiologic Studies Depression Scale; SCQ = Situational Confidence Questionnaire.
* $p \leq .05$. ** $p \leq .01$.

recovery-specific unsupportive social interactions approached the reduced significance level used to correct for family-wise error rate ($p \leq .01$), but did not reach it.

For the second equation predicting depression, the stress of recovery accounted for a significant amount (12%) of the variance. Recovery-specific unsupportive social interactions also accounted for a significant amount of the variance in depression. Recovery-specific unsupportive social interactions accounted for an additional 20% of the variance in depression above and beyond the 12% accounted for by the stress of recovery.

CHAPTER 5

DISCUSSION

This study examined the influence of unsupportive social interactions and social support on the well-being of individuals in treatment for addiction. Contrary to predictions, findings in this study suggest that overall global positive social support has a stronger relationship with well-being than recovery-specific negative social interactions.

Summary of Findings

Findings from the present study provide preliminary information about the usefulness of the Unsupportive Social Interactions Inventory (USII) with individuals in recovery from substance abuse. The findings that unsupportive social interactions did not account for outcome above and beyond positive social support as hypothesized does not imply that this construct, or the USII, as a measure is not relevant with this population. The means found in the current sample for the USII Total score and subscales, as well as the correlations between these scores and the measures of well-being, indicate unsupportive social interactions are salient to individuals in recovery from substance abuse. In addition, the post hoc regression equations also lend evidence that the construct of recovery-specific unsupportive social interactions does play a role with this population.

This is not surprising, given the social stigma associated with individuals dealing with substance abuse issues, and that individuals experiencing a negative life event often report receiving unsupportive responses from other people (Wortman & Lehman, 1985). Additionally, the range of USII Total scores denotes that some individuals experienced few unsupportive social interactions regarding their recovery, while others experienced a relatively large number. This finding is consistent with results from previous studies that examined negative social interactions (Rook, 1992).

The first hypothesis evaluated the relationship between unsupportive social interactions and social support. As predicted, a moderate, but significant, relationship was found between recovery-specific unsupportive social interactions and global social support. These results are consistent to findings from previous studies exploring negative social exchange in other segments of the population (e.g., Davis, Brickman, & Baker, 1991; Finch, Okun, Barrera, Zautra, & Reich, 1989; Ingram, Betz, Mindes, Schmitt, & Smith, 2001a; Ingram, Jones, Fass, Neidig, & Song, 1999; Lakey, Tardiff, & Drew, 1994; Revenson, Schiaffino, Majerovitz, & Gibofsky, 1991; Rook, 1984; Ruehlman & Karoly, 1991). This finding continues to lend evidence that unsupportive social interactions are a separate construct from positive social support, rather than simply different ends of the same continuum. It is unfortunate that the measure of recovery-specific social support (IPA) appeared to measure support for continued substance use, rather than support for recovery exclusively. This issue regarding the validity of the IPA, as well as concerns about the IPA's scales of measurement, and subsequent exclusion of use of the IPA from

the analyses precluded the examination of the hypothesized relationship between recovery-specific social support and recovery-specific unsupportive social interactions.

The second hypothesis evaluated the relationship between unsupportive social interactions and well-being. First, in predicting self-efficacy for recovery, the stress of recovery was not found to be a significant predictor. Global positive social support accounted for a significant proportion of a person's confidence that they would not return to substance use when faced with difficult situations, above and beyond that person's assessment of the stress of his or her recovery. Beyond the proportion accounted for by global positive social support, unsupportive social interactions did not significantly add to the prediction of self-efficacy of recovery. However, it appears that positive social support may have obscured the role that unsupportive social interactions may have for this population. When the measure of global positive social support was removed from the regression model, unsupportive social interactions did account for a significant amount of self-efficacy for recovery beyond what was accounted for by the stress of recovery.

Unlike the prediction of self-efficacy for recovery, the stress of recovery did significantly predict depression. Similar to the previous finding, global positive social support also played a significant role in predicting depression beyond what was explained by the stress of recovery. Unsupportive social interactions did not contribute to the prediction of depression beyond what had already been explained by the stress of recovery and positive social support. Once again, when global positive social support was

removed from the regression model, unsupportive social interactions did account for a significant amount of the variance in depression beyond what the stress of recovery contributed.

It may be that the intensity of the Drug Court programs offers a level of positive social support that eclipses the role of unsupportive social interactions in participants' level of well-being while individuals are in the programs. It would be interesting to further explore the constructs of positive social support and unsupportive social interactions in relation to the Drug Court model. For example, examining positive and negative social interaction of individuals before they enter a Drug Court program, as well as once they complete this type of program may assist in understanding the role of the program in participants' interpersonal relationships. It would also be interesting to examine distinctions that participants in the Drug Court programs may make in regards to positive and negative social interactions they receive from treatment providers, fellow clients in the programs, and friends and family members outside of the treatment program. In addition, it would be intriguing to compare the constructs of positive social support and unsupportive social interactions in relation to well-being between participants in Drug Court programs and groups of individuals in different treatment modalities, as well as in different phases of Drug Court programs.

Contrary to the hypotheses, none of the predictor variables- the stress of recovery, positive social support, or unsupportive social interactions- significantly predicted Drug Court treatment attendance or abstinence from substance use during the programs. In

fact, the only measured variable that was significantly correlated with treatment attendance was drug use as measured by number of positive urine toxicology reports. It makes sense that those with more positive drug screenings would likely be less compliant with treatment attendance. However, it should be noted that the measure of attendance was adjusted for an individual's length of time in the Drug Court program with the calculation of a percentage. The measure of drug use was not adjusted for an individual's length of time in the Drug Court program in a similar manner. Interestingly, the only other variable that was significantly correlated to drug use was self-efficacy for recovery. This correlation may indicate participants' realistic self-efficacy for recovery, an understanding that they have faced situations similar to those described in the scale and successfully avoided using substances. On the other hand, the correlation may illustrate that the objective feedback about continued drug use contributes to a participant's assessment of his or her confidence in avoiding substance use when faced with difficult situations. However, the lack of association between treatment attendance and drug use with most of the other measured variables may indicate that some important variable was not measured in this study. With the nature and design of the Drug Court programs in linking treatment with the coercive powers of the court, one possibility of an unmeasured variable may be the continuum of legal pressure.

The findings regarding well-being highlight the idea that unsupportive social interactions are salient to individuals in recovery from substance abuse. However, these findings are dissimilar to the findings from the one other study with individuals in

recovery that conceptualized interpersonal conflict, loss of relationships, and other social interactions as unsupportive social support, rather than as negative life events (Havassy, Hall, & Wasserman, 1995). In their sample of individuals who abused cocaine, Havassy et al. found that the negative messages from members of participants' support network were not significantly related to continued abstinence or relapse at 12 weeks or 6 months after inpatient treatment. Havassy et al. assessed general negative interactions with others with 5-items, such as "Someone gave you advice that you didn't want". The difference between the unsupportive social interactions in a general sense compared to the recovery-specific unsupportive social interactions assessed in this current study may be an important distinction. Thus, conclusions that can be surmised from the data available are limited; however, the construct of recovery-specific unsupportive social interactions certainly warrants further investigation.

Limitations

The limitations of the present study include shortcomings related to research design, data collection and sampling procedures, as well as the analyses and the statistical power. First, the present study was correlational and cross-sectional. Thus, the direction of relationship and causality cannot be determined. The possibility of another variable(s) influencing both the dependent and independent variables cannot be eliminated. As well, it is not possible to determine any changes in participants' outcome or well-being over time. Reverse causation and reciprocal causation cannot be ruled out. For example, increases in depression may cause an individual to experience and report more recovery-

specific unsupportive interactions; as well, receiving more recovery-specific unsupportive interactions may cause an individual to experience and report more depression. In addition, this study did not include comparison groups. Because the study did not include a comparison group of offenders, or non-court involved adults, not in recovery with sociodemographic characteristics similar to the current sample, it is not possible to distinguish the effects that are recovery-specific from those that are not unique to recovery. In addition, this study did not include a comparison group of individuals in recovery not involved in treatment or involved in any form of treatment other than the Drug Court model. Thus, it is not possible to distinguish effects that may be specific to this program model from other forms of treatment, or possible characteristics that may make individuals involved with Drug Court programs unique from other individuals in recovery.

There are several limitations related to data collection and sampling procedures. First, this was a convenience sample. Participants were solicited within two Drug Court programs from treatment sessions that the researcher and research assistant were able to attend. Drug Court staff indicated that it was likely that 'all' program participants during the data collection period had been approached. However, treatment records were not evaluated in a systematic or exhaustive manner to insure that all current program participants had the opportunity to participate. Thus, it is possible that some Drug Court clients were absent from sessions and simply overlooked. The two Drug Court programs involved with this study were chosen on the basis of geographic convenience to the

researcher. Although most Drug Court programs follow the same model, it is possible that these findings may not generalize to all Drug Court programs or participants. Additionally, given the uniqueness of the Drug Court model, coupled with the sample size and demographic characteristics of the participants, findings cannot necessarily be generalized to all individuals in recovery.

This study was cross-sectional in design. Participants included in this study were in all phases of the Drug Court programs and reported a wide range regarding the durations of being clean and sober. As length of recovery increases, the nature and type of social support and unsupportive interactions an individual receives from his or her family and friends is also likely to change. Thus, time in recovery may account for a majority of the difference in all of the variables of interest.

Another limitation is that most of the variables were measured with self-report instruments, which raises the possibility that common method variance may have inflated the associations among the variables. The behavioral, non-self-report measures of attendance and drug use were the variables least associated with those variables that were assessed via self-report. With the use of self-report measures, the risk of social desirability bias also increases. Given the social stigma associated with addiction, as well as the close monitoring with the Drug Court programs, this risk may be particularly salient.

Due to the small sample size, limitations also include statistical power. A larger sample would have afforded the opportunity to gain a more complete and in-depth

understanding of the relationship of positive social support and unsupportive interactions to well-being.

As noted in the literature review chapter of this dissertation, numerous authors have written about the size of an individual's social support network and some researchers have found significant relationships between size of an individual's social network and psychological well-being within the recovery process (e.g., Bennett, 1988; Brennan & Moos, 1990; Chitwood & Morningsar, 1985). However, due to adjustments for the small sample size, this variable was not examined in the current study. Not evaluating the role of network size in the current study limits our understanding of how social interactions shape individuals' experiences of recovery in Drug Court programs.

Another variable that the literature indicates may play a role in the relationships between positive and negative social interactions and well-being is a person's general optimistic or pessimistic approach to life (e.g., Rook, 1990; Ingram et al., 2001a). The constructs of optimism and pessimism could account for some level of the positive and/or negative social interactions a person reports. However, these constructs were not examined in this study. Thus, assessing variables such as trait negative affectivity and accounting for these constructs in future research may be of assistance in gaining a clearer understanding of the role of positive and negative social interactions in the well-being of individuals in recovery.

The measure of self-efficacy for recovery also has some limitations. The Situational Confidence Questionnaire (SCQ) asks participants to 'imagine' themselves in

high-risk situations. There is some evidence that whether or not an individual has actually confronted a given high-risk situation contributes to his or her assessment of self-efficacy (Velicer, DiClemente, Rossi, & Prochaska, 1990). Thus, pairing the SCQ with a measure of how many of the situations a person has actually encountered is currently a more acceptable method of gauging self-efficacy for recovery.

Finally, there were issues regarding the measure of recovery-specific positive social support, including the ranges of the response scales, as well as the validity of the scales to measure only recovery-specific positive social support. Thus, the IPA in this study did not afford the opportunity to examine this construct in this study. Evidence suggests that social support that is substance- and recovery- specific should be differentiated from global social support (Beattie, Longabaugh, Elliott, Stout, Fava & Noel, 1993; Beattie & Longabaugh, 1997; George & Tucker, 1996). The relationship of recovery-specific social support to global social support with individuals among Drug Court model has yet to be explored. In addition, measurment problems with the IPA hampered the ability of this study to explore the hypothesized relationships between recovery-specific social support and recovery-specific unsupportive social to outcome with participants in Drug Court programs.

Directions for Future Research

The results from this study suggest numerous directions for future research. First, the development of a pencil and paper assessment of recovery-specific positive social support with adequate psychometric properties appears prudent. As stated in the literature

review, it has been shown that individuals in recovery do distinguish between global social support and recovery-specific social support. However, the only method of assessment of recovery-specific social support currently available with adequate psychometrics is an interview. Given the saliency of positive and negative social support, both global and recovery-specific, with individuals in recovery, the ability to assess these constructs would facilitate future research, as well as interventions and treatment planning.

Second, gaining a larger sample would allow for more sophisticated analyses and in-depth understanding of the relationships among the variables of interest. To this extent, a larger sample would also allow for the examination of specific models including the mediating or moderating relationships of positive and negative support to perceived stress and well-being.

Third, although results from the current study are consistent with previous findings regarding the psychometric properties of the USII (Ingram et al., 2001a; Ingram et al., 1999), it would be useful to obtain a large enough sample of individuals in recovery to conduct a factor analysis of the original USII scale and to investigate the exploratory items developed specifically for individuals in recovery. This would provide an opportunity to obtain additional data and solidify the reliability, validity, and factor structure of a recovery-specific version of the USII. It would also further enhance our understanding of the nature of the upsetting responses an individual receives from others, regarding his or her recovery process.

Fourth, investigating samples from other Drug Court programs, as well as different sub-populations of individuals in recovery would be beneficial. Some possibilities include: ethnic groups other than African American, and samples of individuals in different treatment settings such as outpatient and residential. It would also be worthwhile to explore possible gender differences, as well as differences based on substance of choice. In addition, it would be advantageous to include a comparison group such as individuals whose substance use has involved them with standard probation.

Fifth, given the research on coercion and the continuum of legal pressure, it would seem advantageous to include a measure such as the Perception of Legal Pressure (PLP) questionnaire (see Young, 2002). Further exploring this construct within the Drug Court model, as well as with those in treatment for substance abuse, in general, appears prudent.

Along with the construct of perceived coercion, there is some evidence that an individual's cognitive appraisal of the potential consequences of continuing to use substances plays a role in his or her abstinence (e.g., Oei & Burrow, 2000; Skutle, 1999). Thus, including a measure perceived expected consequences of continued use may further elucidate the experience of individuals in recovery.

In addition, longitudinal studies would assist researchers in gaining a more complete understanding of the relationships among the variables within the Drug Court treatment model. In addition, longitudinal studies would begin to address issues of causality. For example, it would be useful to ascertain if various amounts of unsupportive

social interactions at the beginning of treatment lead to different treatment outcomes. Specifically, it would also be useful to examine whether higher levels of recovery-specific unsupportive social interactions lead an individual to have more depression, or less self-efficacy and self-confidence in his or her recovery. Longitudinal studies are also necessary to evaluate the stability of the relationship between recovery-specific unsupportive social interactions and adjustment, as well as to include actual time in recovery as an outcome measure.

Finally, once more information is gathered on unsupportive social interactions, research will also be needed to develop and evaluate therapeutic interventions that might enhance the well-being of individuals in recovery. For example, a future study could examine the role and efficacy of different forms of coping methods in relation to positive and negative social interactions. Beyond that, future studies could investigate interventions specifically designed to train individuals about methods of coping with unsupportive social interactions. The effectiveness of such an intervention in minimizing the consequences of unsupportive social interactions among individuals in recovery could then be examined.

Implications

Despite the small sample size and associated limitations, this study has tentative implications for Drug Court programs, as well as other counseling and services designed to assist individuals struggling with substance abuse issues. This study points to the importance of exploring both the positive and negative aspects of the client's social

network and social interactions. Moving beyond the historically acknowledged constructs of interpersonal conflict and loss, therapists should be trained to identify and assess other types of unsupportive responses that individuals in recovery may receive from members of their social network. Mental health professionals can then assist clients in finding ways to cope with unsupportive interactions.

Summary and Conclusions

The number of individuals facing substance abuse issues in the United Stated each year is enormous. Because addiction to substances can be viewed as a chronic, life-threatening illness, identifying methods to bolster recovery rates is imperative. The present study attempted to understand the role of social support and unsupportive interactions as they relate to the well-being of individuals in recovery. The results of the investigation suggested that recovery-specific unsupportive interactions do play a part in the well-being of individuals in recovery. However, global positive social support accounted for the largest proportion of the variance in well-being for individuals in this Drug Court sample. In addition, results indicated that recovery-specific unsupportive social interactions are relatively independent from global social support. Future research is necessary to gain a more complete understanding of the roles of global and recovery-specific positive and negative social support for individuals struggling with substance abuse, both in general, as well as within Drug Court programs. This study was a preliminary step in expanding the investigation of the role of unsupportive social interactions in the well-being of individuals in recovery. It is hoped that information

gathered from this research will spark other studies to enhance treatment and support services, and improve the quality of life for individuals dealing with addiction.

APPENDIX A

CONSENT LETTER

Research Participant Information and Consent Form

TITLE: Recovery from Substance Abuse Among Individuals Involved with Drug Court: The Role of Unsupportive Social Interactions

VCU IRB PROTOCOL NUMBER: # 02254

SPONSOR: N/A (Student Funded)

INVESTIGATORS: Kathleen M. Ingram, Ph.D. & Michelle M. Schmitt, M.A., M.S.

This consent form may contain words that you do not understand. Please ask the study staff to explain any words or information that you do not clearly understand. You may take home an unsigned copy of this consent form to think about or discuss with family or friends before making your decision.

Before agreeing to take part n this study, it is important that the following explanation of the proposed procedures be read and understood. It describes the purpose, procedures, risks, and benefits of the study. I also describes the right to withdraw from the study at any time. If you decide to take part in this study you will be asked to sign this consent form after you have all your questions answered.

PURPOSE OF THE STUDY: You are invited to take part in a research study about the experiences of people with substance abuse problems. In the hope of helping others in recovery in the future, we wish to learn more about the experiences of individuals recently in recovery (still in treatment) and the kinds of interactions that may help or hinder their well-being.

DESCRIPTION OF THE STUDY & PROCEDURES: As a participant in this study, you are agreeing to fill out a written survey. The survey includes questions about the types of positive and negative interactions you have had with other people regarding your recovery, your thoughts and feelings regarding your recovery, physical and emotional discomfort you have experienced recently, and background information (such as your education, substance use, and treatment history). It will take about two hours to complete the survey. The packets are confidential. Once you have completed the survey, you will seal it in an envelope. Your name will not appear anywhere on the packet it will be identified by only a number. No one but the researchers will have access to the completed questionnaires. Your survey will not be seen by the staff of the Richmond (Fulton County) Drug Court, other correctional or court personnel.

During the week following your participation, the researcher will review treatment records at the Drug Court, specifically attendance and number of positive urine toxicology reports. This information will be matched to surveys utilizing the assigned numbers. Once these pieces of information are matched, the separate list of names and numbers will be destroyed. In this manner, your name will not be on any of the data, in any computer file associated with your answers, or in any of our reports. We expect to collect surveys from approximately 140 people who are involved with the Drug Court.

RISKS & DISCOMFORTS: There are no clear physical risks associated with participating in the study. Some of the questions may be of a sensitive nature including past legal experiences, as well as physical and emotional discomfort you have experienced recently.

BENEFITS: You will receive credit for attending group today, as well as an hour of community service. People in recovery who have complete a survey similar to this have commented that they felt it was beneficial to complete the forms and see the types of support they currently had in their lives. Additionally your participation may help others by allowing health care professionals to learn more about the needs of people with substance abuse problems.

COSTS: This study involves no monetary costs to you. The only investment is your time. Your name will not appear on any list to be contacted in the future by these researchers or others.

PAYMENT FOR PARTICIPATION: You will not be paid for participating in this study. As stated earlier, if you chose to participate you will receive credit for attending group today, as well as an hour of community service.

ALTERNATE ACTIVITY: This is a survey research study. It does not involve an ongoing form of therapy or treatment. If you choose not to participate in this study, the regular group activity will be available in another room.

CONFIDENTIALTIY: The consent form signed by you may be looked at and/or copied for research or regulatory purposes by the Department of Health and Human Services (DHHS) agencies and Virginia Commonwealth University. Absolute confidentiality cannot be guaranteed because of the need to give information to these parties. The results of this research study may be presented at meetings or in publications. Your identity will not be disclosed in those presentations. Any data reported as a result of this study in presentations or publications will be about the group as a whole; at not time will any individual's data be reported separately. The researchers will provide a summary of the results from the study (about the group as a whole) to the Richmond (Fulton County) Drug Court.

COMPENSATION FOR INJURY: Virginia Commonwealth University and the VCU Health System (formerly known as Medical College of Virginia Hospitals) have no plan for providing long-term care or compensation in the event you suffer injury as a result of your participation in this research study. As participation in the study involves simply completing a paper and pencil survey, physical injury seems unlikely. Should you experience psychological discomfort from issues that arise from any of the questions, your counselors at the Drug Court are available to you. In the event of physical and/or mental injury resulting from your participation in this research study, Virginia Commonwealth University and MCV hospitals will not provide compensation.

VOLUNTARY PARTICIPATION & WITHDRAWL: Your participation in the research is voluntary. That is, you are not required to participate in the study. You may refuse to answer any question you do not want to by simply leaving it blank. You may withdraw from the study at any time. If you choose to withdraw from the study, you will still receive credit for the one hour of community service, but will be expected to join the group in the other room to receive credit for today's group. Your decision to participate or not to participate will in no way affect your standing at the Richmond (Fulton County) Drug Court Program or with probation, parole, or the courts.

QUESTIONS: Should you have any questions about the study, either during or after your participation, you may contact the investigators, Dr. Kathleen Ingram (804-828-6346), or Michelle Schmitt (404-635-5507). They can be reached at the VCU Department of Psychology, 808 W. Franklin St., P.O. Box 842018, Richmond, VA 23284.

If you have questions about your rights as a research participant, you may contact the VCU Office for Research Subjects Protection (804-828-0868). This office can also be reached in person or by mail at 1101 E. Marshall St., Room B1-001, P.O. Box 980568, Richmond, VA 23298.

Thank you for your time and input in this valuable study.

CONSENT: I have read and understand the above explanation about this study. All my questions about the study and my participation in it have been answered. I freely give my consent to my voluntary participation in this study.

I understand that I will receive a signed dated copy of this consent form for my records.

By signing this consent form I have not waived any of the legal rights which I otherwise have as a participant in a research study.

_____
Name of Participant (Please Print)

_____ _____
Signature of Participant Date

_____ _____
Signature of Person Conducting Informed Consent Discussion Date

_____ _____
Signature of Researcher (if different from above) Date

APPENDIX B

ATTENDANCE AND TOXICOLOGY REPORTING FORM

Name _____

Date collected _____

Number of treatment sessions attended ..... _____

Number of treatment sessions missed, excused absences..... _____

Number of treatment sessions missed, unexcused absences ..... _____

Total number of treatment sessions possible ..... _____

Number of Positive urine toxicology screenings ..... _____

Number of Negative urine toxicology screenings ..... _____

Total number of urine toxicology screenings ..... _____

APPENDIX C

SOCIAL SUPPORT QUESTIONNAIRE

Instructions: The following questions ask about people in your environment who provide you with help or support. Each question has two parts. For the **first** part, **indicate how many** people you know, excluding yourself, whom you can count on for help or support in the manner described. For the **second** part, **indicate how satisfied you are** with the overall support (not the # of people) you have in that area. If you have had no support for a question, you should report 'no one' but still rate your level of satisfaction. Please answer all the questions as best as you can.

EXAMPLE:
First step:
a) How many people can you trust with information that could get you in trouble? _____

You think: *1) brother* *4) Tom (father)*
2) Lisa (friend) *5) Jack (employer)*
3) Ron (friend)
You write:

Second step:
b) How satisfied? *You think: "I'm a little satisfied." You circle:*

6 - very satisfied 5 - fairly satisfied 4 - a little satisfied 3 - a little dissatisfied 2 - fairly dissatisfied 1 - very dissatisfied

---

1a. How many people can you really count on to be dependable when you need help? _____

b. How satisfied are you with the support you have in this area?

6 - very satisfied 5 - fairly satisfied 4 - a little satisfied 3 - a little dissatisfied 2 - fairly dissatisfied 1 - very dissatisfied

---

2a. How many people can you really count on to help you feel more relaxed when you are under pressure or tense? _____

b. How satisfied are you with the support you have in this area?

6 - very satisfied 5 - fairly satisfied 4 - a little satisfied 3 - a little dissatisfied 2 - fairly dissatisfied 1 - very dissatisfied

---

3a. How many people accept you totally, including both your worst and your best points? _____

b. How satisfied are you with the support you have in this area?

6 - very satisfied 5 - fairly satisfied 4 - a little satisfied 3 - a little dissatisfied 2 - fairly dissatisfied 1 - very dissatisfied

---

4a. How many people can you really count on to care about you, regardless of what is happening to you? _____

b. How satisfied are you with the support you have in this area?

6 - very satisfied 5 - fairly satisfied 4 - a little satisfied 3 - a little dissatisfied 2 - fairly dissatisfied 1 - very dissatisfied

---

5a. How many people can you really count on to help you feel better when you are feeling generally down-in-the-dumps? _____

b. How satisfied are you with the support you have in this area?

6 - very satisfied 5 - fairly satisfied 4 - a little satisfied 3 - a little dissatisfied 2 - fairly dissatisfied 1 - very dissatisfied

---

6a. How many people can you count on to console you when you are very upset?

_____

b. How satisfied are you with the support you have in this area?

6 - very satisfied 5 - fairly satisfied 4 - a little satisfied 3 - a little dissatisfied 2 - fairly dissatisfied 1 - very dissatisfied

---

APPENDIX D

IMPORTANT PEOPLE AND ACTIVITIES INSTRUMENT

People generally have three groups of people who may be important to them: family, friends, and people at work. Please answer the following questions in reference to these people. "Drinking and/or substance use" refers to whatever substances you define as involved in your substance abuse issue(s), e.g., your substances of choice. Please circle the number associated with your answer and only circle one number for each question.

1. How has your family reacted to your drinking and/or substance use?

   5 = Encouraged it
   4 = Accepted it
   3 = Neutral
   2 = Didn't accept it
   1 = Left or made you leave when you were drinking or using
   NA = Have no family

2. How important has your family been to you?

   5 = Extremely important
   4 = Important
   3 = Somewhat important
   2 = Not very important
   1 = Not important at all
   NA = Have no family

3. How many of your family members drink alcohol or use drugs?

   4 = All of them
   3 = Most of them
   2 = Some of them
   1 = None of them
   NA = Have no family

4. How have your friends reacted to your drinking?

   5 = Encouraged it
   4 = Accepted it
   3 = Neutral
   2 = Didn't accept it
   1 = Left or made you leave when you were drinking or using
   NA = Have no friends

5. How important have your friends been to you?

   5 = Extremely important
   4 = Important
   3 = Somewhat important
   2 = Not very important
   1 = Not important at all
   NA = Have no friends

6. How many of your friends drink alcohol or use drugs?

   4 = All of them
   3 = Most of them
   2 = Some of them
   1 = None of them
   NA = Have no friends

7. How have people at work reacted to your drinking and/or substance use?

   5 = Encouraged it
   4 = Accepted it
   3 = Neutral
   2 = Didn't accept it
   1 = Left or made you leave when you were drinking or using
   NA = Have no work, or people at work

8. How important have people at work been to you?

   5 = Extremely important
   4 = Important
   3 = Somewhat important
   2 = Not very important
   1 = Not important at all
   NA = Have no work, or people at work

9. How many of the people you know at work drink alcohol or use drugs?

   4 = All of them
   3 = Most of them
   2 = Some of them
   1 = None of them
   NA = Have no work, or people at work

APPENDIX E

UNSUPPORTIVE SOCIAL INTERACTIONS INVENTORY

Instructions: Listed below are a number of responses that you may or may not have received from other people about your trying to recover from substance abuse and trying to stay sober/clean. The terms "use, " "habit," and "recovery" refer to whatever substance(s) you were using, drugs or alcohol. For each statement, please circle the one number corresponding to how much of that type of response you received from other people.

		None				A Lot
1.	Someone thought I was over-reacting to the stress of recovery	0	1	2	3	4
2.	When I was talking with someone about trying to stay sober/clean, the person did not give me enough of his or her time, or made me feel like I should hurry	0	1	2	3	4
3.	Someone made "should/shouldn't have" comments about my role in trying to recover from substance abuse, such as, "You shouldn't have _____."	0	1	2	3	4
4.	Someone didn't seem to know what to say, or seemed afraid of saying/doing the "wrong" thing	0	1	2	3	4
5.	Someone refused to provide the type of help or support I was looking for	0	1	2	3	4
6.	After becoming aware of my trying to stay sober/clean, someone responded to me with uninvited physical touching, such as hugging	0	1	2	3	4
7.	Someone said I should look on the bright side	0	1	2	3	4
8.	Someone said, "I told you so," or made some similar comment to me about my trying to stay sober/clean	0	1	2	3	4
9.	Someone seemed to be telling me what he or she thought I wanted to hear	0	1	2	3	4
10.	In responding to me about my recovery, someone seemed disappointed in me	0	1	2	3	4
11.	When I was talking to someone about trying to stop my use, the person changed the subject before I wanted to	0	1	2	3	4
12.	Someone felt that I should stop worrying about recovery and just forget about it	0	1	2	3	4
13.	Someone asked me "why" questions about my recovery, such as, "Why did/didn't you _____?"	0	1	2	3	4
14.	Someone felt that I should focus on the present and/or future, and that I should forget about what's happened and get on with my life .	0	1	2	3	4
15.	Someone tried to cheer me up when I was not ready to cheer up . . .	0	1	2	3	4
16.	In responding to me about my recovery, someone refused to take me seriously	0	1	2	3	4

17.	Someone told me to be strong, to keep my chin up, or that I shouldn't let it bother me	0	1	2	3	4
18.	When I was talking to someone about trying to stop my use, he or she did not seem to want to hear about it	0	1	2	3	4
	.					
19.	Someone told me that I had gotten myself into the situation in the first place, and that I now must deal with the consequences	0	1	2	3	4

For each statement, please circle the one number corresponding to how much of that type of response you received from other people.

		None				A Lot
20.	Someone did something for me that I wanted to do and could have done for myself, as if he or she thought I was no longer capable . . .	0	1	2	3	4
21.	Someone discouraged me from expressing feelings about my recovery such as anger, hurt or sadness	0	1	2	3	4
	. . . .					
22.	Someone felt that it could have been worse or that it was not as bad as I thought	0	1	2	3	4
23.	From the person's tone of voice, expression, or body language, I got the feeling that he or she was uncomfortable talking with me about my recovery	0	1	2	3	4
24.	Someone made comments which blamed me or tried to make me feel responsible	0	1	2	3	4
25.	Someone felt that I should focus on the past and how my habit has affected my life in a negative way	0	1	2	3	4
26.	Someone who knew I was trying to stay sober/clean used around or in front of me	0	1	2	3	4
27.	Someone told me how easy recovery should be	0	1	2	3	4
28.	Someone did not want to hear about how I am/was struggling with recovery	0	1	2	3	4
29.	From the person's tone of voice, expression, or body language, I got the feeling that he or she didn't think that I could stop my use .	0	1	2	3	4
	. . . .					
30.	When I slipped, someone told me that they knew I was incapable of staying sober/clean	0	1	2	3	4
31.	Someone constantly checked on my behavior and made me feel that I couldn't be trusted to do it on my own	0	1	2	3	4
32.	Someone felt that I should focus on the past and how my use has affected the lives of people I care about in a negative way	0	1	2	3	4
33.	When I slipped, someone told me that staying sober/clean was hopeless, that I'd never change	0	1	2	3	4
34.	Someone invited me to use	0	1	2	3	4
35.	Someone took over responsibilities for me that I could have managed to do for myself	0	1	2	3	4

APPENDIX F

COGNITIVE APPRAISAL QUESTIONNAIRE

Instructions: People often feel a wide range of emotions when thinking about their recovery. Consider how you feel about your recovery right now. Then rate the extent to which you feel each of the following emotions about your recovery by **circling one number** using the following scale:

Not at all 0	1	2	3	A great deal 4

		Not at all				A great deal
1.	Exhilarated	0	1	2	3	4
2.	Angry	0	1	2	3	4
3.	Confident	0	1	2	3	4
4.	Worried	0	1	2	3	4
5.	Pleased	0	1	2	3	4
6.	Sad	0	1	2	3	4
7.	Hopeful	0	1	2	3	4
8.	Fearful	0	1	2	3	4
9.	Happy	0	1	2	3	4
10.	Disappointed	0	1	2	3	4
11.	Eager	0	1	2	3	4
12.	Guilty	0	1	2	3	4
13.	Anxious	0	1	2	3	4
14.	Relieved	0	1	2	3	4
15.	Disgusted	0	1	2	3	4

APPENDIX G

CENTER FOR EPIDEMILOGIC STUDIES DEPRESSION SCALE

Instructions: **Circle the one number** for each statement which best describes how often you felt or behaved this way during the past week.

DURING THE PAST WEEK		0 = Rarely or None of the Time (Less than 1 Day)	1 = Some or a Little of the Time (1-2 days)	2 = Occasionally or a Moderate Amount of the Time (3-4 days)	3 = Most or All of the Time (5-7 Days)
1.	I was bothered by things that usually don't bother me	0	1	2	3
2.	I did not feel like eating; my appetite was poor	0	1	2	3
3.	I felt that I could not shake off the blues even with help from my family or friends	0	1	2	3
4.	I felt that I was just as good as other people	0	1	2	3
5.	I had trouble keeping my mind on what I was doing	0	1	2	3
6.	I felt depressed	0	1	2	3
7.	I felt that everything I did was an effort	0	1	2	3
8.	I felt hopeful about the future	0	1	2	3
9.	I thought my life had been a failure	0	1	2	3
10.	I felt fearful	0	1	2	3
11.	My sleep was restless	0	1	2	3
12.	I was happy	0	1	2	3
13.	I talked less than usual	0	1	2	3
14.	I felt lonely	0	1	2	3
15.	People were unfriendly	0	1	2	3
16.	I enjoyed life	0	1	2	3
17.	I had crying spells	0	1	2	3
18.	I felt sad	0	1	2	3
19.	I felt that people disliked me	0	1	2	3
20.	I could not get "going"	0	1	2	3

APPENDIX H

SITUATIONAL CONFIDENCE QUESTIONNAIRE

Listed below are a number of situations or events in which some people experience a drinking or drug problem.

Imagine yourself as you are right now in each of these situations. By **circling one number**, indicate on the scale provided how confident you are that you would be able to resist the urge to drink or use in that situation.

Circle 100 if you are 100% confident right now that you could resist the urge to drink or use; 80 if you are 80% confident; 60 if you are 60% confident. If you are more unconfident than confident, circle 40 to indicate that you are only 40% confident that you could resist the urge to drink or use; 20 for 20% confident; 0 if you have no confidence at all about that situation.

		I would be able to resist the urge to drink or use					
		not at all confident					very confident.
1.	If I felt that I had let myself down.	0	20	40	60	80	100
2.	If there were fights at home.	0	20	40	60	80	100
3.	If I had trouble sleeping	0	20	40	60	80	100
4.	If I had an argument with a friend.	0	20	40	60	80	100
5.	If other people didn't seem to like me.	0	20	40	60	80	100
6.	If I felt confident and relaxed.	0	20	40	60	80	100
7.	If I were out with friends and they stopped by a bar for a drink.	0	20	40	60	80	100
8.	If I were enjoying myself at a party and wanted to feel even better. . .	0	20	40	60	80	100
9.	If I remembered how good it tasted.	0	20	40	60	80	100
10.	If I could convince myself that I was a new person now and could take a few drinks or hits.	0	20	40	60	80	100
11.	If I were afraid that things weren't going to work out.	0	20	40	60	80	100
12.	If other people interfered with my plans.	0	20	40	60	80	100
13.	If I felt drowsy and wanted to stay alert.	0	20	40	60	80	100
14.	If there were problems with people at work.	0	20	40	60	80	100
15.	If I felt uneasy in the presence of someone.	0	20	40	60	80	100
16.	If everything were going well.	0	20	40	60	80	100
17.	If I were at a party and other people were drinking or using.	0	20	40	60	80	100
18.	If I wanted to celebrate with a friend.	0	20	40	60	80	100
19.	If I passed by a liquor store.	0	20	40	60	80	100
20.	If I wondered about my self-control over alcohol and drugs and felt like having a drink or hit to try it out.	0	20	40	60	80	100
21.	If I were angry at the way things had turned out.	0	20	40	60	80	100

22.	If other people treated me unfairly.	0	20	40	60	80	100
23.	If I felt nauseous.	0	20	40	60	80	100
24.	If pressure built up at work because of the demands of my supervisor .	0	20	40	60	80	100
25.	If someone criticized me.	0	20	40	60	80	100
26.	If I felt satisfied with something I had done.	0	20	40	60	80	100

		I would be able to resist the urge to drink or use					
		not at all confident					very confident.
27.	If I were relaxed with a good friend and wanted to have a good time . .	0	20	40	60	80	100
28.	If I were in a restaurant and the people with me ordered drinks.	0	20	40	60	80	100
29.	If I unexpectedly found a bottle of my favorite booze.	0	20	40	60	80	100
30.	If I started to think that just one drink or hit could cause no harm. . . .	0	20	40	60	80	100
31.	If I felt confused about what I should do	0	20	40	60	80	100
32.	If I felt under a lot of pressure from family members at home.	0	20	40	60	80	100
33.	If my stomach felt like it was tied in knots.	0	20	40	60	80	100
34.	If I were not getting along well with others at work.	0	20	40	60	80	100
35.	If other people around me were tense.	0	20	40	60	80	100
36.	If I were out with friends “on the town” and wanted to increase my enjoyment	0	20	40	60	80	100
37.	If I met a friend and he/she suggested that we have a drink or use together.	0	20	40	60	80	100
38.	If I would suddenly have the urge to drink or use.	0	20	40	60	80	100
39.	If I wanted to prove to myself that I could take a few drinks or hits without becoming drunk or high.	0	20	40	60	80	100

APPENDIX I

DEMOGRAPHIC QUESTIONNAIRE

Instructions: Please answer the following questions about yourself. All responses are anonymous and confidential.

1. What is your age? _____

2. What is your gender? a. □ Male b. □ Female

3. What is your racial/ethnic background? (Check all that apply)
   a. □ African-American (Black)
   b. □ Caucasian (White), not of Hispanic/Latin origin
   c. □ Asian/Pacific Islander
   d. □ Chicano(a)/Hispanic/Latino(a)
   e. □ Native American
   f. □ Other (specify) _____

4. What is your highest level of education? (Check only one)
   a. □ Elementary/Grade School
   b. □ Some High School
   c. □ High School Graduate/GED
   d. □ Some Technical/Trade School
   e. □ Technical/Trade School Graduate
   f. □ Some College
   g. □ Associate's Degree
   h. □ Bachelor's Degree
   i. □ Some Graduate School
   j. □ Graduate Degree

5. Are you currently employed:
   a. □ part-time outside the home
   b. □ full-time outside the home
   c. □ full-time homemaker/parent/student/volunteer
   d. □ retired
   e. □ currently on medical leave/disability
   f. □ not currently employed

6. What is your current household gross income level (before taxes)?
   a. □ Under $14,999
   b. □ $15,000 - 29,999
   c. □ $30,000 - 44,999
   d. □ $45,000 - 59,999
   e. □ $60,000 - 74,999
   f. □ $75,000 - 89,999
   g. □ $90,000 - 104,999
   h. □ 105,000 and above

7. How many individuals (adults and children) currently are in your household? _____

8. What is your current relationship status? (Check only one)
   a. □ single (never married)
   b. □ not married but partnered in an exclusive relationship with one person
   c. □ married or remarried
   d. □ separated or divorced
   e. □ widowed

9. Have you been incarcerated before? a. □ Yes b. □ No

10. If you have been incarcerated before, how many times have you been in and out of jail/prison (Please put the number of times you have been released) _____

11. If you have been in jail/prison before, when were you last released from custody? _____
month/day/year

12. How much time did you spend in jail/prison during your most recent stay? _____
years/months/days

13. Are you currently on probation? a. □ Yes b. □ No

14. Are you currently on parole? a. □ Yes b. □ No

15. What is/are the offense(s) that you are currently on probation or parole for?_____

_____

16. Are you currently taking any medications prescribed by a doctor? a. □ Yes b. □ No

17. If you are taking medication(s) on a daily basis what is the name(s) of the medication or what condition(s) are you taking it for?_____

_____

18. Please indicate all of the substances that you have ever used/tried that were not prescribed by a doctor. (Check all that apply)

a. □ alcohol
b. □ amphetamines/methamphetamines/crystal/ice
c. □ barbiturates/Valium/tranquilizers
d. □ cocaine/crack
e. □ ecstasy
f. □ heroin/morphine/codeine/other narcotic
g. □ inhalants (e.g., glue, gasoline, thinner)
h. □ LSD
i. □ marijuana/pot/hash
j. □ mescaline/mushrooms
k. □ nicotine/cigarettes/chew/snuff
l. □ PCP/angel dust
m. □ steroids
n. □ other(s) (specify) _____

19. On the line below, please indicate the substance(s) from the list in question 18 that you believe are involved with your substance abuse issue, e.g., your substances of choice.

_____

20. How many years have you been using alcohol and/or drugs on a daily basis?

a. □ less than 1 year
b. □ 1 to 5 years
c. □ more than 5 years
d. □ I was not using on a daily basis

21. At what age did you first realize that your alcohol and/or drug use was a problem for you?

a. □ before my 20th birthday
d. □ age 40 -49

b. □ age 20-29
c. □ age 30-39
e. □ after my 50th birthday
f. □ my use has never been a problem for me

22. Listed below are several different types of treatment settings for substance use/abuse. Please indicate **how many times you have been in each type of treatment**. (For example, if you have been in detox twice, you would write: _2_ Detox. If you have never been in Detox, you would write: _0_ Detox.) **Please answer all parts of the question**.

a. _____ Detox

b. _____ Hospital (not detox unit)

c. _____ Residential

d. _____ Outpatient

e. _____ Other (Specify) _____

23. What was your first day here at the Richmond Drug Court? _____
month/day/year

24. Since beginning here at the Drug Court, have you had any urine screenings that have come back positive/dirty? a. □ Yes b. □ No

25. How long has your most recent period of sobriety from alcohol been? (Please put a number, such as 0, 1, or 2 on each blank)
_____ years _____ months _____ weeks

26. How long has your most recent period of clean time from drugs been? (Please put a number, such as 0, 1, or 2 on each blank)
_____ years _____ months _____ weeks

27. Since this sobriety date, what has your average attendance at 12-step meetings been?
a. □ once a day or more (7 or more meetings a week)
b. □ 5-6 meetings a week
c. □ 3-4 meetings a week
d. □ 1-2 meetings a week
e. □ 3 meetings a month
f. □ 2 meetings a month (every other week)
g. □ once a month
h. □ less than one meeting a month

28. How many 12-step meetings have you attended in your lifetime?
a. □ 1 - 10
b. □ 11 - 20
c. □ 21 - 30
d. □ 31 - 40
e. □ 41 - 50
f. □ 51 - 60
g. □ 61 - 70
h. □ 71 -80
i. □ 81 - 90
j. □ 91 - 100
k. □ 101 - 110
l. □ 111 or more

29. Are you currently court ordered (or ordered by your probation/parole officer) to attend 12-step meetings? a. □ Yes b. □ No

30. Do you currently have a sponsor? a. □ Yes b. □ No

31. How helpful have you found 12-step meetings? (Please circle only one)

0	1	2	3	4
Not at all helpful	Not very helpful	Somewhat helpful	Helpful	Very helpful

32. Have you ever seen a counselor/therapist/social worker/psychologist/psychiatrist/etc. for help with a problem other than your substance use? a. □ Yes b. □ No

33. What was the issue(s) or diagnosis for which you sought help? _____

_____

_____

Thank you for your assistance.
We do appreciate the time and thought you put into completing this survey.

APPENDIX J

TREATMENT AND TOXICOLOGY REPORT

Name _____

Date collected _____

Number of treatment sessions attended . . . . . _____

Number of treatment sessions missed, excused absences . . . . _____

Number of treatment sessions missed, unexcused absences . . . _____

Total number of treatment sessions possible . . . . . _____

Number of Positive urine toxicology screenings . . . . . _____

Number of Negative urine toxicology screenings . . . . . _____

Total number of urine toxicology screenings . . . . . _____

VITA

Michelle M. Schmitt was born on April 23, 1968 in Lakenhealth, England, United Kingdom. She holds dual citizenship in the United States of America and Britain. She received a Bachelor's of Arts with dual majors in Psychology and Communication within the Honors Program from Purdue University, West Lafayette, Indiana in 1990. She received a Master's of Arts in Counseling Psychology from Boston College, Chestnut Hill, Massachusetts in 1996. She received a Master's of Science in Counseling Psychology from Virginia Commonwealth University in Richmond, Virginia in 1999. Michelle was the Programs and Research Specialist with the Commonwealth of Virginia's Department of Correctional Education for 3 years before completing her pre-doctoral internship with the Federal Bureau of Prisons at the U.S. Penitentiary in Atlanta, Georgia. She is currently the Adolescent Programs Coordinator for the Calvert County Family Network in Maryland.