379
N81d
No. 3570

EARLY RETENTION IN SUBSTANCE ABUSE TREATMENT: ATTACHMENT, INTERPERSONAL FUNCTIONING, AND PERCEPTIONS OF TREATMENT AS PREDICTORS

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Kay Bryant, B.A., M.S.
Denton, Texas

August, 1992

VIC

Bryant, Kay, Early Retention in Substance Abuse Treatment: Attachment, Interpersonal Functioning, and Perceptions of Treatment as Predictors. Doctor of Philosophy (Counseling Psychology), August, 1992, 191 pp., 7 tables, 1 illustration, references, 83 titles.

Factors related to early retention in substance abuse treatment were explored. This study was designed to explore the cognitive-perceptual roots of attrition from substance abuse treatment. Previous research on interpersonal issues among substance abusers and attachment theory suggested areas for investigation: the perception of early parental care, current interpersonal functioning, and perception of the substance abuse treatment program.

The first four hypotheses predicted that perception of early parental care, adult attachment, self-reported interpersonal style, and perceptions of the current treatment program (real-ideal difference score measuring dissatisfaction) would each show a relationship to early retention. The last hypothesis proposed that the variables would have a multivariate relationship to retention with greater predictive power associated with a variable's specificity and proximity to retention. The dependent variable was retention in treatment on the 15th day after admission.

Seventy-eight subjects were recruited from two Veteran's Administration Medical Centers. Sixty-four (82%) were still in treatment on the 15th day, while 14 left treatment early. Most of the subjects (66, 85%) were of African-American descent.

Only the fifth hypothesis received partial support. The avoidant attachment pattern of maintaining distance in relationships and perception of the treatment program (dissatisfaction) predicted early retention with about 64% accuracy, accounting for approximately 10% of the variance in retention. The influence of an avoidant style was the opposite of that predicted; subjects reporting more avoidant attachment patterns had fewer irregular discharges and less early attrition. A higher early retention rate was found than in previous studies. Conclusions were that interpersonal factors had a modest relationship to retention and that the heterogeneity of substance abusers' interpersonal styles was supported. Factors considered to influence the results were the small number of subjects leaving treatment, racial/ethnic composition of the sample, substance used by subjects, and length and interpersonal intensity of the treatment programs sampled. Implications for treatment and limitations of the study were discussed.

ACKNOWLEDGEMENTS

So many thank-yous, so little space. First, I would like to express my gratitude to the VA Medical Centers in Atlanta and Northport for allowing me to conduct my research there. My special thanks to Drs. Nancy D'Abadie, Colin Quinn, and Thomas Fulmer in Atlanta and to Dr. Janet Eschen, Dr. Dave Bernstein, Dr. Mike Marino, and Bill Cheney of Northport. Of equal importance, I want to thank those veterans who were willing to give the time and effort necessary to participate in this research. My sincerest gratitude goes out to each of those 78 men, along with my hope that each one of them reaches his goal of sobriety.

On the homefront, there are also many to thank. This paper, and indeed my degree, would not be if it had not been for my husband, Ted Wardlaw, who has continuously believed in me, supported me, and loved me. I thank my daughters, Shelby Ruth and Claire, for providing humor, perspective on what is truly important, and sheer joy. Special thanks and grateful love to my emotional support team, Drs. Jana Swart, Joanne Taylor, and David Bernstein and to my mother-in-law, Anne Wardlaw, who tirelessly cared for my children whenever I needed her. Thanks also to my chair, Dr. Vicki Campbell, for her extra time and her commitment to works of quality. Lastly, to the many others--my heartfelt thanks.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	v
LIST OF ILLUSTRATIONS	vi
Chapter	
I. INTRODUCTION TO STUDY	1
Substance Abuse Treatment	
Relational Problems of Substance Abusers	
Conclusion	
II. METHOD	52
Procedure	
Measures	
Hypotheses	
III. RESULTS	70
Description of Sample	
Description of Independent Measures	
Dependent Measure	
Major Findings	
IV. DISCUSSION	96
Discussion of the Findings	
Limitations of Study	
Recommendations for Future Research	
Conclusions and Implications	
APPENDICES	139
REFERENCES	178

LIST OF TABLES

Table		Page
1.	Means and Standard Deviations of Independent Variables	73
2.	Frequencies and Percentages on Dependent and Related Outcome Variables	81
3.	Results of Disceiminant Function Analysis of Possible Predictors of Retention in Drug Treatment	86
4.	Significant Findings	93
D-1.	Demographic Characteristics of the Sample . .	174
D-2.	Frequencies and Percentages of RRQ and CRQ Categories	176
D-3.	Correlation Matrix of Dependent and Independent Measures for Entire Sample	177

LIST OF ILLUSTRATION

Figure Page

1. Proposed Model of Factors in Attrition 180

CHAPTER I

INTRODUCTION TO STUDY

Drug abuse is a problem of major proportions in American society. President Bush has declared a "war on drugs" and unprecedented amounts of federal money are being spent to combat this societal problem. Newspapers are replete with reports of drug crimes, drug arrests, and drug-related stories on a daily basis. Though substance abuse is still linked to poverty and hopelessness, it is no longer centered in the lower socioeconomic classes. As Dr. Mitchell Rosenthal of the Phoenix House Foundation has said, "Drug abuse is now a mainstream problem...It is no longer society's outcasts who are the victims but it is society itself..." (Rosenthal, 1989, p. 146).

In the 1960's, illicit drug use was limited to about two percent of the general population of the United States (Federer, McKenry, & Howard, 1986). Since then the use of drugs has grown astronomically. By the end of the 1970's, about 50 million people had used illicit drugs. Twenty million used them regularly (Rosenthal, 1989). The epidemic continued to grow so that by 1982 almost two-thirds of young adults, ages 18-25, had used marijuana and by 1985, 17 percent of high school seniors and nearly one-third of young

adults had tried cocaine (Drug Abuse and Drug Abuse Research, The Second Triennial Report to Congress from the Secretary, Department of Health and Human Services, 1987). The economic cost of drug abuse to the American economy, through decreased productivity, unemployment, increased social welfare costs, increased law enforcement, etc., is estimated to be about $100 billion. In the 1987 Second Triennial Report to Congress on drug abuse, the Secretary of Health and Human Services reported that "Although there are limited grounds for optimism because of decreased use of some of the abused drugs since the last report, widespread drug abuse remains a serious public health concern." (p. 3).

Treatment facilities and programs for substance abuse have multiplied to meet the increased need for drug rehabilitation. Though reported success rates vary, there is evidence to support the benefits and success of drug treatment programs (Drug Abuse and Drug Abuse Research, 1987; McLellan, Luborsky, O'Brien, Barr & Evans, 1986). Factors which contribute to success in drug treatment have been extensively researched. Though several variables have shown some correlation with success (Allison & Hubbard, 1985; DeLeon, 1985; McLellan et al., 1986), research evidence has clearly and consistently identified one of the most important factors in treatment outcome to be length of time in treatment (Allison & Hubbard, 1985; DeLeon & Jainchill, 1986; McLellan et al., 1986; Rosenthal, 1989;

Siddall & Conway, 1988; Stark & Campbell, 1988). Yet the reality across all mental health programs, and especially drug rehabilitation programs, is high patient dropout (Craig, 1985; DeLeon & Jainchill, 1986; Siddall & Conway, 1988; Stark & Campbell, 1988). Program attrition is, therefore, one of the major obstacles to increasing the efficacy of drug treatment in this country.

Why is there such high patient dropout in drug rehabilitation programs? Research into this question has produced mixed, and at times contradictory, results. Several demographic variables have shown some correlation with attrition (Allison & Hubbard, 1985). Numerous psychological correlates have been explored, but the results are unclear, with only greater overall psychopathology showing a fairly consistent relationship with dropout (Allison & Hubbard, 1985; McLellan, Woody, Luborsky, O'Brien, & Druley, 1983). In at least one program (Craig, 1985), retention rates were improved by addressing programmatic variables and making the staff more sensitive and responsive to attrition issues. Even though this program was able to significantly reduce attrition rates, it left unanswered the question of why their program changes worked.

Several major forms of drug rehabilitation, e.g., Alcoholics Anonymous (AA), Narcotics Anonymous (NA), and drug-free therapeutic communities, effect their positive

results through a highly structured, interpersonal, group-support process. This is interesting in light of the fact that relational problems of some drug abusers have been clearly documented. At least some drug abusers tend to distrust others and avoid close relationships (Craig & Olson, 1988), to have small social support networks (Calsyn, Roszell, & Anderson, 1988; Grief & Porembski, 1987; Hawkins & Fraser, 1987), and poor social and coping skills (Hawkins, Catalano, & Wells, 1986; Miller & Eisler, 1977). Could the problem of high patient dropout in drug rehabilitation programs be related to these interpersonal patterns and problems?

One theory, which is generating significant current research interest, would seem to suggest that the answer to the above question may be "yes". Attachment theory is "an ethologically based theory of socioemotional bonds" (Bowlby, 1988, p. 1) which proposes that there is a connecting link between early attachment experiences and later socioemotional behavior. This link has to do with enduring cognitive representations of oneself and others formed during the earliest intimate relationships (Bowlby, 1988). Bowlby calls these "working models of self and other". These working models are believed to produce rules (conscious and/or unconscious) that govern a person's use or avoidance of interpersonal resources when faced with emotional stress (Kobak & Sceery, 1988). Attachment theory

talks about cognitive representations and their effect on perceptions and expectations, which in turn affect a person's response to stressful situations. Drug rehabilitation treatment, especially the early weeks when one is withdrawing and facing strong addictive urges, is stressful. In the face of this stress, many drug programs urge the addict to not only use the structure of the program, but to reach out to others, both therapists and fellow patients, for help and support to make it through the difficult transition to sobriety. Because of their attachment histories, this may be easier for some substance abusers than others. This study will look at attachment histories, dimensions of attachment relationships, interpersonal styles, and perceptions of substance abusers in milieu treatment programs and explore the effect of these variables on attrition.

Substance Abuse Treatment

As mentioned above, time spent in treatment appears to play a significant role in positive substance abuse treatment outcome. The present study is designed to look at one set of factors which may affect program attrition. The following section on "Treatment and Outcome Factors" is written in order to provide an overall context for the review of retention studies. A brief outline of treatment modalities and a definition of substance abuse treatment "success" is given, followed by an overview of outcome

variables which have been studied. There is a more extensive review of a set of studies on the psychiatric severity factor, since this variable appears to show an important direct effect on treatment outcome and since it may play an ancillary or interactive role in treatment retention.

Treatment and Outcome Factors

According to George DeLeon (1985), past Director of Research and Evaluation for the Phoenix House Foundation, federal policy has encouraged development of a variety of treatment interventions for substance abuse. The four major types of treatment currently employed in drug rehabilitation today are detoxification, methadone maintenance, outpatient settings, and drug-free residential therapeutic communities (TCs). Reported success rates for the different forms of treatment vary between programs, with various treatment populations, and with different definitions of "success" (DeLeon, 1985). In 1978, a study supported by the National Institute of Drug Abuse stated that the overall rate of success of drug rehabilitation programs in the U.S. was less than 10% (Federer et al., 1986). More recent studies, however, have found research evidence to support the effectiveness of drug rehabilitation programs across a variety of modalities and populations (Drug Abuse and Drug Abuse Research, 1987; DeLeon, Wexler, & Jainchill, 1982; McLellan, Luborsky, O'Brien, Woody, & Druley, 1982; McLellan

et al., 1986; Woody et al., 1983). Using a broad "improvement" definition of success, these studies found "substantial and pervasive improvements" (McLellan et al., 1986, p. 112) not only in the presenting problems of alcohol and drug abuse, but in the areas of employment, criminal behavior, and psychiatric status. This broad "improvement" definition of effectiveness is in line with the recommendation of the Secretary of Health and Human Services in the Second Triennial Report to Congress on Drug Abuse. That report suggested that "As with other chronic diseases such as arthritis, it is best to speak of remissions and improvement rather than "cures" in treating substance abusers." (Drug Abuse and Drug Abuse Research, 1987, p. 59).

Variables related to outcome. Numerous researchers have explored factors which might contribute to a successful outcome from drug rehabilitation. Variables studied generally fall into one of three categories: demographic characteristics; pretreatment individual factors; and within treatment factors (McLellan et al., 1986). The only demographic variables which show a small correlation with success are educational level (DeLeon, 1985; Federer et al., 1986; Friedman, Glickman, & Morrissey, 1986; McLellan et al., 1986) and employment status (McLellan et al., 1986). Pretreatment individual variables account for moderate portions of the variance. Several studies have found more lifetime criminal activity (Allison & Hubbard, 1985; Drug

Abuse and Drug Abuse Research, 1987; Friedman et al., 1986; DeLeon, 1985; McLellan et al., 1986) and higher psychiatric severity ratings (McLellan et al., 1986), as measured by the Addiction Severity Index (ASI), to be inversely related to successful drug rehabilitation outcome. Pretreatment variables for which there has been inconsistent support include prior treatment attempts (Federer et al., 1986), severity of alcohol and drug use immediately prior to treatment (DeLeon, 1985), and general self-concept (Federer et al., 1986). Within treatment variables usually include length of time in treatment and discharge status.

Psychiatric severity and time in treatment factors. One particularly comprehensive set of studies of treatment success factors collected data across a six program alcohol/drug, inpatient/outpatient network within the Philadelphia VA system (McLellan, Luborsky, Woody, O'Brien, & Druley, 1983; McLellan, Woody, Luborsky, O'Brien, & Druley, 1983; McLellan et al., 1986). In the initial retrospective study (McLellan, Luborsky, Woody, O'Brien, & Druley, 1983), pretreatment admission data was correlated with post-treatment improvement. This study affirmed the results of previous studies in that significant improvements in drug use, employment, and criminal activity were found across all programs studied. An evaluation of all patients across the six programs showed no significant outcome differences between the programs. The global 10-point

estimate of a patient's psychiatric symptomatology, based on the ASI, proved to be the best predictor of patient outcome across all drug rehabilitation programs. Additional analyses of the data, based on diagnosis of alcohol or drug abuse and psychiatric severity ratings, found that low psychiatric severity patients, about 15-20% of the population, showed high levels of improvement across all programs. High psychiatric severity patients (15-20%) exhibited just the opposite--low overall improvement no matter to which program they were assigned. High severity patients experienced some improvement in drug use and legal status, but in some cases their psychosocial adjustment worsened. The majority of patients (65%) in the mid-psychiatric severity range exhibited a pattern of improvement which appeared to be specific to particular patient-program matches.

A follow-up prospective study (McLellan, Woody, Luborsky, O'Brien, & Druley, 1983) looked at 130 alcohol abusers and 256 drug abusers, either matched to their appropriate program based on the guidelines produced in the previous study or mismatched according to those criteria. Matched patients showed significantly better within-treatment and post-treatment outcomes. During treatment, matched patients were rated by staff as more motivated for treatment, remained longer in treatment (significant only for the outpatient programs), and had fewer irregular

discharges. The researchers suggested two major findings from their study. First, previous findings on the general effectiveness of substance abuse treatment were reinforced. Secondly, treatment effectiveness was significantly enhanced by appropriate patient-treatment matching based on psychiatric severity ratings and a combination of other factors.

The McLellan et al. studies (1982, 1983, 1983) were conducted using adult male, veteran, largely lower SES populations. To test the generalizability of their results, a later study (McLellan et al., 1986) used the ASI to look at treatment effectiveness in three treatment centers: the Philadelphia VA Substance Abuse Unit, Eagleville Hospital near Philadelphia, and the Carrier Foundation near Princeton, NJ. This subject sample included adolescents, more females, more Caucasian patients, and patients with a wider variety of SES background than the previous studies. The results of the earlier ASI studies were reconfirmed even with this more diverse population. Again, this study found that the best overall individual predictive factor of treatment outcome was the global, psychiatric scale of the ASI. This study also found, however, "that for all centers and for both patient populations (drug and alcohol), more treatment and better discharge status were generally well related to better patient outcome" (p. 117). These

researchers agree that their findings indicate that more treatment generally means better outcome.

Retention Studies

Based on the McLellan et al. studies (1982, 1983, 1983, 1986), both the individual factor of psychiatric severity and the within treatment factor of time in treatment seem to play important roles in treatment outcome. Study after study has affirmed that the longer a patient is in treatment, the greater the improvement and the more probable the likelihood of sustained post-treatment sobriety (Allison & Hubbard, 1985; DeLeon & Jainchill, 1986; McLellan et al., 1986; Rosenthal, 1989; Siddall & Conway, 1988; Sladen & Mozdzierz, 1985; Stark & Campbell, 1988). Yet as mentioned before, high patient dropout is the norm for drug rehabilitation programs (Craig, 1985; DeLeon & Jainchill, 1986; Siddall & Conway, 1988; Stark & Campbell, 1988). For example, one study of 12-month therapeutic communities (DeLeon & Schwartz, 1984) found that retention rates ranged from 4% to 21%. This translates into a 96% to 79% dropout rate. For inpatient alcohol programs, the literature indicates an average 28% dropout rate (Sladen & Mozdzierz, 1985).

The importance of increased time in treatment is not just related to improved outcome for patients. Craig (1985) also addresses organizational and economic reasons for the significance of program retention. Organizational concerns

over attrition include maintaining a high daily unit census, reducing turnover rates, and increasing the average length of stay. These factors directly effect program profitability and amount of staff time spent in paperwork versus clinical service. In terms of most efficient use of economic resources, it would be helpful to predict which patients would most effectively use and benefit from treatment. Knowledge of retention factors could also aid in empirically-based program design (Siddall & Conway, 1988).

Though research on retention in drug treatment programs is extensive, it is rather difficult to organize because it is not programmatic in nature. In reviewing this literature, it was necessary to first establish what retention in drug treatment means. Questions then explored included: what types of variables have been studied and which variables have shown the most consistent support across studies?

Early versus later dropout. One of the first considerations in looking at this literature is to explore the relative time frames implied by retention. Since many dropouts occur in the first few weeks of therapy, Siddall & Conway (1988) argue that programs need to maximize attrition prevention efforts at the beginning of patient contact. A study of seven therapeutic communities (DeLeon, 1985) verified the fact of early attrition. Though the annual retention rates varied, a clear pattern of retention was

seen across the various drug rehabilitation programs. Dropout peaked around the 15th day after admission and retention increased steadily thereafter. After 15 days, the possibility of dropout decreased as length of stay increased. This has led to some speculation about differences between early and later dropouts. Craig (1985) suggests that there may be different factors involved in early versus later dropout, while Stark and Campbell (1988) say their study argues against such differences. Based on their research, DeLeon and Jainchill (1986) suggest that early retention may be more related to "initial readiness and suitability", while program factors combine with or increase the influence of these more individual variables in later dropout.

While the different factors involved with early versus later dropout are not clear, the present study will focus on factors affecting early dropout. The reasons for this are threefold. First, early dropout seems to be the more numerically significant problem (DeLeon, 1985). Secondly, this study is interested in individual factors and there is some thought that such factors might be most important in early dropout (DeLeon & Jainchill, 1986). Lastly, the subject population for this study will be drawn from therapeutic community programs and, again, early dropout has been identified as a significant problem in this treatment modality (DeLeon, 1985).

Demographic variables. Many demographic variables have been studied to see if there is any correlation with retention. These include age; gender; SES; employment status; educational level; race; level of social stability; nature of treatment referral; marital status; prior treatment; primary drug of choice; age of first use; and method or frequency of use (Allison & Hubbard, 1985; Capone et al., 1986; Linn, Shares, Webb, & Pratt, 1979; Roffee, 1981). In general, several demographic variables have shown some relationship to retention, but none of these have been consistently verified across most studies (Capone et al., 1986; Craig, 1985; Craig, Rogalski, & Veltri, 1982; Linn et al., 1979; Roffee, 1981; Siddall & Conway, 1988; Stark & Campbell, 1988). A 1985 literature review by Allison and Hubbard found overall positive treatment outcomes related to time in treatment and legal pressure, results similar to those mentioned above in relation to success in treatment. In addition, their review found that attrition was associated with depression, race or minority status, single status, unemployment, more criminal convictions, and polydrug abuse. But the generalizability of the effect of these demographic, psychosocial factors on attrition across various treatment programs is still in question.

Psychopathology. There seems to be some evidence that greater psychopathology, in general, might be related to

attrition. A recent major literature review on drug treatment process says that there is some evidence that "greater psychological disturbance" (Allison & Hubbard, 1985, p. 1335) may contribute to patient attrition, but that the evidence is mixed. Certainly, the McLellan et al. studies (1982, 1983, 1983, 1986) mentioned above have shown a relationship between overall psychiatric severity, as measured by the ASI, and treatment outcome. Though only outpatients showed improved retention rates in their prospective patient-matching study (McLellan, Woody, Luborsky, O'Brien, & Druley, 1983), the factor of psychiatric severity does seem to play some role in the effectiveness of substance abuse treatment. Because retention is also related to treatment effectiveness, it seems logical to expect some association between psychiatric severity and retention.

Yet, as suggested in Allison and Hubbard's review (1985), individual studies using psychological measures have produced mixed results. Studies using both the Minnesota Multiphasic Personality Inventory (MMPI) and/or the Millon Clinical Multiaxial Inventory (MCMI) have failed to consistently account for attrition in drug rehabilitation programs. Though several studies have shown retention to be inversely related to overall elevation on MMPI or MCMI scales (Foureman, Parks, & Gardin, 1981; Keegan & Lachar, 1979; Zuckerman, Sola, Masterson, & Angelone, 1975), other

researchers (Craig, 1984a; Craig, 1984b; Craig, 1985; Siddall & Conway, 1988) have not found this to be the case. In a series of studies comparing completers and dropouts in an inpatient drug abuse detox/rehabilitation unit, Craig (1985) concluded that "...there were no statistically significant differences in personality style or clinical syndromes associated with dropouts" (p. 215). He asserts that personality tests are "not particularly useful" (p. 215) in predicting attrition.

Craig's opinion (1985) is in direct contrast to an earlier finding (Keegan & Lachar, 1979) that higher MMPI elevations did distinguish completers and dropouts among 174 polydrug abusers admitted to an inpatient program. Keegan and Lachar found that dropouts had higher mean elevations on 6 of 15 scales and overall, exhibited more "psychotic" than "neurotic" profiles. Another study (Sladen & Mozdzierz, 1985) using inpatient alcohol abusers had some success in developing a new MMPI scale to identify program dropouts. Using archival data, specific MMPI items which separated completers from dropouts in a sample group of 93 male veterans were identified and then cross-validated on another group of 90 veterans. Classification accuracy was 91.36% for the first group and 75.34% for the second. Though there were some consistent differences between completers and dropouts on Scales F and Sc, the new "AMA scale" had little overall face validity. Thus, though the scale might have

some empirical validity, it lacks theoretical explanation and so adds little to our knowledge of factors contributing to attrition. The authors of this study stated that the efficacy of their new scale is "somewhat limited" (p. 860) and that other pertinent variables still need to be identified in relation to retention. They also noted that their scale needed to be validated in a prospective study.

Some of the inconsistency in studies trying to link retention to psychopathology seems centered around the use of traditional psychological measures of this factor, i.e., the MMPI and MCMI. One early study of psychopathology and retention (DeLeon, 1974) used five different psychological instruments to look at the psychiatric severity of 200 drug addicts at the Phoenix House therapeutic community program. This study looked at several psychological factors including schizophrenia, depression, manifest anxiety, and hostility. Results indicated that though all of the patients scored within the psychiatric level on all tests, those who dropped out prematurely were significantly more pathological across all measures. The data in this study also suggested that there was a decrease in pathology, as measured by the tests used, over the course of treatment. Even though some significant differences between male and female patients were found in this study, the robustness of the overall pathology-dropout relationship and the general improvement across time in treatment remained.

Interpersonal factors. Several studies on retention have found some significant interpersonal correlates of attrition. Craig (1985) and Craig and Olson (1988) talk about the sociopathic nature of drug user's interpersonal attitudes. Characteristics of this personality style are impulsivity, externalization of problems, little anxiety, and distrust and avoidance of interpersonal relationships. In their recent study, Craig and Olson used the Adjective Checklist to look at psychological need hierarchies. They speculated that a test designed to tap "more normal psychological dimensions" (p. 90) might provide more useful information concerning premature termination. Dropouts in their study were found to have significantly higher needs for autonomy and aggression, while having a significantly lower need for deference [i.e.,"seeking and sustaining subordinate roles in relationship to others" (Gough & Heilbrun, 1965)] than program persisters. There was also a tendency for dropouts to show reduced needs for nurturance and affiliation. Again, the picture is of a person who tends to blame, avoid, and distrust others. This interpersonal style seems consistent with Siddall and Conway's (1988) finding that program completers tended to have better social support and with Roffee's (1981) characterization of dropouts as socially reclusive. Keegan and Lachar (1979) described dropouts in their study as having more discomfort, alienation, impulsivity, and

defensiveness than completers. There seems to be some evidence for a pattern of externalization and interpersonal avoidance among dropouts in substance abuse programs.

Patient perceptions. One study looking at more individual psychological variables focused on "how they (drug abusers) perceive themselves, their circumstances and their life options at the time of treatment" (DeLeon & Jainchill, 1986, p. 203), rather than looking at specific background or traditional psychological data. Using a specially-developed instrument (the CMRS), four factors were explored in relation to short (30 days) and long-term (150 days) dropout at Phoenix House, a community-based drug treatment program utilizing the therapeutic community model. The four factors were labelled Circumstances, Motivation, Readiness, and Suitability. Circumstances are external reasons that cause people to seek treatment, such as losses or fears. Examples in this category are loss of job, loss of family support, fear of jail, or fear of physical complications of drug use. Motivation refers to negative or positive intrinsic reasons for change, such as guilt, despair, or belief that one can grow, and desire to improve one's life. Readiness has to do with perceived need for treatment as compared with other options, such as curing oneself. Suitability is concerned with the match between an individual and treatment modality, i.e. the therapeutic community philosophy and style in the case of this study.

Correlates of short-term dropout were looked at for 400 first-time admissions in 1984 and 1985, while correlates of short- and long-term dropout were explored in a group of 75 admissions. Unlike previous studies, DeLeon and Jainchill (1986) did not find that circumstances, such as legal pressure (Allison & Hubbard, 1985), were important in predicting dropout or retention in their population. Motivation showed some relationship to dropout, but readiness and suitability were the strongest predictors of length of stay in treatment. In general, there were fewer significant correlates for the long-term retention group. The authors suggest that their instrument might help identify clients at risk for early dropout and thus allow for attrition prevention measures to be practiced at the beginning of treatment. They assert that retention is related to client, treatment, and nontreatment conditions and that the perceptions of clients are very important. Client perceptions of the severity of their problem, their need for treatment, and treatment alternatives appear in this study to be related to treatment tenure. The authors urge caution in generalizing from their results, however, since the CMRS is an experimental instrument which has not been tested for reliability and validity.

One other large study looked at the perception of clients as it related to performance during treatment and treatment outcomes (Simpson & Lloyd, 1979). This study

interviewed 2,178 black and white males who had been admitted to the national Drug Abuse Treatment Program (DARP) during 1969-1972. Though the outcome of this study did suggest that there may be some relationship between patient perceptions and retention, there are significant validity considerations with the results due to the retrospective nature of the study.

Program factors. Rather than looking at patient factors, such as demographic variables or psychological profiles, Craig (1985) claimed to have reduced attrition in his two week detoxification/rehabilitation unit by focusing on program issues. He suggested that effective intervention cannot occur until staff realize that retention is a staff, not a patient, problem. He reported that through program changes, they reduced attrition from 50% to 20%. As a first step in his study, Craig asked patients why they were leaving AMA (Against Medical Advice). The most frequent reason given by patients dropping out was "I feel better", followed by "financial problems" and "problems at home". From the staff perspective, the primary reason most of these patients left was that they were not ready for treatment. Craig attributed this discrepancy to the impulsive, externalizing nature of drug abuse clients, but instructed the staff to innoculate patients by predicting that they will feel better and want to leave before it is best for them to do so.

Next, Craig and his staff explored the differences between 75 program completers and 75 dropouts on 14 variables ranging from demographic factors to treatment history to program variables such as staff absences and ward census counts (Craig et al., 1982). The factors which were shown to correlate positively with program completion were higher staff absences by primary therapist, more patients on the ward, and methadone therapy. As Craig says, the results seemed to suggest that patients tended to stay when their basic needs were met without too much being asked of them. Craig says that the interaction of patient with ward environment seemed to be more important than any individual subject variables. Two additional studies looking at MMPI and MCMI differences between program dropouts and completers produced no significant results (Craig, 1984a; Craig, 1984b).

During the course of these studies, several programmatic changes were made to deal with patient attrition. Craig attributed the reduction in attrition to the additive effect of all program changes made, as well as the simple fact of greater attention being focused on the problem. He stated that "...retention rates are improving over time with no basic change in the kinds of patients admitted to our program." (p. 218). While a causal link cannot be made, there does seem to be some correlational

evidence for the importance of program factors in retention, at least for this particular program.

Summary on Factors Affecting Retention

From the above review of the literature on the outcomes of substance abuse treatment, it is clear that such treatment does work. General improvement in drug use, as well as in other areas, is seen across programs (Drug Abuse and Drug Abuse Research, 1987). Research has also shown that there is a positive relationship between time in treatment, i.e., retention, and successful treatment outcome (Allison & Hubbard, 1985; DeLeon & Jainchill, 1986; McLellan et al., 1986; Rosenthal, 1989; Siddall & Conway, 1988; Sladen & Mozdzierz, 1985; Stark & Campbell, 1988). There is as yet, however, no clear, consistent empirical pattern linking certain factors to patient retention or attrition.

Relational Problems of Substance Abusers

A primary contention of the proposed study is that by looking at the current interpersonal functioning and cognitive perceptions of substance abusers, one may find stronger and more direct correlations with attrition in substance abuse programs.

Intimacy Issues Among Substance Abusers

Intimacy dysfunction and substance abuse. In a 1987 monograph on chemical dependency and intimacy dysfunction, the statement is made that "Chemical dependency and codependency are inextricably bound with intimacy

dysfunction" (Smalley & Coleman, 1987, p. 230). The authors go on to say that substance abusers are often involved in "either a frustrating attempt to remain non-intimate or a frustrated and desperate struggle to create intimacy" (p. 230). The editor of this monograph, Dr. Eli Coleman, backs up this assertion primarily with clinical evidence, but makes some references to empirical studies also.

Dr. Coleman defines intimacy as a description of a relationship between two people in which individuals have the ability to express both positive and negative feelings in such a way that it contributes to the psychological well-being of both persons involved. Intimacy dysfunction "is a developmental or pathological barrier to engaging in intimate behavior or relationships" (Coleman, 1987, p. 16). He then lists three "levels" of intimacy dysfunction: "1) physical abuse, emotional neglect, or sexual abuse of children; 2) psychosexual disorders; and, 3) relationship or marital discord... " (p. 16). All three levels, as seen in Dr. Coleman's review of the literature, have been shown to be correlated with chemical abuse and dependency. Chemical abuse may precede and/or follow the above-mentioned intimacy problems, often in an entwined spiral of intergenerational family dysfunction. Dr. Coleman asserts that cause and effect are not important in addressing this issue. Intimacy dysfunction is so intertwined with chemical abuse and dependency that whether it is the cause or the

consequence of addictive behavior doesn't matter. Dr. Coleman suggests, that in most cases, it is probably both.

The major concern of Dr. Coleman and other contributors to the monograph on chemical dependency and intimacy dysfunction is that intimacy problems are often not addressed in the diagnosis, treatment, or aftercare of substance abusers (Coleman, 1987). If these issues are not addressed at some point in treatment, the newly sober individual will face the stresses of life with a serious interpersonal handicap. Inability to develop more satisfying relationships could lead to loneliness, isolation, and depression. The resultant lack of intimate relationships to rely on in times of stress could also be a serious problem for someone trying to remain sober. The present study's concern with program retention takes one step back from Dr. Coleman's problem of relapse prevention. Yet his conceptualization of substance abusers' approach or avoidance tendencies toward intimacy may also play a role in this treatment issue.

Separation-attachment imbalance. Another way of conceptualizing intimacy dysfunction is as an imbalance of separation and attachment (Colgan, 1987). This conceptual approach posits that one must have an appropriate balance between affirming one's own self in a relationship (separation) and acknowledging one's need and desire for connections with others (attachment). Without this balance,

over-separation or over-attachment often leads to "impaired interpersonal communication, unsolved intrapsychic and interpersonal stress, and dysfunctional behavior patterns designed to cope with stresses" (Colgan, 1987, p. 208). Substance abuse would then be conceptualized as ineffective coping behavior (dysfunctional attachment to a chemical) in order to achieve pseudo-attachment or pseudo-separation (Colgan, 1987; Rogalski, 1986). As defined by Colgan, over-attachment "involves a pattern of subsuming one's individual identity under the identity of a relationship" (p. 209). This relationship can be to another person, a group, an idea, a job, or a chemical agent. Over-separation is a pattern in which one defines oneself by "reacting to, as opposed to interacting with, others" (Colgan, 1987, p. 209). The problems some substance abusers have with authority figures and/or with control in relationships seems to fit within this definition. Colgan states that both over-attachment and over-separation can be identified by affective, behavioral, and cognitive components. Both patterns have been observed in substance abusers (Smalley & Coleman, 1987), and again, the question is whether interpersonal styles of over-attachment or over-separation might influence individual patient attrition.

Attachment Theory

For years, psychoanalytic and psychological theory have asserted that the roots of good or poor mental health are

embedded in the early years of childhood. Research, however, consistently failed to find evidence to support this contention. Attachment theory, "an ethologically based theory of socioemotional bonds" (Bowlby, 1988, p. 1), in recent years has begun to reverse the trend of negative research findings and produce an increasingly impressive body of data. This data supports the importance of early childhood experiences, particularly the crucial nature of formative caretaker-child relationships. Building on the work of Bowlby and others working in this field (Ainsworth, 1982; Ainsworth, 1989), attachment theory hypothesizes "...that each person's resilience or vulnerability to stressful life events [across the lifespan] is determined to a very significant degree by the pattern of attachment he or she develops during the early years..." (Bowlby, 1988, p. 8). Attachment theory proposes that the connecting link between early attachment experiences and later socioemotional behavior has to do with the enduring cognitive representations, or working models, of oneself and others formed during the earliest intimate relationships. Attachment theorists have identified three principal patterns of attachment: secure attachment; anxious resistent (anxious/ambivalent) attachment; and, anxious avoidant (avoidant) attachment (Bowlby, 1988). A possible fourth style has been identified in some infant studies (Main, Kaplan, & Cassidy, 1985) and represents a third

insecure style of attachment. More recently, Bartholomew (1990) has proposed a fourth pattern of adult attachment. This pattern is identified as a "fearful" avoidant as opposed to the already-identified "dismissing" avoidant seen in previous studies with adults. Whether this fourth category is unique to adults or is a continuation of the previously-observed fourth infant pattern is unknown since this fourth type has only begun to be acknowledged and explored in the attachment literature.

People who have developed a secure attachment pattern have a working model in their minds which expects that significant others will be "available, responsive, and helpful" (Bowlby, 1988, p. 4) in stressful situations. Anxious/ambivalent persons are uncertain about the availability and helpfulness of others in difficult times, whereas avoidant individuals do not expect helpful responses from others. On the contrary, persons with an avoidant pattern expect, consciously or unconsciously, to be rejected if they seek help or comfort when stressed. Avoidant persons "attempt to live their life without the love and support of others" (Bowlby, p. 4). "Fearful" avoidants, as suggested by Bartholomew (1990), avoid intimacy not just because they expect to be rejected, but because they feel "undeserving of the love and support of others" (p. 147).

Related Research

Attachment research. One recent study in the area of attachment sought empirical evidence of the relationship between working models and perceptions of self and others in college-age adolescents (Kobak & Sceery, 1988). The researchers in this study were looking for "predictable affective and representational correlates of attachment organization during late adolescence" (p. 137). They theorized that, based on attachment theory, working models should produce rules (conscious and/or unconscious) that govern a person's use or avoidance of interpersonal resources when faced with emotional stress. In this study, the emotional stressor was the first year in college. The affective hypotheses of this study were based on attachment studies with infants. The researchers thought that secure adolescents would be seen as having greater ego-resilience; that dismissing (avoidant) adolescents would appear more hostile to peers; and that preoccupied (anxious/ambivalent) young people would show more anxiety and less self-confidence. Cognitive hypotheses were drawn from clinical sources, since there is little empirical work on adults to reference. Their cognitive-based predictions were that the secure subjects would see themselves as experiencing little distress and others as supportive. Dismissive subjects were hypothesized to minimize self-distress while seeing others as non-supportive. In contrast, preoccupied subjects were

expected to see themselves as distressed and others as supportive. Subjects were 53 first-year students attending a state university. These study participants were given the Adult Attachment Interview and twice measured on self-report instruments designed to tap perceptions of self and others. Close acquaintances of the subjects were recruited to provide Q-sort descriptions of some of the subject's personality characteristics. Each subject was described by two Q-sort assessments.

Results were in the direction predicted (Kobak & Sceery, 1988). Subjects classified as secure by the Adult Attachment Interview were seen by their peers as more "ego-resilient" and saw themselves as less generally distressed and other people as more generally supportive than the other two groups of subjects. Anxious/ambivalent subjects (labelled "preoccupied" [with attachment] by Kobak and Sceery) showed more anxiety and less self-confidence as rated by their peers. They saw themselves as more generally distressed, while seeing others as generally supportive. In contrast, avoidant subjects (labelled "dismissing" by the researchers) were seen as more hostile by peers. Avoidants tended to minimize their own distress and to see others as generally non-supportive.

In discussing their results, Kobak and Sceery (1988) suggested that the invariant aspects of attachment theory need to be delineated if the theory is going to be

researched across the lifespan and across varying assessment contexts. They suggested that viewing attachment theory as "a theory of affect regulation" (p. 142) is one approach for doing this. Patterns of attachment could then be seen as producing mental "rules" which influence a person's response to stressful situations:

> For example, secure attachment would be organized by rules that allow acknowledgment of distress and turning to others for support, avoidant attachment by rules that restrict acknowledgment of distress and the associated attachment attempts to seek comfort and support, and ambivalent attachment by rules that direct attention toward distress and attachment figures in a hypervigilant manner that inhibits the development of autonomy and self-confidence. (p. 142)

In other words, according to the results of this study, a person's tendency to utilize others (i.e., interpersonal resources) during times of stress might be related to patterns of acknowledging or minimizing self-distress and recognizing or minimizing the supportiveness of others. These patterns, suggest Kobak and Sceery, may be related to early attachment experiences and current attachment styles.

Homogeneity versus heterogeneity of interpersonal styles. In the literature on drug abuse, there often emerges a picture of the "modal" substance abuser, even

though the validity of such an "addictive personality" has rarely been put to an empirical test. This person is characterized as compulsively independent--denying interpersonal needs and avoiding intimacy. According to this description, the typical substance abuser distrusts others and feels a significant need to be the one "in control" in interpersonal relationships. This often leads to conflict with authority figures. Such a person externalizes blame and feelings and so denies internal anxiety or stress. Because this person cannot admit personal anxiety, he or she acts impulsively to dispel any negative feelings that can't be eliminated by externalization (Calsyn et al., 1988; Craig, 1985; Craig & Olson, 1988; Malow, West, Williams, & Sutker, 1989; Rogalski, 1986). In terms of personality disorders as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R; American Psychiatric Association, 1987), such a description tends to fall within the "Cluster B" personality disorders, particularly antisocial and borderline personality diagnoses.

A major problem with the above description of the "modal" substance abuser is that it has often led to a focus on an addictive personality style. This concept tends to lump all substance abusers into a homogeneous category, thus blurring any within-group differences which might shed light on the problem of attrition or improve the efficacy of

individualized substance abuse treatment. Just as there is evidence for some homogeneity among substance abusers in general (DeLeon, 1974; Calsyn et al., 1988), there are also studies which use more specific measures and emphasize the differences within this population (Calsyn et al., 1988; Craig & Olson, 1988).

One recent study (Malow et al., 1989) explored the incidence of DSM-III-R personality disorders and related symptoms in 117 male veterans admitted to a Veterans Administration Drug Dependence Treatment Unit. Only subjects with a primary opioid or cocaine dependence were recruited for the study and each subject was interviewed using the Structured Clinical Interview for DSM-III-R. The most frequently identified personality disorder among the drug abusers in this study was borderline (16%), followed by antisocial (15%) and paranoid (7%). Both opioid and cocaine abusers were similar in antisocial diagnosis rates, but opioid abusers were more often labelled borderline. Overall, more than three-fourths of the opioid abusers received some personality disorder label as opposed to less than one-third of the cocaine abusers. About half of the drug abusers in this study received no diagnosis of personality disorder at all. The authors stated that this baseline of personality disorders was lower than expected and attributed this to their study's exclusion of polydrug abusers (though subjects were not excluded for use of

alcohol, marijuana, or other opioid derivatives). As for the finding of less personality disorder among the cocaine addicts, the authors speculated that cocaine may be used by less pathological individuals because of its popularity, accessibility and recreational appeal. They also cited another study which found that cocaine abusers enter treatment sooner and with more social support and fewer chronic problems in living than other drug-abusing groups. In general, this study seems to support the idea of heterogeneity of personality patterns among drug abusers.

Along the same lines, another recent study (Calsyn et al., 1988) found evidence to support heterogeneity of interpersonal styles among substance abusers. Subjects were 111 male veterans in outpatient drug treatment at the Seattle Veterans Administration Medical Center. Each subject was given the Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B), the Minnesota Multiphasic Personality Inventory-168 (MMPI-168), the Sixteen Personality Factors Questionnaire-Form C (16PF), and the Addiction Severity Index (ASI). The authors of this study had three goals in mind: first, to look at the "commonality and heterogeneity of interpersonal styles of heroin abusers" (p. 823), especially as labelled by Ryan's typology based on the FIRO-B; secondly, to compare this group of drug abusers to normative samples; and thirdly, to compare interpersonal style types with other empirical and demographic data in

order to validate Ryan's typology. Ryan uses the expressed and wanted scores in each of the three FIRO-B dimensions (inclusion, control, affection) to identify 19 subtypes of interpersonal styles. The authors made specific predictions in most of these categories.

The results of the Calsyn et al. (1988) study found that their subjects were more likely to be categorized in the three low expressed-low wanted categories of "loner", "rebel", and "pessimist", which provides some evidence for homogeneity in this population. Yet, while the researchers reported that their study confirmed general interpersonal problems among substance abusers, they also found a "wide diversity of interpersonal styles" (p. 829) in their population. While about 75% of this sample indicated few friendships and 47% said they had difficulty with intimate relationships, about half of these substance abusers reported some level of comfort with intimacy and the absence of a sociopathic "rebel" stance on the control dimension. In summary, though this group of substance abusers as a whole differed from reported general population norms based on Ryan's typology, the authors pointed out the importance of acknowledging the within-group differences.

One other previously mentioned study bears citing here. Craig and Olson (1988) in their study of substance abusers found significant differences between those who dropped out of treatment and those who remained. Using the Adjective

Checklist, these researchers reported that their dropout subjects had significantly higher needs for autonomy and aggression and a significantly lower need for deference. Again, the differences found among substance abusers were along interpersonal dimensions.

The above studies suggest the possibility of more heterogeneity among substance abusers than has been assumed in the past. Though the existence of substance abusers who fit the "modal" pattern was affirmed, a variety of personality disorders (or lack thereof) and of interpersonal styles was found. In particular, these studies seem to point out a diversity of relational patterns among substance abusers.

Summary on Interpersonal Problems of Substance Abusers

The interpersonal problems of some substance abusers have been documented clinically and empirically. A major problem in the literature has been that the assumption of an addictive personality style has clouded the heterogeneity within this clinical population. Such heterogeneity is now being documented empirically (Calsyn et al., 1988; Craig & Olson, 1988; Malow et al., 1989). There is evidence of diversity among substance abusers in both the incidence and type of interpersonal styles, as well as in personality disorders. Might such differences be linked to the problem of program attrition?

Intimacy problems in substance abusers have been conceptualized as approach or avoidance tendencies which lead to patterns of over-attachment or over-separation in relationships (Coleman, 1987; Colgan, 1987). Related to this, empirical studies have repeatedly found some level of interpersonal problems among some substance abusers (Craig & Olson, 1988; Calsyn et al., 1988; Keegan & Lachar, 1979; Roffee, 1981; Siddall & Conway, 1988). These clinical and empirical observations concerning substance abusers seem to provide a possible link between the interpersonal functioning of substance abusers and the current theoretical and research-based understanding of attachment theory.

Conclusion

Current State of Knowledge

Since the latter 1970's, substance abuse has been one of the major societal problems facing the United States. Treatment programs have proliferated to meet the increasing need for rehabilitation and there is general empirical support for the value of the major forms of drug treatment (Drug Abuse and Drug Abuse Research, 1987; McLellan et al., 1986). High patient attrition, however, continues to be a major problem in substance abuse treatment (Craig, 1985; DeLeon & Jainchill, 1986; Siddall & Conway, 1988; Stark & Campbell, 1988).

It is clear from the drug rehabilitation outcome research that time in treatment is related to better patient outcome (Allison & Hubbard, 1985; DeLeon & Jainchill, 1986; McLellan et al., 1986; Rosenthal, 1989; Siddall & Conway, 1988; Sladen & Mozdzierz, 1985; Stark & Campbell, 1988). Given this consistent finding, the question of why there is such high patient dropout early in drug treatment becomes even more important. Based on the state of research at this point in time, we cannot answer this question. Though much research has been conducted in this area, no factor or set of factors have shown a strong and consistent relationship to program attrition across studies.

In particular, it is not clear what individual, client variables affect the decision to leave or continue with treatment. Research on demographic-type variables which might affect retention has identified several which show some correlation with attrition: race or minority status, being unmarried, polydrug use, being unemployed, and having more criminal convictions. Unfortunately, however, none of these demographic factors have proven to be completely generalizable across different studies and programs. Studies on the effect of level of psychopathology on retention have shown some indication of an inverse relationship between these two factors (Foureman et al., 1981; Keegan & Lachar, 1979; McLellan, Luborsky, Woody, O'Brien, & Druley, 1983; Zuckerman et al., 1975), but,

again, results have not been consistent enough to be conclusive. One other study (DeLeon & Jainchill, 1986) which looked at variables more immediately related to retention seems to have identified factors which might have some potential value in understanding the problem of attrition. Using their own instrument, DeLeon and Jainchill found that the best correlates of patient dropout had to do with patients' perceived need for treatment and their feelings about the particular type of treatment program they were entering. But their results have yet to be replicated or expanded upon.

A potentially fruitful area to be explored in regard to the issue of attrition in substance abuse treatment appears to be the interpersonal problems of some substance abusers. There is clinical and empirical evidence of the interpersonal, relational problems of some substance abusers (Calsyn et al., 1988; Craig & Olson, 1988; Coleman, 1987; Colgan, 1987; Hawkins et al., 1986; Hawkins & Fraser, 1987; Grief & Porembski, 1987; Smalley & Coleman, 1987). Both clinical and research literature report a type of substance abuser who avoids intimacy, is compulsively self-reliant, and defines him- or herself by "reacting to, as opposed to interacting with, others" (Colgan, 1987, p. 209). Yet recent studies (Calsyn et al., 1988; Craig & Olson, 1988; Malow et al., 1989) have shown that while this interpersonal style is seen in a significant number of substance abusers,

it does not constitute a generic "addictive personality style". Indeed, one recent study, seems to suggest that those patients who are more significantly and rigidly stuck in this stereotyped addictive interpersonal pattern may be the ones who are most prone to drop out of substance abuse treatment (Craig & Olson, 1988).

Attachment theory provides a potentially useful link between interpersonal style and the importance of perceptions. The concept of cognitive-affective schemata, or "working models", posits that one's perceptions of self and others are influenced not just by reality, but by a general perceptual filter based on early attachment experiences. Patterns of attachment have received clinical and empirical support in infants and young children (Ainsworth, 1982) and are increasingly being studied in adults. While Kobak and Sceery (1988) did not look at a substance-abusing population, their findings provide an important empirical link between early attachment experiences and cognitive and affective correlates of current interpersonal functioning.

Methodological Issues

Research into retention problems in substance abuse treatment has given us little unambiguous knowledge to date. In general, empirical data has provided some hints as to what factors may or may not contribute to program attrition, but there is no definitive data at this time. This state of

affairs seems attributable to three significant problems with the present state of research on retention: first, the types of variables which have been explored; secondly, a lack of concern with the generalizability of results; and thirdly, research which has not been scientifically rigorous or complex.

Variables. One problem area in the drug research on retention has to do with the nature of the variables which have been explored. Many of the variables studied tend to be distal rather than proximal to the actual decision to leave drug treatment. Demographic variables or measures of pathology may produce inconsistent results in helping identify potential dropouts because these factors do not necessarily affect retention directly. Though these variables may correlate with attrition, they lack any real explanatory power. For example, demographic variables may not directly affect attrition, but may provide clues to more immediate factors, such as perceptions of a program or ability to admit a need for help, which may directly influence a patient's decision to leave treatment prematurely. To discover what contributes to some patients remaining in drug rehabilitation treatment while others leave, research needs to look at variables which provide more specific and richer descriptions of individual differences in cognitions, affect, and/or behavior.

A second variable-centered concern with the research has to do with the archival and retrospective nature of much of the research. Variables in many studies were chosen not because they were theoretically hypothesized to relate to retention, but because they were readily available through screening data or routine testing. This highlights an additional concern that almost none of the research in this area has been theoretically-based and, so, it contributes little to the overall picture of drug abuse treatment. There is a significant need for prospective, planned research which seeks to understand and/or predict the attrition phenomenon, not just describe those who dropped out.

Lastly, many variables in retention research have been chosen based on assumptions of homogeneity of personality or interpersonal styles and significant pathology among substance abusers. A focus on a deviance-based, overly-stereotyped view of substance abusers has often precluded the exploration of more everyday dimensions of behavior which may affect program retention, e.g., interpersonal styles or perceptions. Recent studies (Calsyn et al., 1988; Malow et al., 1989) have begun to show the fallacy in assuming homogeneous depth and type of personality disorder or interpersonal style among substance abusers.

The studies by McLellan et al. (1982, 1983, 1983, 1986) have also pointed out the inaccuracy of assuming a

homogeneous level of psychiatric severity among substance abusers. The mixed results concerning psychopathology and attrition may be due to a confusion of psychopathological personality variables versus psychiatric severity. The Addiction Severity Index taps psychiatric severity by asking about specific psychotic behavior, prior hospitalizations, and use of psychotropic medication. While certain personalities may show up as more pathological on the MMPI or MCMI, it does not necessarily follow that these persons have a significant psychiatric history. The literature on drug treatment and outcome may need to be more specific in identifying exactly what aspects of functioning they are attempting to measure.

Generalizability. The lack of concern for generalizability centers around the need for replication of results in the drug treatment literature. With the exception of the work by McLellan and his associates (1982, 1983, 1983, 1986), the present review of drug treatment retention studies revealed few studies which tried to replicate and validate their results. A related issue is the scarcity of studies which explore their hypotheses concerning retention in more than one program. Are retention issues primarily program-specific as some have argued (Craig, 1984), or are there generalizable individual factors which may contribute to dropout in all substance

abuse programs? This question is difficult to answer based on currently available research.

Another major problem with the research and literature on drug rehabilitation is lack of a clearly stated theory underlying substance abuse treatment and research. Theoretically-based research tends to avoid the "search and find", purely descriptive studies which usually have little generalizability across programs, patients, or time. The lack of a theoretical basis also fails to provide a clinical context for the application of results (Allison & Hubbard, 1985).

Research design. Much of the research in the area of retention fails to look at interactions between variables. Allison and Hubbard (1985), in their review of the drug treatment research literature, state that since most studies in this area fail to explore the "complex relationships" among client, treatment, and outcome variables, "the nature of their contribution to treatment process and outcome remains unknown" (p. 1336). There is also a need to look at variables which reflect a person-environment interaction. As mentioned above, a person's view of reality is influenced by perceptual filters (Cohen & Wills, 1985; Kobak & Sceery, 1988). In the present study, the major focus is on filters stemming from early attachment experiences which may significantly affect how people view themselves and others. Perception of a treatment program is proposed in this study

to be an interaction of these individual attachment-related filters and reality aspects of the program.

The last methodological concern in this area of research is a lack of control groups against which to compare substance abusers in treatment. Only one study reviewed for this paper (Calsyn et al., 1988) had even a semblance of a control group to provide a baseline perspective on results. This makes it quite difficult to know how substance abusers differ from other groups. This lack of control groups in previous studies may be related to researchers' uncertainty about what would be an appropriate control group for retention studies with this population. If studies continue to show that more normal psychological dimensions have some effect on the attrition rate of substance abusers, then future studies could compare such variables using different types of therapeutic programs as controls.

Rationale for Current Study

The present study is designed to trace a present behavior, i.e., dropping out of treatment, through its cognitive-perceptual roots to a deeper systemic base--attachment patterns begun in childhood. In order to address this issue, the current study included the following variables (see Figure 1): perception of early parental care; current interpersonal functioning, i.e., adult attachment patterns and self-reported interpersonal style; and perception of current substance abuse treatment program.

It was hoped that such an approach might provide an understanding of the attrition phenomena which could be used to predict and proactively treat this problem.

The importance of interpersonal issues has been documented clinically and empirically in the etiology and current functioning of substance abusers (Calsyn et al., 1988; Coleman, 1987; Colgan, 1987; Needle et al., 1988; Shedler & Block, 1990; Smalley & Coleman, 1987). The results of at least one study (Craig & Olson, 1988) have also implicated interpersonal issues in the problem of premature dropout from drug treatment, even though interpersonal factors were not the specific focus of the study. Since the heterogeneity of current interpersonal functioning among substance abusers has only recently begun to be documented and explored (Calsyn et al., 1988; Craig & Olson, 1988; Malow et al., 1989), however, the connection between interpersonal functioning and treatment process and outcome variables, such as retention, has not been explored.

Attachment theory has begun to establish a connective link between early parenting experiences and current interpersonal functioning in adulthood (Kobak & Sceery, 1988). These findings seem to parallel several etiological studies of substance abuse which are also beginning to find some empirical links between early parenting, interpersonal functioning, and substance abuse problems (Needle et al., 1988; Shedler & Block, 1990). Theoretical and empirical

work on adult attachment suggests that current interpersonal functioning is guided by internal working models of self and other (Bowlby, 1988; Bloom-Feshbach & Bloom-Feshbach, 1987; Kobak & Sceery, 1988), but at this point in time we have no adequate way to measure such internal structures. What we can attempt to measure at present are dimensions of current interpersonal functioning, such as aspects of attachment patterns in adult relations and self-reported consistent styles of interpersonal relating.

A third focus of the present study was the role played by more immediate, specific factors to the problem of attrition. In particular, this study was interested in the specific perceptions of treatment reported by substance abusers in the first week of treatment. There is some evidence that such perceptions may play a role in treatment attrition (DeLeon & Jainchill, 1986). Perhaps premature termination from substance abuse treatment can be traced back through a cognitive-perceptual path that has as its most immediate manifestation a particular perception of treatment. This perspective would suggest a complex interaction of increasingly more proximal factors stemming from early attachment experiences through current interpersonal functioning to a specific perception of the ability of the staff and structure of a particular drug treatment program to help that person become sober (see Figure 1).

Based on this synthesis of the literature to date on retention, the present study tried to answer the following questions:

1) Is perception of early parental care related to substance abuse treatment program retention?

2) Is current interpersonal functioning related to substance abuse treatment program retention?

3) Is perception of the treatment program related to substance abuse treatment program retention?

4) To what extent do all three of the above-mentioned variables predict retention in a substance abuse treatment program and what is each variable's relative importance to prediction of retention?

Research design issues. In answering the above questions, the present study attempted to address several of the research design issues mentioned above. First, in terms of variable-related concerns, many of the studies in the area of retention have looked at distal, nomothetic-type variables. The present study sought to provide more clinically-relevant information by looking at the more proximal variables of current interpersonal functioning and perception of the treatment program. It was hoped that these more proximal, person-centered variables would reveal pertinent information on what influences a patient to leave treatment prematurely. Another variable-related concern that was addressed by this study is that the variables were

not chosen based on assumptions of generalized interpersonal homogeneity or significant psychopathology among substance abusers. On the contrary, this study follows up on recent empirical findings of personality heterogeneity among this population (Calsyn et al., 1988; Malow et al.,1989). In light of the mixed and inconsistent findings on psychopathology among substance abusers (Craig, 1984a; Craig, 1984b; Craig, 1985; Foureman et al., 1981; Keegan & Lachar, 1979; Siddall & Conway, 1988; Zuckerman et al., 1975), the present study also follows Craig and Olson's (1988) line of reasoning that more normal psychological dimensions may provide better insight into why substance abusers leave treatment. Since psychiatric severity, as opposed to personality psychopathology in general, has shown some relationship to treatment outcome and attrition, this factor was controlled by only using subjects without a history of major mental illness, such as schizophrenia or manic-depressive disorder.

Research design problems having to do with generalizability of results were addressed primarily by looking at more than one therapeutic community program. The purpose of exploring possible attrition-related variables across programs was to provide more robust patient-centered results by seeing to what extent patient perceptions are more influenced by personality-based characteristics than by differences between programs. Though this study hoped to

find individual factors contributing to attrition across programs, generalizability is limited to the extent that such programs are similar to the ones used in this study, i.e., therapeutic community drug treatment programs within a large institutional system.

Lastly, the present study was designed to look at the possible complex, interactional relationships among the variables proposed. It is assumed that a personality factor such as interpersonal style must work through some cognitive, perceptual path to influence a decision to leave treatment prematurely. This study's approach also addressed the issue of person-environment interaction. While this study did not address environmental differences by directly trying to control them, it took into account the interaction of the perceptual filters of individuals in drug treatment and specific responses to substance abuse programs. It was also thought that having hypotheses linked to a broad-based theoretical system, such as attachment theory, could perhaps provide increased generalizability of results.

The issue of lack of control groups was not directly addressed in this study. This project was concerned with the understanding and prediction of attrition within a population of substance abusers and the relationships among variables which contribute to such prediction. It was hoped, however, that if positive results were found, the

resulting support for the effect of more normal psychological dimensions would set the stage for studies between substance abusers and other therapeutic groups to be performed in the future.

CHAPTER II

METHOD

Subjects

Subjects for this study were 78 male substance abusers who were entering programs for drug rehabilitation treatment. They were between the ages of 25 and 55 and did not have a history of psychotic disorders, such as schizophrenic or major affective disorders. Substance abuse was defined for the purposes of this study as abuse of any chemical agent (alcohol, heroin, methadone, other opiates, barbiturates, cocaine, amphetamines, cannabis, hallucinogens, inhalants) or combination of such agents, with the exception of the sole use of alcohol.

The drug rehabilitation programs which were solicited to participate in the study were milieu treatment programs based on the therapeutic community model. The basic philosophy of therapeutic communities is that "individual change must occur through self-help in a communal-living milieu to render stable modification of self and socially destructive patterns of behavior" (DeLeon, 1985, p. 824). These residential communities seek to change total lifestyles and are organized as family surrogate systems. The two programs recruited for this study did identify

themselves as milieu treatment programs and met the basic requirements of communal living and change through some level of self-help. Both units provided a basic program of at least 21 days duration. Each program was recruited through the Veterans Administration system. Though the two programs met the basic requirements of this study and both dealt mostly with black veterans with crack addiction problems, there were some significant differences between them.

The first program recruited was a substance abuse unit at the Northport (Long Island) VA Medical Center. This program was set up to be of three months duration, organized into three one-month stays with one- or two-day "therapeutic discharges" in-between. The program was rather rigidly set up and was known for and proud of its "tough-love" reputation. The Northport program clearly labelled itself a therapeutic community, with active patient participation and government and a "community as family" approach. Almost all therapeutic work was done in group settings. A total of 16 patients from this program participated in the study. A much larger number of patients was asked to participate, but many were unwilling to do so.

The second program participating in this study was a substance abuse unit in the Atlanta VA Medical Center. Whereas the Northport VA is located in an exurban community some 40 miles from New York City, the Atlanta VA is an urban

medical center. The unit in Atlanta was initially set up as a 21-day program, but some three months into the study switched to being a 28-day program with an initial "detox" week at the beginning of treatment. Patients in the "detox" week still participated in most activities on the unit, though they did have some special groups to attend. Approximately one-third of the subjects in Atlanta participated in the study prior to the change to a 28-day program. Like Northport, the program was oriented around group therapy. But, unlike Northport, the Atlanta unit did not strictly label itself as a therapeutic community and there was not as much patient participation or governance inherent to the program. Though self-help and communal living were parts of the program, the Atlanta unit did not define itself as clearly as a "tough-love" surrogate family. Sixty-two patients from the Atlanta program agreed to participate in the study. The number of patients refusing to participate was few, much less than the refusal rate at Northport. This could be attributed to the fact that the researcher was "on-site" throughout the testing in Atlanta and recruiting in Northport was mostly accomplished through two other Psychology staff members. But another factor which may have affected the refusal rates are regionally-based attitudes toward trust and compliance. Based purely on observation and the experiences of the researcher, it seems that patients in the Northport program were more

suspicious and questioning of the purpose of the study and the researcher's motives. The patients in Atlanta, in general, seemed more willing to do whatever was asked of them and few questioned the study before agreeing to participate.

Procedure

Subjects for this study were recruited from two milieu substance abuse treatment programs (as defined above) within the VA Medical Administration system. The reason for choosing programs within this system was to maximize similarity of subjects and because of the researcher's connections to the Veterans Administration system. Directors of substance abuse programs were contacted in person, or initially by phone, to explain the nature and purpose of the study. After answering any questions or concerns about the study, permission to recruit patients from their program was sought. Having received permission from the program directors, arrangements to inform and elicit support from staff and to set up administration of the study were made. Within each VA Medical Center used, permission from the Human Subjects Research Committee to conduct this study with patients at that center was also obtained. The study was also approved by the University of North Texas Human Subjects Committee.

Subjects were recruited during initial screening in Northport or within one to two days of admission in Atlanta.

A brief description of the study and its purpose (the VA informed consent form - see Appendix A) was given to each potential subject by either the director of the program or the psychology technician in Northport and by the researcher in Atlanta. This document was verbally presented to each subject, then each subject was asked to read the form. Any questions about the study or the form were then solicited. Each potential subject was told that participation was totally voluntary and willingness or unwillingness to participate would not in any way affect their treatment. If the subject agreed to participate, he was asked to sign the informed consent and a copy was given to the patient. The first packet of assessments was then administered. In Northport, all tests were administered either in the presence of the psychology technician or, in a few cases, with the director of the program available to answer questions. The researcher oversaw all testing in Atlanta. The second packet of assessments was administered three to five days after admission, again with a test administrator present.

The first packet consisted of the Parental Bonding Instrument (PBI) (Parker, Tupling, & Brown, 1979); the No Attachment section of the Attachment Questionnaire (West, Sheldon, & Reiffer, 1987); the Structural Analysis of Social Behavior (SASB-Intrex) (Benjamin, 1974); the Romantic Relationships Questionnaire (Hazan & Shaver, 1987); and the

Close Relationship Questionnaire (Bartholomew, 1990). A special subject questionnaire requesting demographic information and containing some critical items from the Addiction Severity Index (ASI) (McLellan, Luborsky, Woody, O'Brien, & Druley, 1983) concerning psychiatric status was also included in the packet. (See Appendix B). It took most subjects approximately one to one-and-a-half hours to complete this packet.

Each subject was then asked to fill out a second packet 3-5 days after admission into the program. This packet contained two versions (Real and Ideal) of the Community-Oriented Program Environment Scale (COPES)-Short form (Moos, 1988). (See Appendix C). One version solicited the patient's perceptions of his particular program and the other form solicited the patient's thoughts concerning an "ideal" program. Most subjects completed these two assessments in less than thirty minutes. Information concerning the 15-day retention of each subject was gathered from program records.

Measures

Perceived history of parental care. The Parental Bonding Instrument (PBI) (Parker, Tupling, & Brown, 1979) is a measure of "perceived parental characteristics" (Parker, 1983). In this study, it was used to assess the proposed historical attachment-related roots of interpersonal style. The PBI is a 25-item test which asks the respondent to rate

379
N81d
No. 3570

EARLY RETENTION IN SUBSTANCE ABUSE TREATMENT: ATTACHMENT, INTERPERSONAL FUNCTIONING, AND PERCEPTIONS OF TREATMENT AS PREDICTORS

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Kay Bryant, B.A., M.S.

Denton, Texas

August, 1992

(Parker, 1990). Results in this area are not conclusive, but Parker (1983) contends that there is some validity for the PBI as a measure of actual parenting. In terms of validity as a measure of perceived parenting, the PBI has shown consistently impressive results across a range of studies looking at factorial, construct, concurrent, and predictive validity (Parker, 1983; Parker, 1990).

Current interpersonal functioning. Two primary measures of current interpersonal functioning were used in this study. These measures were intended to tap different dimensions of this concept and stem from the research conducted previously on interpersonal factors concerning substance abusers (Craig & Olson, 1988; Calsyn et al., 1988) and on attachment theory (Kobak & Sceery, 1988). One measure was used to try to measure adult attachment style, while the other measure was designed to assess interpersonal style.

Attachment Measure. The primary measure of attachment style was the No Attachment section of the Adult Attachment Questionnaire by West, Sheldon, and Reiffer (1987). This construct-oriented measure is based on attachment theory. It is related to interpersonal style in that the authors consider attachment relationships (or lack thereof) to be "significant and enduring features of an individual's pattern of interpersonal behaviours" (West, Sheldon, & Reiffer, 1989, p. 369). West et al.'s complete Attachment

Questionnaire designates four patterns and seven dimensions concerning attachment figure relationships and five dimensions on the No Attachment scale. For the No Attachment section, the five dimensions are: maintains distance in relationships, desire for close relationships, fear of hurt or rejection, high priority on self-sufficiency, and attachment decreases security. West et al. (1987) refer to these as avoidant attachment dimensions and the instructions to these questions do not make reference to an attachment figure. Instead, the instructions simply ask to rate the statements based on how the subject sees him- or herself. For the purposes of the present study, the two dimensions which were used in analysis of hypotheses were the maintains distance in relationships scale (MDR) and the fear of hurt or rejection (FEAR) scale.

The No Attachment scales of West et al.'s (1987) instrument were chosen for three primary reasons. First, they are theoretically based on attachment theory. Secondly, the present study was most concerned with assessing relative levels of a more avoidant-type attachment style and this style is theoretically related to patterns of less interpersonal interaction or intimacy (i.e., little or no attachment in adulthood). As referred to above, West et al. label the dimensions in the No Attachment section of his measure as avoidant attachment dimensions. The third reason was based on the general wording of the items in this

section, in that the items do not refer to attitudes or behaviors related to a specific relationship. The Attachment Figure scales, as well as several other measures of attachment styles (see Exploratory Measures below), ask subjects about specific relationships. Due to the nature of this study's population, substance abusers in milieu treatment therapy, and the purpose of this study, a more generic approach to the measure of attachment style was preferred.

While the Attachment Figure scales of West et al.'s (1987) instrument have received some reliability and validity testing, there are no published results to date on the No Attachment scales in terms of norms, reliability, or validity. In a recent unpublished study (Marsh, 1990), intercorrelations of the No Attachment scale with the rest of West et al.'s (1987) Adult Attachment Questionnaire and correlations with several other instruments were explored. In this study, the No Attachment scale was shown to correlate most with the Compulsive Self-Reliance pattern on the Attachment Figure scales, with correlations between the five No Attachment dimensions and this pattern ranging from .52 to .23. Low and negative correlations were found among the five No Attachment dimensions and the Compulsive Care-Giving and Compulsive Care-Seeking patterns. These patterns are consistent with what would be predicted based on attachment theory. The MDR and FEAR dimensions were

chosen to be of primary focus in this study also based on data from this unpublished study. First, the MDR and FEAR dimensions showed the highest average correlations with a self-reported avoidant attachment pattern on the measure developed by Hazan and Shaver (1987). That is, these two scales had the largest number of items showing a high correlation with the avoidant attachment pattern. Secondly, the Marsh study looked at the relationship between West et al.'s measure and the Inventory of Common Problems, an inventory assessing significant concerns in a college population. In his analysis, Marsh found that the MDR and FEAR dimensions showed the highest correlation with the category of substance abuse problems. Lastly, these two scales correlated most highly with the attachment pattern of Compulsive Self-Reliance, again a pattern associated with avoidant attachment.

Interpersonal Style. The measure of interpersonal style used in the present study was the Structural Analysis of Social Behavior (SASB-Intrex) (Benjamin, 1974), based on Benjamin's proposed structural model of interpersonal behavior. This model features three dimensions: other, self, and intrapsychic. Each dimension is constructed around horizonal and vertical axes representing "affiliation" and "independence". Between axes are eight clusters which are descriptively and numerically defined. The three primary dimensions are theoretically linked by the

principle of complementarity, which posits that a specific type of behavior usually elicits its complement. For example, warm affiliative behavior from the self usually elicits warm affiliative behavior from the other as well as the warm affiliative intrapsychic correlate (i.e., self-loving).

The SASB (Benjamin, 1974) consists of three questionnaires of 72 questions each, tapping interpersonal interactions of "self" and "other" in a specific relationship and intrapsychic dimensions of self. Each question is scored on a Likert scale ranging from "Never" (0) to "Always" (100). The present study used the two scales designed to measure "self" and "other" interpersonal reactions. Subjects were asked to answer questions based on "the most important relationship in your life right now, that is, the person you are closest to."

Benjamin's scoring procedures (1977) are mathematically precise and complex. For the purpose of this study, the weighted affiliation indices on both the "self" and "other" dimensions were utilized. Weighted affiliation scores are given for each of the two surfaces within each dimension. The two surfaces within the "other" dimension are "he/she focuses on me" (36 items on the questionnaire) and "he/she reacts to me" (36 items). The surfaces within the "self" dimension are analogous, i.e., "I focus on him/her" and "I react to him/her".

Benjamin's circumplex model proposes two primary axes, one for affiliation and the other for interdependence. The weighted affiliation score signifies a person's relative position along the affiliation axis on each of the two surfaces within a dimension. Each item on the questionnaire receives a weighting factor based on its relative position to the positive pole of this axis. The weighted affiliation score is then derived by taking the sum of subjects' responses to items multiplied by each item's respective weighting factor. In the present study, this produced four weighted affiliation scores for each subject--one for each of the two surfaces within the "other" and "self" dimensions.

Psychometric properties of the SASB appear to be very good (Benjamin, 1974; Quintana & Meara, 1990). Construct validity of the model and questionnaires has been subjected to factor analytic, autocorrelational and circumplex analysis with positive results. Internal consistency has ranged from .68 to .98, depending upon the clinical or non-clinical nature of the subject population.

Exploratory Measures. Although there are numerous measures of attachment currently available (Hazan & Shaver, 1987; Main & Goldwyn, 1985; West, Sheldon, & Reiffer, 1987), only a few have been used and studied enough to generate any data on reliability and validity. It is even more difficult to find psychometric information on self-report attachment

instruments. Because of this fact and previous research which has pointed out the difficulty of finding conceptually unambiguous results using current attachment measures (Rice, Cole, & Lapsley, 1990; Wilhite, 1990), this study included two attachment measures for exploratory purposes. These measures were used to try to further understand the hypotheses of the present study, but were also included to provide possible convergent and discriminant validity information across several attachment measures. The exploratory measures included were the Romantic Relationships Questionnaire (Hazan & Shaver, 1987) and the Close Relationship Questionnaire (Bartholomew, 1990).

The Romantic Relationships Questionnaire (Hazan and Shaver, 1987) has been used in numerous studies, all of which have reported proportions of each attachment type similar to the original study using this instrument and in line with the proportions of each type found in Ainsworth's studies of American infants (Hazan & Shaver, 1990). This three-item measure has been shown by its authors to be related to "1) characteristics of a person's 'most important love relationship'...; 2) working models of self and relationships...; 3) memories of childhood relationships with parents...; and 4) feelings related to work" (Brennan, Hazan, & Shaver, 1989). The above is cited as some evidence of construct validity. The measure has also been compared

to other attachment measures with resulting data on convergent and discriminant validity (Hazan, 1990; Brennan, Shaver, & Tobey, 1990).

The Close Relationship Questionnaire by Bartholomew (1990) was included since it hypotheses a "fearful" avoidant style and because it has revealed some different response patterns from the three-item Hazan and Shaver (1987) measure on which it is based (Brennan et al., 1990). The responses on this measure were compared and contrasted with the responses on the other attachment-related questionnaire in order to explore the possible influence of this fourth attachment style on the findings of this study. Since this is a new, exploratory instrument, no reliability or validity information is available beyond its statistically significant, yet moderate (r = .55 being the highest correlation), correlations with the Hazan and Shaver instrument mentioned above (Brennan et al., 1990).

Perception of the program. The Community-Oriented Programs Environment Scale (COPES) (Moos, 1988) was used to measure subjects' perception of the substance abuse milieu treatment in which they were participating. One of ten social climate scales developed by Moos, the COPES is designed to assess the social climate of community-oriented treatment programs. It has ten subscales, grouped under three dimensions. The Relationship Dimension includes involvement, support, and spontaneity subscales. Personal

Growth Dimension subscales are autonomy, practical orientation, personal problem orientation, and anger and aggression. Under the System Maintenance Dimension, the subscales are order and organization, program clarity, and staff control. There are four forms of the COPES: the Real form, the Short form, the Ideal form, and the Expectations form. The Real form is the standard form and consists of 100 true/false items assessing the ten subscales of the COPES. Form S (the Short form) consists of the first 40 items of Form R, including 4 items from each of the ten subscales. The Ideal form (Form I) contains items reworded to obtain patients' preferences about treatment, and the Expectations form taps patients' expectations. For the purpose of the present study, a Real-Ideal difference score was computed based on a subject's responses on Form S and the parallel short version of Form I. This difference score was computed by taking the absolute value difference between each subject's Real and Ideal score on each question and then adding these together to come up with an overall difference score. As stated in the manual, such a difference score can be used to tap a patient's satisfaction with the program in which he or she is participating by contrasting the way a patient views the program with his or her preferences concerning an ideal program.

In terms of reliability, the COPES has shown adequate reliability across time and across programs with profile

stability scores ranging from .81 to .98 for patients in community-oriented programs (Moos, 1988). The ten subscales have been shown to measure separate but moderately related aspects of programs on both Forms R and I. Moos has also reported (1988) that Form S results are adequately equivalent to Form R results based on interclass profile correlations between the two forms in a sample of 21 programs. Intraclass correlations averaged above .75 for community members and staff. The development and extensive use of the COPES has affirmed its content and face validity. In his 1988 manual, Moos cites numerous research studies which support the construct, concurrent, and predictive validity of the instrument.

Hypotheses

In the following hypotheses, variables described are: 1) Perceived history of parental care, measured by the Parental Bonding Instrument (PBI) (Parker, Tupling, & Brown, 1979); 2) Current interpersonal functioning, measured by the maintains distance in relationships (MDR) and fear of hurt or rejection (FEAR) dimensions of the No Attachment scales (West et al., 1987) and by the weighted affiliation scores on the "other" and "self" dimensions of the Structural Analysis of Social Behavior (SASB) (Benjamin, 1974); 3) Perception of the substance abuse treatment program, measured by a difference score based on the Community-Oriented Environment Scales-Real and Ideal short

forms (COPES) (Moos, 1988); and 4) Retention in a substance abuse program on the 15th day of treatment.

1) Care scale scores on the PBI will show a positive relationship with retention in a substance abuse program on the 15th day of treatment.
2) Scores on MDR and FEAR dimensions of the No Attachment scale will show a negative relationship with retention in a substance abuse program on the 15th day of treatment.
3) Affiliation scores on the two interpersonal dimensions of the SASB will show a positive relationship with retention in a substance abuse program on the 15th day of treatment.
4) Perceptions of the treatment program on the COPES will show a negative relationship with retention in a substance abuse program on the 15th day of treatment.
5) All three independent variables--perceived history of parental care, current interpersonal functioning and perception of the program--will show some association with retention in a substance abuse program on the 15th day of treatment, with greater predictive power being associated with each variable's level of specificity. That is, perception of the program will be most predictive, followed by current interpersonal functioning, and then, perceived history of parental care.

CHAPTER III

RESULTS

Description of the Sample

The sample consisted of 78 male veterans who met the following criteria: a) within two days of admission to substance abuse treatment units in Veterans Administration medical centers; b) between the ages of 25 and 55; c) no history of psychotic disorders, such as schizophrenic or major affective disorders; and, d) being treated for chemical agent other than alcohol. Subjects were recruited in two locations: the Northport (Long Island) Veterans Administration Medical Center and the Atlanta Veterans Administration Medical Center. Most subjects were recruited in Atlanta (n = 62), with around a fourth of the subjects coming from the Northport program (n = 16). Ages of the subjects ranged from 25 to 53. The average age was 37, with a standard deviation of 6 years. Most subjects were of African-American descent (66, 85%), with an additional 8% white (6) and 5% Hispanic-Puerto Rican (4). About fifty-four percent of subjects reported a high school level of education. Only about 10% of the subjects in this study did not complete high school. In addition, about 36% of the subjects responded that they had some education beyond high school.

The majority of subjects (60%) reported that full-time work was their usual employment pattern over the last three years. Approximately 18% described their employment status during the past three years as part-time work and about 13% said they had been unemployed for most of that time. Seventy-three percent of all subjects said they considered themselves as having a trade, profession, or skill.

Only about 15% of subjects (12) reported that they were currently married. Most participants in the study were divorced or separated (50%). Approximately 18% said they were single and not currently in a relationship, while about 15% described themselves as single and dating or in a long-term relationship. Well over half of the subjects in this study (64%) reported that they were not satisfied with their current relationship status. About 29% expressed satisfaction with their current relationship status and around 5% reported to be indifferent. Most subjects in this study also reported having few, if any, close friends. About 38% said they had no close friends. Subjects reporting one close friend were about 11%, while those who said they had two close friends comprised about 15% of the sample. Approximately 31% of the subjects claimed to have three or more close friends.

Primary drug of choice for about 60% of the subjects in this study was crack. Twenty-seven percent reported primary use of cocaine, with about 4% saying alcohol was their main

drug (though they were in treatment for drug, not alcohol, abuse). Most subjects (68%) reported multi-drug abuse, with alcohol being the second major drug of choice (50%) followed by marijuana (22%) and cocaine (9%). The range of past attempts in drug treatment was from 0 to 14, with the average being two past treatments (SD = 2). About 19% of subjects reported being in treatment for the first time.

Table D-1 provides more detailed information on the sample as a whole and subdivided by location of sample and by the dependent variable, retention status on the 15th day (labelled as Stay group and Leave group). In general, though there were some observed differences between the Northport and Atlanta samples, there were no significant differences between the demographic characteristics measured. The only notable or significant difference between the Stay and Leave groups on demographics was that none of the unemployed subjects left treatment early.

Description of Independent Measures

Four independent measures were used in the present study, yielding eight independent variable scores. Two exploratory assessments yielded results across another nine attachment-related categories. Table 1 presents the means and standard deviations of the independent variable scores, while Table D-2 shows the frequencies and percentages of the two exploratory measures.

Table 1

Means and Standard Deviations of Independent Variables

Variable	Total Sample		Stay Group		Leave Group		Atlanta		Northport	
	M	SD	M	SD	M	SD	M	SD	M	SD
PBI Care	22.8	7.4	22.8	7.1	22.8	8.9	23.3	6.7	21.2	9.7
MDR	47.5	10.2	48.6	10.0	42.9	10.3	46.2	9.9	52.6	10.0
Fear	22.3	5.5	22.9	5.4	19.8	5.8	21.4	5.4	25.7	4.9
SASB Afil 1	65.6	73.2	60.3	71.1	89.6	79.9	61.0	75.8	83.3	60.8
Afil 2	66.3	73.9	61.9	69.9	85.6	90.0	61.4	74.9	84.9	69.1
Afil 3	79.2	64.8	76.6	64.5	90.8	57.4	79.2	63.6	79.0	71.4
Afil 4	68.9	64.6	67.9	64.1	72.8	68.7	67.1	64.4	75.6	66.8
COPED	8.2	5.5	7.8	5.3	10.1	6.4	9.4	5.4*	3.7	3.1*

*Significant difference, $p < .05$.

Note. PBI Care = Parental Bonding Instrument, Care scale; MDR = No Attachment Questionnaire, Maintains distance in relationships scale; FEAR = No Attachment Questionnaire, Fear of hurt or rejection scale; SASB Afil 1-4 = Structural Analysis of Social Behavior, Weighted affiliation scales 1-4; COPED = Community-Oriented Programs Environment scale, Real and Ideal versions difference score.

The Parental Bonding Instrument (PBI) (Parker et al., 1979) was used to measure perceived history of parental care in order to describe historical attachment-related roots of current interpersonal style. Scores range from 0 to 36 on the Care scale, with higher scores representing more perceived "affection, emotional warmth, empathy and closeness" (Parker et al., 1979, p. 8) during the first 16 years of life. The responses on the Care scale utilized almost the full range (range = 1-35), with a mean for the total sample of 22.8 and a standard deviation of 7.4. This suggests that the sample as a whole tended to perceive the parental style of their primary caretaker in childhood as moderately warm and empathic. There was no significant difference between the means of the Stay and Leave groups.

Subjects on the PBI are usually asked to rate their mother and father separately using the 25-item questionnaire twice. Since subjects in this study were simply asked to fill out the questionnaire once based on "the person most responsible for raising you in your first 16 years", they were later asked to identify the person to whom they referred in answering the PBI. Forty-two subjects (about 59%) said they were referring to their mothers. About 17% (12) reported that they considered their fathers as their primary caretaker, while about 13% said they were primarily raised by both parents.

There are no general norms for the PBI. The two initial samples used in standardizing the PBI reported Care scale means in the 23 to 27 range. Given this range, the present sample was on the low side of the "normative" Care scale range. The scores for the total sample and all groups in this study also fell within the "optimal bonding" quadrant of the PBI diagrammatic scale.

The No Attachment section of the Adult Attachment Questionnaire (West et al., 1987) was used as the primary measure of an avoidant attachment style in adulthood. Two of the five dimensions were utilized in the hypotheses of the present study. The maintains distance in relationships (MDR) scale and the fear of hurt or rejection (FEAR) scale were both chosen to assess subjects' relative degrees of self-reported avoidant patterns of relating. Intercorrelation for the two scales was $r = .7624$, $p < .001$.

The mean score for the total sample on the MDR scale was 47.5 (SD = 10.2). Based on a range of possible MDR scores from 17 to 77, this places the total sample mean right on the median possible score. This compares to a mean of 48.6 (SD = 10.0) for the Stay group and a mean of 42.9 (SD = 10.3) for the Leave group. The difference between these two groups almost reaches significance at the .05 level ($t = 1.92$, $p < .0585$).

On the FEAR scale, the total sample mean was 22.3 (SD = 5.5). Since the range for the FEAR scale is 8 to 36, the

total sample mean was again on the exact median of the scale. The Stay group mean on this scale was 22.9 (SD = 5.4) versus a Leave group mean of 19.8 (SD = 5.8). The difference between these groups was not significant.

The Structural Analysis of Social Behavior (SASB) (Benjamin, 1974) was used to measure current interpersonal functioning. Based on Benjamin's structural model of interpersonal behavior, this instrument consists of three parts designed to measure the "other", "self" and "intrapsychic" dimensions of interpersonal relationships. Only the questionnaires looking at the "other" and "self" aspects of interpersonal behavior were used in the current study.

Means and standard deviations for all SASB affiliation scores used in this study are included in Table 1. Intercorrelations between the four measures were high, ranging from .67 to .92 (see Table D-3). Actual ranges for the weighted affiliation scores are not available in published format, but communication with a researcher who has an extensive database on the instrument revealed ranges of "about -200 to +200" (B. Henry, personal communication, May 28, 1992). Almost a full range of scores was seen for each weighted affiliation measure. The two scores from the "other" dimension, however, were skewed in a positive direction. The means for all four affiliation scores were in the second quartile of scores on the positive side of the

scale. This indicates that most subjects reported a moderately positive interpersonal relationship, marked by some level of mutual caring and trust. None of the differences between the affiliation scores of the Stay and Leave groups was significant.

The Community-Oriented Programs Environment Scale (COPES) (Moos, 1988) assesses a patient's perception of a milieu treatment program. Two versions of this measure were used to tap subjects' satisfaction with their treatment program. The Real version of the COPES was used to assess subjects' actual views of their program, while the Ideal version was used to find out a subject's opinion of an ideal treatment program. An overall Real-Ideal difference score (COPED) was computed to try to measure subjects' level of satisfaction with their current treatment program. The range of COPED scores for Atlanta was 1-23, while the range for Northport was much smaller, 0-9. The mean COPED score for the total sample was 8 (SD = 5.53), while the modal score was 7. This suggests that most subjects showed a moderate level of dissatisfaction with their current treatment program. There was no signficant difference between the means of the Stay (M = 7.8, SD = 5.3) and Leave (M = 10.1, SD = 6.4) groups.

There was a significant difference between the level of satisfaction expressed by subjects in the two programs (t = 5.49, $p < .0001$). Subjects at the Northport VA appeared to

be more satisfied (M = 3.69, SD = 3.1) with their program than those at the Atlanta VA (M = 9.37, SD = 5.4). While this could represent a true difference in overall patient satisfaction, this discrepancy is more likely related to a possible self-selection bias in the Northport sample. This bias, which was mentioned above, will be discussed in more detail in the following section.

Dependent Measure

The dependent measure in the present study was whether or not the subject was still in the program on the 15th day of treatment. The choice of looking at retention on the 15th day was due to previous research which suggested that attrition prevention needs to be maximized at the beginning of treatment since dropout is highest during the first two weeks of a program (DeLeon, 1985; Siddall & Conway, 1988). This variable, labelled Retention (RET), was measured in a simple dichotomous manner, i.e., yes, the patient is still enrolled in the program on the 15th day or no, he is not. The range of early attrition reported in the studies reviewed for this paper was from about 30% to 50% (Capone et al., 1986; DeLeon & Schwartz, 1984; Siddall & Conway, 1988; Stark & Campbell, 1988). This translates into a 70% to 50% early retention rate. Of the total sample of 78 in the present study, 64 subjects (82%) were still in treatment on the 15th day of their program. Fourteen subjects across the two programs (18%) left before the 15th day of treatment.

This dropout rate is somewhat lower than that found in previous studies and lower than what was expected in the present study. But, in line with previous studies (DeLeon & Schwartz; Siddall & Conway), it appears that most attrition did occur within the first 15-16 days of treatment. Of the approximate overall attrition rate (i.e., all dropout before program completion) of 29%, about 26% of that occurred by the 16th day of treatment.

Retention rates for the two sites differed. For Atlanta, 49 subjects (79%) remained in treatment on the 15th day of their program, while 13 (21%) left treatment early. Of the 16 subjects at the Northport VA, 15 (94%) were still in treatment on the 15th day and only 1 (6%) dropped out early. These figures may be affected by refusal rates, however. Though no strict account of refusal to participate was kept, it does seem that fewer patients in Northport were willing to fill out the study's forms (perhaps as high as a 2-to-1 refusal rate). In Atlanta, a rough account of refusal to participate was kept and it indicated that about 17 of 79 consecutive admissions (approximately 21%) did not choose to participate in the study. The impact of this factor in terms of some self-selection process whereby more motivated or compliant subjects agreed to participate in the study, thus skewing the retention rate in Northport, is not known.

Additional outcome data, i.e., discharge status and overall length of stay, was collected for the entire Atlanta sample due to the relatively shorter length of the program and the presence of the researcher onsite during all data collection. Similar outcome data for the Northport sample was only available for eight subjects. Discharge status provides information on those subjects who left with staff approval (regular discharge) and those who left Against Medical Advice, i.e., without staff approval (irregular discharge). Length of stay is recorded by days in the program. Frequencies and percentages for the dependent measure and information on discharge status (regular or irregular) and length of stay (in days) is given in Table 2.

Major Findings

Pearson correlations were computed to examine the relationships between a number of variables. Due to the sheer number of relationships, they will not all be discussed. Only those relationships which pertain to the hypotheses will be presented, along with a few additional significant findings which were not predicted. However, a correlation matrix for all the independent and dependent variables is presented in Table D-3.

Table 2

Frequencies and Percentages on Dependent and Related Outcome Variables

Variable	Total Sample		Stay Group		Leave Group		Atlanta		Northport	
	f	%	f	%	f	%	f	%	f	%
					Retention on 15th day?					
Yes	64	82.1	---	---	---	---	49	79.0	15	93.8
No	14	17.9	---	---	---	---	13	20.9	1	6.2
					Discharge Status					
Regular	48	68.6	46	79.3	2	14.3	41	66.1	7	87.5
Irregular	22	31.4	10	17.2	12	85.7	21	33.9	1	12.5
					Length of Stay (in days)					
0 - 7	5	*	---	---	---	---	5	8.0	---	---
8 - 15	9	---	---	---	---	---	8	13.0	1	---
16 - 21	19	---	---	---	---	---	19	30.6	---	---
22 - 28	26	---	---	---	---	---	26	41.9	---	---
28+	11	---	---	---	---	---	4	6.5	7	---

*No percentages given due to incomplete data.

Relationship between Perceived Parental Caring and 15-Day Retention

It was hypothesized that there would be a positive relationship between Care scale scores on the Parental Bonding Instrument (PBI) and retention in drug treatment.

No relationship was found between these variables (*r* = -.0030, NS). The relationship between the PBI Care scale and the two additional measures of outcome, i.e., discharge status and length of stay were also non-significant. At least in the present study, perceptions of caring or lack of caring in childhood were unrelated to whether patients tended to leave drug treatment early.

Relationship between Avoidant Attachment Style and 15-Day Retention

The two scales used to measure an avoidant interpersonal style were the maintains distance in relationships scale (MDR) and the fear of hurt or rejection scale (FEAR) of the No Attachment section of the Adult Attachment Questionnaire by West, Sheldon, and Reiffer (1987). It was hypothesized that there would be a negative relationship between these two measures and retention in drug treatment on the 15th day. The results of the correlations between the two avoidant measures and retention were not significant. Both MDR (*r* = -.2152, NS) and FEAR (*r* = -.2142, NS), however, showed a trend opposite to the hypothesized direction. That is, a more avoidant interpersonal style corresponded to higher retention. This trend was seen across the additional outcome measures of discharge status and length of stay, though only the relationship between MDR and discharge status reached a level of statistical significance

(r = $-.2967$, $p < .05$). Higher MDR scores were related to fewer irregular discharges.

Relationship between Interpersonal Affiliation Patterns and 15-Day Retention

It was hypothesized that affiliation scores on the two interpersonal dimensions of the SASB would show a positive relationship with retention on the 15th day of treatment. This was not found. None of the four weighted affiliation scores on the "other" or "self" dimensions of the SASB showed a significant relationship with retention or the additional two measures of outcome, i.e., discharge status or length of stay.

Relationship between Satisfaction with Treatment Program and 15-Day Retention

Satisfaction with the treatment program was determined by computing a real-ideal difference score based on answers on the COPES Real and Ideal short forms. It was hypothesized that there would be a negative relationship between COPES difference scores and retention on the 15th day of treatment. Though the relationship was in the hypothesized direction, it was not statistically significant (r = .1590, NS). Correlations with one of the other two measures of outcome was significant, however, at the .05 level. The COPES difference scores were related to irregular discharges (r = .2824, $p < .05$). A greater degree

of dissatisfaction with the program corresponded to more irregular discharges.

Prediction of Retention Using All Independent Variables

To further evaluate the relationships between 15-day retention and the independent variables, and to examine the relative nature of each variable's predictive power with respect to retention, a discriminant function was computed. A discriminant function is designed to find the set or combination of predictor variables which maximally discriminate between grouping variables and then to predict group membership based on these variables. In a direct discriminant function analysis, the "discriminant function equations are solved simultaneously on the basis of all predictor variables" (Tabachnick & Fidell, 1983, p. 309). The grouping variable in the discriminant function was retention on the 15th day of treatment and the predictors entered into the equation were PBI Care, MDR, FEAR, SASB-Afil 1, and COPED. Because one of the prediction groups had an n of 14 and that gives a poor variable-to-smallest-group-size ratio, an effort was made to minimize the variables used. Since all four SASB affiliation scores were highly related, only the SASB affiliation score showing the relatively highest correlation with retention (Afil 1) was entered into the equation. Caution in interpretation of the results of the discriminant function is still necessary,

however, since the Leave group had only 14 cases (Tabachnick & Fidell, p. 300).

Both MDR and COPED were found to have some discriminatory power in predicting membership in the two retention groups, but the amount of variance accounted for was modest. The MDR scale entered the equation first, accounting for about 6% of the variance. The Copes difference score (COPED) was the second predictor variable which added to the discriminant function. It accounted for about 4% of the variance. Canonical R for the discriminant function was .31. A classification analysis based upon the discriminant equation correctly identified 63.64% of the sample (61.9% of the Stay group and 71.4% of the Leave group). Table 3 provides results of the discriminant analysis.

Exploratory Measures

The Romantic Relationships Questionnaire (RRQ) (Hazan & Shaver, 1987) and the Close Relationship Questionnaire (CRQ) (Bartholomew, 1990) were included in this study to further explore attachment relationship patterns in this population and to look at the correlations between different measures of attachment behavior or attitudes. Both measures provide short descriptions of proposed attachment styles and simply ask the subject to check which style is most descriptive of him or her. Results of these measures are provided in Table

Table 3

Results of Discriminant Function Analysis of Possible Predictors of Early Retention in Drug Treatment

Predictor Variable	Correlation of Predictor Variables with Discriminant Function
MDR	.76
Fear	.60
CopeD	-.53
SASB - Afil 1	-.22
PBI Care	-.22
Canonical R	.31
Eigenvalue	.109

Note. MDR = Maintains distance in relationship scale from No Attachment Questionaire; Fear = Fear of hurt or rejection scale from No Attachment Questionaire; CopeD = Real-ideal difference score on Community-Oriented Programs Environment Scale; SASB - Afil 1 = Structural Analysis of Social Behavior, weighted affiliation score from first surface on "Other" dimension; PBI Care = Parental Bonding Instrument Care Scale.

D-2. Later versions of these measures added seven-point Likert scales for each style and these were also included in the present study. To clearly delineate between the forced choice items and the Likert scales on these two instruments, the forced choice format will be referred to simply as the RRQ and CRQ. The Likert scale portion of these measures will be referred to as the RRQ rating scale and the CRQ rating scale. Correlations of RRQ and CRQ rating scales with other measures are given in Table D-3.

The RRQ posits three attachment styles: avoidant, anxious-ambivalent, and secure. These are analogous to the original attachment categories developed with infants (Ainsworth, 1982), though somewhat revised to accomodate adult attachments. In the present study, most subjects labelled themselves as avoidant (47%) on the RRQ. Secure was the next highest endorsed category (35%), followed by anxious-ambivalent (18%).

A fourth attachment style is added on the CRQ and subjects are asked to rate themselves in all close relationships, not just romantic ones. The four styles on the CRQ are secure, preoccupied (anxious-ambivalent), avoidant-dismissing (avoidant), and avoidant-fearful. This last category is designed to separate out those persons who avoid intimacy out of fear of rejection from those who avoid others and defensively dismiss their need of relationships. On this instrument, 29% of subjects labelled themselves as

avoidant-fearful, while 28% said they were avoidant-dismissing. About 23% labelled themselves as secure and 19% said they were preoccupied (anxious-ambivalent).

After initially classifying themselves on the RRQ, over half of the subjects (37) reclassified themselves on the CRQ. Whether these changes in self-reported relationship styles have to do with differences in the instructions to rate romantic versus close relationships or whether they are more affected by the addition of a new category or the slight change in wording between the two forms is unknown. The largest change was among those subjects who labelled themselves as avoidant in romantic relationships (RRQ). Sixteen of them re-labelled themselves as fearful avoidants in close relationships (CRQ). Ten subjects who labelled themselves as secure on the RRQ reclassified themselves as avoidant on the CRQ. Seven said they were dismissing avoidants in close relationships and three said they were fearful avoidant.

<u>Additional Analyses</u>

Additional analyses yielded some supportive data for the trend seen between avoidant attachment patterns and early retention in drug abuse treatment. The RRQ rating scale and the CRQ rating scale affirmed the trend seen on the MDR and FEAR scales in which avoidance was associated with early retention and irregular discharges. There was a significant relationship between those subjects who reported themselves

as avoidant in romantic relationships (RRQ rating scale) and retention on the 15th day of treatment (r = -.4636, p < .0001), i.e., more avoidant subjects were more likely to still be in treatment on the 15th day. This relationship was also significant for irregular discharges (r = -.4335, p < .001), with more avoidant subjects having fewer irregular discharges. On the CRQ rating scale, avoidance also showed a significant correlation with discharge status. Fearful avoidance (r = -.2978, p < .05) was associated with irregular discharges, meaning that fearful avoidant subjects tended to have fewer irregular discharges. Dismissing avoidance on the CRQ rating scale almost reached statistical significance with discharge status at the .05 level (r = -.2278, NS). Correlations of both CRQ avoidance rating scales with retention were in the predicted direction, though not significant. Thus, the trend of more avoidant subjects tending to still be in treatment on the 15th day and to have fewer irregular discharges was further supported by these results.

There was also a significant relationship between those subjects who rated themselves as secure on the RRQ rating scale and retention (r = .2875, p < .001), though in an opposite direction from what was expected. Subjects who labelled themselves as secure were more likely to drop out of treatment early. This pattern was not seen on the CRQ rating scale. The unexpected Secure-retention relationship

found with the RRQ rating scale is considered to be partly attributable to measurement error and will be explored in the Discussion section below. One other category on the CRQ rating scale showed a significant relationship with discharge status. The preoccupied (anxious-ambivalent) scale on the CRQ was related to irregular discharges (r = .2600, $p < .05$), meaning that more preoccupied (anxious-ambivalent) subjects had irregular discharges.

There was evidence of both convergent and discriminant validity between the four measures used to assess current interpersonal functioning and attachment styles as measured by the RRQ and CRQ rating scales. Correlations between the measures are given in Table D-3. The two avoidant attachment style measures, MDR and FEAR, had significant negative associations with the four SASB affiliation scores ranging from -.26 to -.39, indicating some discriminant validity. The correlations of MDR and FEAR with the RRQ and CRQ rating scales also provide evidence of appropriate discriminant and convergent validity. Correlations between the RRQ and CRQ rating scales are surprisingly low for two measures which are so practically and theoretically similar. They ranged from -.04 to .65. These correlations all provide some evidence of appropriate discriminant and convergent validity, however, with one exception. The present study found a positive correlation between the RRQ secure rating scale and the CRQ avoidant-dismissing rating

scale, though the relationship was not significant ($\underline{r}$ = .2139, NS).

Summary

In summary, with the possible exception of the RRQ, it appears that subjects responded appropriately to the instruments used in this study. Contrary to previous reports of high attrition rates in therapeutic community drug treatment programs, the present study showed only about an 18%-21% dropout rate across the two programs studied. It does appear, however, that in line with previous studies, most of the early dropout occurred within the first 15-16 days of admission into a program.

None of the independent variables showed a significant relationship with retention on the 15th day of treatment. Two variables, however, did show trends in relationship to retention which were further validated by significant relationships with one other outcome measure related to retention. Subjects who showed less satisfaction with their current treatment program tended to have more irregular discharges. Those who expressed a more avoidant attachment style by saying they maintained more distance in relationships tended to have significantly fewer irregular discharges. This pattern of subjects who labelled themselves as more avoidant having fewer irregular discharges was also seen on the two exploratory measures of self-reported attachment style in romantic and close

relationships. Those who labelled themselves as more avoidant in romantic relationships were also more likely to still be in treatment on the 15th day. The two factors of maintaining distance in relationships and satisfaction with the current treatment program showed some ability to predict retention on the 15th day of treatment. The predictive power of these two factors combined, however, was modest, accounting for only about 10% of the variance.

Table 4

Significant Findings

Scale
15-Day Retention
1. No major demographic differences between Stay and Leave groups.
2. 15-day attrition rate of 18%-21% lower than in previous studies.
3. Most early attrition occurred within first 15-16 days of treatment.
4. Both the avoidant attachment pattern of maintaining distance in relationships and the degree of dissatisfaction with current treatment program showed some ability to predict 15-day retention.
PBI
1. Early parenting perceived as moderately warm and empathic.
2. Perceived history of parental care within the range of "optimal parenting" as defined by PBI.
3. Perceived history of parental care not related to 15-day retention.
4. Most subjects (89%) raised by one or both parents.

NAQ

1. Moderate levels of avoidant attachment pattern of maintaining distance in relationships were reported by most subjects.
2. Moderate levels of avoidant attachment pattern of fear of hurt or rejection were reported by most subjects.
3. Neither maintaining distance in relationships or fear of hurt or rejection related to 15-day retention.
4. Maintains distance in relationships related to discharge status.

SASB

1. Most important interpersonal relationship for most subjects was seen as marked by moderate degree of mutual caring and trust.
2. Reported levels of affiliation in most important interpersonal relationship not related to 15-day retention.

COPES

1. Most subjects had a moderate degree of dissatisfaction with their current treatment program.
2. Degree of dissatisfaction with current treatment program was not related to 15-day retention.
3. Degree of dissatisfaction with current treatment program was related to discharge status.

RRQ

1. Most subjects labelled themselves as avoidant in romantic relationships.
2. About one-third of subjects labelled themselves as secure in romantic relationships.
3. Self-reporting of avoidant attachment style in romantic relationships related to 15-day retention.
4. Self-reporting of secure attachment style in romantic relationships related to 15-day retention.

CRQ

1. Most subjects labelled themselves as either avoidant-fearful or avoidant-dismissing in close relationships.
2. About one-fourth of subjects labelled themselves as secure in close relationships.
3. Self-reporting of fearful avoidant attachment style in close relationships related to fewer irregular discharges.

Note. PBI = Parental Bonding Instrument; NAQ = No Attachment Questionnaire; SASB = Structural Analysis of Social Behavior; COPES = Community-Oriented Programs Environment Scale; RRQ = Romantic Relationships Questionnaire; CRQ = Close Relationship Questionnaire.

CHAPTER IV

DISCUSSION

The purpose of the present study was to explore specific, attachment-related factors to see if they might have some effect on early retention in substance abuse treatment. Three primary areas were included, based on previous research and theoretical literature. These areas were perception of early parental care, current interpersonal functioning, and perception of the substance abuse treatment program. Early parental care was included to try to assess the attachment-related roots of current interpersonal patterns. Current interpersonal functioning was examined from both an adult attachment and self-reported interpersonal style perspective. Lastly, perception of the current treatment program was included since some research (DeLeon & Jainchill, 1986) had found this to have an effect on early dropout and because attachment theory suggests a particular attachment-related perceptual filter toward sources of support in times of stress (Kobak & Sceery, 1988). To summarize, this study was designed to trace a present behavior, i.e., dropping out of substance abuse treatment early, through its cognitive-perceptual roots to a deeper systemic base--attachment patterns begun in childhood (see Figure 1). It was thought that perception of the

treatment program would be most related to retention or attrition in treatment, with current interpersonal functioning showing a somewhat smaller relationship. Perceived parental care was hypothesized to be related to retention but in a smaller proportion to the two other more proximal factors.

Five hypotheses were proposed in the present study. The first hypothesis was that perceived early parental care, as measured by Care scale scores on the PBI, would show a positive relationship with retention in a substance abuse program on the 15th day of treatment. That is, subjects who perceived their primary caretakers early in life as more caring would be less prone to drop out of treatment early. This derives from the attachment theory perspective that positive early attachment/bonding experiences would lead to mental "rules" (i.e., "working models", cognitive perceptual filters) which allow one to acknowledge distress and turn to others for support. This hypothesis was not supported.

The second hypothesis predicted that scores on the maintains distance in relationships (MDR) and fear of hurt or rejection (FEAR) scales of the No Attachment Scale would show a negative relationship with retention in a substance abuse treatment program on the 15th day of treatment. In other words, it was thought that a more avoidant style in adult attachment relationships might influence early dropout through less acknowledgment of distress, less trust toward

the ability of others to help, and an attitude of compulsive self-reliance. This hypothesis was not supported. There was a significant relationship between maintaining distance in relationships and discharge status, but in a direction opposite to what was expected. Subjects who admitted maintaining more distance in relationships had fewer irregular discharges.

The third hypothesis postulated that affiliation scores on the Structural Analysis of Social Behavior (SASB) would show a positive relationship with retention in a drug treatment program on the 15th day of treatment. It was thought that subjects who reported a mutually supportive, nurturing, and caring primary relationship would be more prone to use the relationships developed with staff and other patients in treatment to get the support and help needed to become sober. Again, this hypothesis was not supported.

A fourth hypothesis predicted that perception of the treatment program as measured by a real-ideal difference score on the Community-Oriented Programs Environment Scale (COPES) would show a negative relationship with retention. In other words, the real-ideal difference score was designed to tap dissatisfaction with the patient's program. Degree of dissatisfaction was postulated to be related to 15-day retention. This relationship was not found. More dissatisfaction with the program was found to be

significantly related to a secondary outcome variable, however. Subjects expressing more dissatisfaction tended to have more irregular discharges.

The last hypothesis predicted that all three independent variables--perceived history of parental care, current interpersonal functioning, and perception of the program--would show some association with retention in a treatment program on the 15th day and that greater predictive power would be associated with each variable's level of specificity. Thus, perception of the program was hypothesized to be the most predictive, followed by current interpersonal functioning, and then, perceived history of parental care. This hypothesis received partial support. Though none of the variables showed a significant univariate correlational relationship to 15-day retention, a combination of two variables was found to be predictive through discriminant function analysis. Both maintains distance in relationships and satisfaction with the program had some predictive value, though the combined variables only accounted for about 10% of the variance. In the present study, the predictive power of the variables was not found to be related to level of proposed specificity in that the measure of current interpersonal functioning, i.e., maintains distance in relationships, was slightly more predictive (R^2 = .06) than the COPES difference score (R^2 = .04).

Discussion of the Findings

The present study attempted to discern factors which were related to and predictive of retention in substance abuse treatment programs. Factors were chosen based on previous research looking at interpersonal issues among substance abusers (Calsyn et al., 1988; Coleman, 1987; Craig & Olson, 1988; Hawkins & Fraser, 1987) and because they were thought to be related to and consistent with some of the assumptions of attachment theory (Bowlby, 1988; Kobak & Sceery, 1988). As reviewed above, only one of the hypotheses received partial support. The rest of the major hypotheses of this study were not supported. There were, however, some interesting findings with clinical, theoretical, and research implications. Possible explanations of the hypothesis-related results of this study and other additional findings will be explored below. Next, limitations of the study and suggestions for future research will be presented. A section on conclusions and implications will follow.

The first major finding of the present study was that the 15-day retention rate was higher than expected when compared with rates reported in previous research. Several reasons for this result will be discussed including program characteristics and method of measuring retention. The subject of inadequate information on base rates of retention in drug treatment literature will also be addressed.

In this study, most subjects appeared to be generally satisfied with their treatment programs. Dissatisfaction with the treatment program did not show a significant univariate relationship to 15-day retention. It was, however, related to irregular discharges, a secondary outcome variable. Implications of these findings, along with sampling and measurement issues which may have affected satisfaction with the program will be explored.

It was found that interpersonal variables, as defined in this study, showed no consistently strong pattern of relationship to program retention. Results across several interpersonal and exploratory measures, however, did suggest a trend toward greater 15-day retention and fewer irregular discharges among subjects who reported more avoidant interpersonal patterns. This was opposite to what was predicted. Maintaining distance in relationships was related to irregular discharges, as was self-reported avoidant attachment style on the RRQ rating scale and the fearful avoidant style on the CRQ rating scale. Avoidant style on the RRQ rating scale was also related to 15-day retention. Subjects' perceptions of treatment alternatives will be discussed as an explanation for these findings. Measurement and sampling issues will also be examined.

In terms of the prediction of 15-day retention, a discriminant function utilized two variables to distinguish those who stayed in the program from those who left the

program prematurely with about 64% accuracy. Both the interpersonal variable of maintaining distance in relationships and perception of the program, defined as degree of dissatisfaction with the program, showed some predictive power. Possible implications of this finding and factors contributing to it will be explored.

Another noteworthy result of this study is the affirmation of heterogeneity of interpersonal style among substance abusers. Most subjects reported moderate levels of avoidant interpersonal patterns and moderately affirming and trusting primary relationships on the two measures of current interpersonal functioning. On the exploratory measures of self-reported attachment style, most subjects labelled themselves as avoidant. There was, however, a wide range of reported interpersonal characteristics across all of these measures. This variety was also seen in the demographic characteristics related to relationship issues. Implications of this finding will be explored.

A sixth major finding was that perceived history of parental care, as measured in this study, showed no relationship to program retention. It also did not show a significant pattern of relationship to interpersonal variables, as predicted by attachment theory. In general, subjects characterized their early parenting as optimal, though on the low end of this scale. Measurement issues and

subject characteristics will be explored as well as possible etiological implications of these results.

Lastly, the results of this study do not correspond to attachment theory in the direct manner initially proposed in this study. Reasons for this will be discussed including measurement and sampling issues. Implications of the results of this study vis-a-vis attachment theory will also be explored.

Retention Rates

An unexpected finding in this study was that the 15-day retention rate was higher than had been expected. Previous research had reported early attrition rates of about 30% up to 50% within the first 14-23 days of treatment (Capone et al., 1986; DeLeon & Schwartz, 1984; Siddall & Conway, 1988; Stark & Campbell, 1988). The present study found a retention rate of 79% to 82%, which translates into an 18%-21% dropout rate. This is lower than that found in previous studies and not particularly high compared to dropout rates across other mental health programs (Baeklund & Lundwall, 1975). This lower rate of dropout may have had an effect on the results of this study in that the number of dropouts was small enough to attenuate differences between the Stay and Leave groups. More robust results may have been found on some variables had the latter group been larger.

It is difficult to judge the actual significance of the 15-day retention rate found in this study due to the lack of

adequate data on early retention across a variety of drug treatment programs and client populations. For instance, though the rate found was lower than other published rates, the programs in these earlier studies were all of longer duration than the programs in the current study. There is a need for more research on baseline rates of retention, both early retention and program completion rates. In addition, there needs to be a clear, consistent definition of what constitutes "early" attrition in the drug treatment literature (Stark & Campbell, 1988). While one could argue that the early dropout rate found in this study could be reduced, it does not appear to be a problem of major proportion as has been suggested in previous reviews of retention in drug treatment (Craig, 1984; DeLeon & Schwartz, 1984; Stark & Campbell, 1988).

Taking into account the lack of current, specific retention rates for comparison, there may still be several factors particular to this study which contributed to the apparently higher early retention rate found. These comments will be directed specifically to the Atlanta VA program since the retention data from this sample is more complete. First, the treatment program in Atlanta is significantly shorter than the programs mentioned in prior research (DeLeon & Jainchill, 1986; Siddall & Conway, 1988; Stark & Campbell, 1988). Atlanta's inpatient program was originally a 21-day program, but changed to 28 days about

study. (Patients are usually followed up through the oupatient clinic for about three months.) The length of this program falls somewhere in-between the 3-month to a year programs which emphasize extensive psychological and lifestyle change and the one- to two-week detoxification programs which focus on just getting the patient off the drug and through the initial withdrawal effects. Perhaps the length of the Atlanta program is not as overwhelming or does not cause as much of a lifestyle dislocation as the longer programs. There is some evidence in previous studies that some drug abusers may prefer a program which does not demand too much from them (Craig, 1985). Maybe retention rates are higher in programs of shorter duration for some of the above reasons.

Another program-related factor could be that, in general, subjects in the Atlanta treatment unit expressed only moderate levels of dissatisfaction with their program. The discrepancies between how they perceived their program and how they wished it would be were not large. Perhaps the retention rate was higher than expected because the patients were generally satisfied with their program.

Additionally, subjects in Atlanta were recruited over an approximately six-month period. Whether retention rates gathered over a different six-month period or over a longer period of time would differ is unknown. Of particular note here is that during the course of this study, the Atlanta

program changed from a 21-day program to a 28-day program with an initial "detox" week on the unit. Eight of the 13 early dropouts from this program occurred within a month-and-a-half of this change. Program changes can affect retention rates (Craig, 1985). It is plausible that disruption of the program during this transition or some change in admission criteria due to the addition of a "detox" week could have contributed to increased attrition during this period. Given this scenario, the retention rate found in Atlanta may even be inflated.

Another study-specific issue may be how retention was defined and measured in this study. The fifteen-day limit was chosen based on previous research (DeLeon & Schwartz, 1984) which suggested most dropout occurred in the first 14 days of treatment. If, however, a different criterion had been used, then results may have been different. Several studies reviewed used the criterion of completion or non-completion of a treatment program in studying retention/attrition issues (Aron & Daily, 1976; Craig, 1984a; Craig, 1984b; Craig, 1985; Roffee, 1981). This criterion would seem to be particularly appropriate for shorter treatment programs such as the one at the Atlanta VA.

Satisfaction With Treatment Program

In general, the subjects in this study seemed to be fairly satisfied with their treatment programs. Most

subjects (68%) had difference scores of less than 10 between the Real and Ideal versions of the Community-Oriented Programs Environment Scale (COPES). Only four subjects indicated that they were dissatisfied on 50% or more of the items in the measure. The three COPES categories showing the largest discrepancies were Spontaneity, Practical Orientation, and Anger and Aggression. Subjects appeared to want less Spontaneity, i.e., encouragement of open expression of feelings by members and staff. They also seemed to say that they preferred less emphasis on practical skills and preparing for release from the program (Practical Orientation). The only category in which subjects expressed a desire for more than they perceived was being provided was in the area of Anger and Aggression. Subjects appeared to be saying that they would prefer more acceptance of openly angry, aggressive behavior. None of these real and ideal categories were highly discrepant, however.

Dissatisfaction with the program was significantly related to discharge status. Those who expressed more dissatisfaction were more prone to get irregular discharges. This could be related to the finding by Harris, Linn, & Pratt (1980) that patients who received disciplinary discharges, i.e., irregular discharges, had higher social dysfunction scores and had difficulty expressing anger. Presumably, leaving treatment was a way of expressing their anger. This could also relate to the above finding that

subjects in this study expressed an apparent desire for more acceptance of anger on the units. Such a desire could be a projection related to the subjects' own inability to express anger.

The significant difference seen between the satisfaction scores of the Atlanta and Northport samples is attributed to sampling error. As mentioned previously, most patients approached to participate in the study in Northport refused to do so. It is highly probable that the more compliant, and/or perhaps more motivated, patients admitted to this program agreed to participate. This could easily have skewed the results on the measure of program satisfaction. Additionally, the sample size from Northport was small (n = 16) and therefore, one would expect less of a range of scores.

Measurement and sampling issues may have played a role in the lower correlation between the COPES difference scores and 15-day retention. Since the short forms of the COPES were used, maximum difference scores per category were very small. Even though the COPES manual (Moos, 1988) reports high correlations between the long and short forms of the test, difference scores may have been maximized had the longer form been used. Additionally, with only 14 subjects in the Leave group, results may have been attenuated, as mentioned previously. This possibility is given further weight by the fact that the COPES difference score was

significantly related to discharge status in a manner consistent with the initial prediction. Subjects who expressed greater dissatisfaction with their program were more likely to have irregular discharges. The number of subjects in the two discharge categories (48 for regular discharge and 22 for irregular) may have affected the significance of this correlation.

Current Interpersonal Functioning

No consistently strong pattern of relationship to 15-day retention was found for the two primary and two exploratory measures designed to tap interpersonal patterns. The FEAR scale of the No Attachment Questionnaire and the weighted affiliation scores on the SASB did not have significant correlations with 15-day retention. It was found, however, that three scale scores (MDR, RRQ rating scale avoidant attachment, and CRQ rating scale fearful avoidant attachment) did show some relationship to retention on the 15th day of treatment and to discharge status.

The latter finding above suggests a trend for subjects who reported a more avoidant style to remain in treatment longer and have fewer irregular discharges. This is exactly opposite to what was predicted. Based on the assumptions of adult attachment theory (Bowlby, 1988; Dozier, 1990; Kobak & Sceery, 1988), it was thought that more avoidant individuals would be prone to drop out of treatment early because of their distrust of the helpfulness or support of others and

their inability to admit distress. One recent research study on the use of treatment by adults with serious psychopathological disorders found that "stronger avoidant tendencies were associated with greater rejection of treatment providers, less self-disclosure, and poorer use of treatment" (Dozier, 1990, p. 47). Previous research on retention (Craig & Olson, 1988; Roffee, 1981; Siddall & Conway, 1988) also suggested that a more avoidant personality style might predispose patients to leave drug treatment early.

One explanation for these unexpected results comes from the finding by DeLeon and Jainchill (1986) that a patient's perception of treatment alternatives may affect his or her decision to remain in drug treatment. If a patient has some relationship or support system outside of treatment that appears as an attractive alternative to the difficult process of treatment, he or she may be more prone to drop out. This was corroborated by a psychologist on the Atlanta VA unit who said that patients do often leave the program due to an outside relationship (N. D'Abadie, personal communication, May 26, 1992). Thus, more avoidant patients may perceive that they have fewer treatment alternatives due to restricted relationships or networks of support.

Related to the above discussion on perception of treatment alternatives is a sampling issue centering around racial, ethnic differences. Most of the subjects in this

study were of African-American descent (85%). As reported by Graham (1992) in a recent issue of American Psychologist, there is a "shrinking empirical base" (p. 629) of research on African-Americans. This seems to be true in several areas reviewed for this study, i.e., attachment, interpersonal patterns, and social support. As a result, it is unknown what effect ethnic origin/race may have played in the current interpersonal findings of this study. While it is thought that race may not have had a large effect on the lack of relationship between some interpersonal variables and 15-day retention or to the generally warm, empathic relationships reported on the SASB, race may have played a role in the finding that more avoidant subjects tend to remain in treatment. Social support literature (Vaux, 1985) reports some evidence of stronger family ties among African-Americans than among Caucasians. Perhaps social support networks outside of treatment are stronger and more necessary (De La Rosa, 1988) for African-Americans due to a long history of cultural discrimination and inequity. The lack or restricted nature of such support systems for more avoidant African-American substance abusers may predispose them to perceive few alternatives to staying in treatment.

Another consideration in the interpersonal results of this study are measurement issues. Benjamin's (1974) Structural Analysis of Social Behavior (SASB) is a well-

validated and reliable instrument with an impressive research base. Unfortunately, the lack of a comprehensive user's manual makes it rather difficult to fully utilize this highly technical and statistically complex instrument at the present time. Indeed, one researcher with an extensive database on the SASB said he receives calls from all over the world concerning questions about clinical and research use of the instrument (B. Henry, personal communication, May 28, 1992). In a conversation with this researcher, he said that unless one uses the instructional set which asks the subject to rate a relationship at its "best and then at its worst", one often gets results which rate the relationship as moderately positive ("two-thirds of the way toward best"). Unfortunately, this information is not yet published and was not known before data collection in this study. The results obtained on the SASB in this study seem to fall into this moderately positive pattern. Even if the researcher in the present study had been aware of this instructional set, however, the appropriateness of using the test with this instructional set in a sample of substance abusers is questionable. To ask substance abusers in treatment to take two 72-item questionnaires twice each would have probably been too frustrating and time-consuming for them and would have lowered the number of subjects willing to participate. Though the SASB appears to be an

excellent measure of interpersonal relationships, its length may prove problematic in some populations.

The problem of lack of normative data across ages and racial/ethnic groups must also be considered in the case of both of the primary measures of interpersonal functioning used in this study. The only study against which to compare the results on the maintains distance in relationships scale was conducted on undergraduate college students in northern Texas. The scores on both the MDR and FEAR scales were higher in the present study, suggesting more avoidant patterns in this population. There are, however, obvious developmental and racial/ethnic issues which could affect any comparisons between that population and the one in this study. The SASB is also lacking in published norms and a research base across different racial/ethnic groups (L. S. Benjamin, personal communication, May, 1992).

Even taking into account sampling and measurement issues in the present study, the moderate to low correlations of interpersonal variables as defined in this study would argue against any further exploration of these variables as primary predictors in future research on early retention in drug abuse treatment. It had been expected that the demanding interpersonal nature of substance abuse programs might activate attachment-related responses to the stress of the initial phase of drug rehabilitation. Apparently, at least for the programs in this study, such was not the case.

The present study does not argue against the presence of interpersonal problems among substance abusers, however. There does seem to be evidence in this study for a variety of interpersonal issues among substance abusers in treatment (to be discussed in more detail later).

Prediction of 15-Day Retention

To determine which combination of variables was most predictive of 15-day retention, a discriminant function analysis was performed using the primary variables of PBI Care, MDR, SASB weighted affiliation score (Afil 1), and the COPES difference score. Even though none of the variables showed significant univariate correlation with 15-day retention, a combination of two variables provided a canonical correlation of .31 and was able to correctly classify approximately 64% of the subjects into 15-day retention groups. The two variables which were included in the discriminant function were maintains distance in relationships (MDR) and the COPES difference score, with MDR accounting for about 6% and COPES difference accounting for about 4% of the variance.

Few studies which actually look at the prediction of retention in drug and alcohol treatment programs were found in a review of the literature. Most research in this area appears to simply look for correlates with retention, often in retrospect (Allison & Hubbard, 1985; Aron & Daily, 1976; Capone et al., 1986; DeLeon, 1974; DeLeon and Jainchill,

1986; Stark & Campbell, 1988; Siddall & Conway, 1988; Roffee, 1981). Of those studies which did look at prediction and classification rates using a discriminant function analysis (Craig, 1984; Craig, 1985; Craig et al., 1982; Sladen & Mozdzierz, 1985), classification rates reported ranged from 64% to 91%. Cross-validation of these discriminant functions were usually lower and especially so when cross-validated on cohorts years apart (50% loss in predictive accuracy reported by Craig, 1984). Canonical correlations and variance statistics were not reported in these studies.

Given the above figures, the discriminant function in this study is on the low end of this range of predictive accuracy. This, along with the moderate canonical correlation, would suggest that this combination of variables provide only a modest amount of predictive accuracy. It would seem that the particular variables explored in this study do not play a significant role in the prediction of 15-day retention. There are, however, some interesting possible implications based on the two factors which did contribute to the discriminant function.

First, the trend mentioned in the previous section concerning subjects who reported more avoidant patterns tending to still be in treatment on the 15th day was reaffirmed in the discriminant analysis. Several studies as well as government reports (Drug Abuse and Drug Abuse

Research, 1987; McLellan, Woody, Luborsky, O'Brien, & Druley, 1983) have recently emphasized the importance of patient-treatment matching for most effective treatment outcome. McLellan and his colleagues (1983) matched patients to treatment based on the medical, economic, and <u>social</u> problems each patient brought to treatment. In particular, these researchers matched patients according to intensity level of treatment, i.e., outpatient versus inpatient substance abuse treatment versus inpatient psychiatric treatment. A similar idea, though with a different focus, was suggested in a recent article looking at attachment patterns and treatment use among a group of psychiatric patients (Dozier, 1990). Based on the results of her study, Dozier cited the need for research looking at attachment classification and treatment modalities which vary in intensity. She particularly targeted persons with more avoidant patterns as possibly prefering less intensive treatment due to their need for more interpersonal distance. She suggested that avoidant persons might be more compliant with less intensive treatment and therefore, benefit more from such therapy. At first glance, these studies might seem contradictory to the results found in the present study in that more avoidant subjects tended to remain in treatment through the 15th day. But, as mentioned previously, the substance abuse programs in this study were of shorter duration than other programs reviewed. Perhaps the

intensity level of these programs is appropriate and not too threatening for persons with avoidant tendencies. This possibility would seem to be particularly strong for the shorter Atlanta VA program.

This possibility receives some further validation from examination of the COPES data. First, as mentioned above, most of the discrepancies between the COPES real and ideal scores were in the direction of subjects wanting less. The ideal program as imagined by most of the veterans in the Atlanta treatment unit would require less of them, i.e., less involvement, less need to support each other or express feelings, less push toward independent decision-making. This corresponds with Craig's (1985) earlier finding that patients in a detox program stayed longer when there was less staff contact and less was demanded of them. Again, a first glance at these results might lead one to conclude that the subjects with the higher difference scores found treatment too demanding and, so, dropped out. One might expect that the subjects with the higher difference scores should also be the ones who are more avoidant. But another interpretation presents itself based on three trends in this study: 1) the difference scores in most categories were not high; 2) subjects seemed generally satisfied with their programs; and, 3) many subjects did report some level of avoidant patterns. This interpretation would suggest that the intensity level of programs in this study was

comfortable for most patients and therefore, most of them remained in treatment at least through the 15th day.

An additional correlational examination of retention with a different grouping of the COPES variables provides some further support for the latter interpretation. The real perceptions of the treatment programs (Real version of the COPES) were explored with the ten interpretative categories grouped by dimension, i.e., Relationship, Personal Growth, and System Maintenance areas. Using these dimensions, it was found that only System Maintenance had significant correlations with 15-day retention (r = .2230, p < .05) and with discharge status (r = .2512, p < .05). The System Maintenance dimension assesses order and organization, program clarity, and staff control. Putting this information together with the data from the discriminant function and previous related research, there may be some modest, yet theoretically and practically interesting interaction between avoidant attachment patterns and program intensity level as suggested by Dozier (1990).

Heterogeneity of Interpersonal Patterns

As mentioned earlier in this paper, there is a picture of the "modal" substance abuser that characterizes him (the references in the literature are almost always to males, though this is not often stated directly) as a loner who denies interpersonal needs and avoids intimacy; a rebel who must be "in control" and who is often in conflict with

authority; and an externalizer who denies internal anxiety by blaming others or acting impulsively to dispel any negative feelings (Calsyn et al., 1988; Craig, 1985; Craig & Olson, 1988; Malow et al., 1989; Rogalski, 1986). As with two previous studies which emphasized the heterogeneity among substance abusers in terms of interpersonal styles and presence and type of personality disorder (Calsyn et al., 1988; Malow et al., 1989), the present study also disclaims the myth of the "typical" substance abuser. Perhaps this myth is a holdover from the more deviant, counterculture or underclass drug abuser of the 1960's; or perhaps the nature of drug abuse has changed due to the resurgence of "status" drugs like cocaine and the widespread and cheap availability of crack (Kozel & Adams, 1986); or perhaps it is just another way society likes to separate the "them" from the "us". Whatever the reason, there appears to be a renewed interest in fully exploring the heterogeneity among substance abusers and the implications of this variety for improved, patient-specific treatment (Drug Abuse and Drug Abuse Research, The Second Triennial Report to Congress from the Secretary, Department of Health and Human Services, 1987).

While most subjects labelled themselves as avoidant, either fearful or dismissing, in romantic and close relationships, about 40-50% saw themselves as either anxious-ambivalent or secure in intimate relationships.

Reported ranges for the three RRQ attachment styles in previous research using non-clinical samples are 51% to 56% secure, 19% to 21% anxious/ambivalent, and 23% to 28% avoidant. On the SASB, subjects characterized their most important relationship as mutually warm and trusting. Even the indications of more avoidant attachment patterns on the MDR scale were not in the extreme. While about 38% of subjects reported no close friendships, 19% claimed more than four and about 37% said they had 1-3 close friendships. As for intimate relationships, 15% of subjects were married and another 15% were in a long-term relationship. The variety seen in these results seem to correspond to those found by Calsyn et al. (1988) on another cohort of male veteran drug abusers.

Clearly, many of the subjects in this study follow some of the commonly-held assumptions about the interpersonal patterns of substance abusers. A large percentage of them report few friendships, no intimate relationship, and a pattern of maintaining distance in relationships. On the other hand, a majority claimed not to be satisfied with their relationship status and most subjects reported fairly positive pictures of current important relationships. The heterogeneity seen across these measures and in recent studies calls for a re-thinking of some of the common assumptions about the interpersonal styles of substance

abusers and a sensitivity to evaluating and treating the variety of interpersonal issues in this population.

Perceived History of Parental Care

The variable of perceived history of parental care was included to try to assess the early childhood precursors of more avoidant attachment styles in this adult population of substance abusers. Attachment theory (Bowlby, 1988) postulates that an adult's attachment style is primarily formulated through the experiences of early caregiving by significant others. Attachment patterns formed in infancy and childhood are thought to continue to affect adult functioning through influence on intimate interpersonal relations, perceptions of interpersonal experiences, and interpersonally-based coping responses in times of stress.

On the Parental Bonding Instrument, subjects in the present study characterized their early parenting in a positive manner. Previous studies using the PBI with addicted populations and control groups have shown mixed and inconsistent results (Parker, 1990). One study reported no differences in the Care scale between addicts and controls, while another reported lower Caring scores by addicts. Scores of both addicts and controls in the latter study, however, were all on the low end of the "optimal parenting" quadrant of the PBI diagrammatic scale. The scores for the total sample and all groups in this study also fell within this quadrant. In addition, the scores on the PBI Care

scale in this study showed no relationship to retention and no clearly discernible and significant pattern of relationship to interpersonal variables. Determining to what extent these results represent "perceived reality" or are partly accountable to measurement error is difficult. Measurement issues will be addressed first.

The PBI has been used in several previous studies to look at early parenting precursors of current relational behavior, specifically social support (Parker, 1990; Sarason, Sarason, & Shearin, 1986; Sarason, Shearin, & Pierce, 1987). These studies, however, were conducted with undergraduate students or women who had just given birth. In general, there are no standardized norms for the PBI. The primary norming sample was drawn from several hundred patients of three general practitioners in Sydney, Australia. This lack of appropriate norms against which to evaluate the results of this study must be taken into account. For example, some studies on social support systems have suggested that family support structures are stronger and more important among various ethnic groups in our culture, such as African-Americans (De La Rosa, 1988; Vaux, 1985). Since the majority of subjects in this study were of African-American descent, such an ethnic difference may have influenced the positive view of early parenting.

An important issue to consider in the interpretation of the PBI results is that this instrument measures

"perception" of early parenting. Though the instrument appears to show some relationship with actual parenting (Parker, 1990), perception of early parenting is more pertinent to assessing adult attachment (Main et al., 1985; Dozier, 1990). In a 1990 review of a decade of work with the PBI (Parker), the majority of studies looking at addictive disorders and personality disorders do report lower perceived parental care by their subjects. Why is the sample in this study different? Do these results point to defensive denial, lack of negative perceptual filters, or reflections of reality? It is not possible to answer these questions definitively based on the results of this study, since no details of early childhood were obtained other than PBI scores and information on whom the subject considered his primary caretaker.

One possibility in interpreting the results of the PBI in this study is that these subjects did, indeed, have generally positive parenting growing up. This, however, would be contrary to much of the etiological "wisdom" and research on drug abuse from the earliest years of such study to present (Blechman, 1982; Needle et al., 1988; Seldin, 1972; Shedler & Block, 1990). Early reviews of familial contributions to substance abuse focused on "broken" homes or overprotective mothers with or without passive fathers (and a Freudian hint of latent homosexuality). Later studies focused on how the substance abuse functioned within

family interactions. More recently, familial factors have been implicated in more complex, interactional models of familial (e.g., family cohesion, stressful family events), interpersonal (e.g., peer use), and intrapersonal (e.g., self-esteem, coping, personality dimensions) variables. Is there a reality base to the involvement of familial variables in the development of substance abuse problems or is it a myth carried over from the predominantly deviant, counterculture and "ghetto-ized" use of drugs in the 1950's and 1960's? While several good research studies have recently supported some role for familial variables in the development of substance abuse, most of the research seems to be conducted on white adolescents who come from some range of lower middle to higher middle SES backgrounds (Needle et al., 1988; Shedler & Block, 1990; Swaim, Oetting, Edwards, & Beauvais, 1989) . We do not know whether early family experiences play some role in the development of substance abuse in older, black, male veterans who are primarily crack abusers. This study did not address etiological issues or explore the onset of drug use in this sample. But the report of generally caring early parenting and the fact that 89% report being raised by one or both parents raises some questions about the relevance of the earliest wisdom on the familial correlates of drug abuse. These results also suggest gaps in the current trend of drug abuse etiological research.

On the other hand, there appears to be much evidence for, at the very least, subjects' perception of problems in early parental care across some drug abuse etiological studies and across studies looking at etiological correlates of other psychological disorders (Bowlby, 1988; Dozier, 1990; Parker, 1990). This suggests a strong possibility that either defensive denial or some perceptual filter which blocks out the negative or accentuates the positive may be affecting the perceived parental caring results of this study. In one previous study on attachment patterns in college students (Kobak & Sceery, 1988), the researchers suggest that their avoidant group of subjects may have "a bias toward not acknowledging negative affect" (p. 143). Since the majority of subjects in this study did report some level of avoidant tendencies, this perceptual filter of denying negative affect could be operative in the results on the PBI.

Attachment Theory

One aspect of the present study was to explore the effects of proposed attachment-related variables on 15-day retention in substance abuse treatment. It was hoped that a pattern of relationship among variables would be seen which would correspond to attachment theory. Specifically, it was thought that perceived history of parental care would be significantly related to measures of current interpersonal functioning and that current interpersonal functioning would

be significantly related to perceptions of the program. This was not found. As mentioned previously, however, there may be some suggestion of a treatment intensity by attachment style interaction. This interpretation of the results of the present study is speculative, however, and has not received any significant validation. Proposed reasons for the lack of relationship between variables as predicted by attachment theory include measurement issues and one significant underlying assumption.

While the Parental Bonding Instrument seems to be a fairly valid and reliable measure of early parental care, there are no published studies to date on its relationship to actual attachment measures (Parker, 1990). In the present study, the PBI showed moderate, negative correlations with two measures of avoidant attachment patterns (MDR, FEAR) and a moderate, positive relationship with one of the weighted affiliation scores on the Structural Analysis of Social Behavior. (See Table D-3). But its correlations with the other measures of attachment were very low. Even though this may be related to some perceptual filter towards early parenting in the present sample, the relationship of PBI Caring scores to adult attachment categories remains unclear. Most studies looking at attachment styles in adults use more open-ended interviews or Q-sort techniques to assign attachment labels based on the adult's organization and integration of

perceived early parenting (Dozier, 1990; Kobak & Sceery, 1988). It would be helpful in future research to have a shorter, more structured measure which correlates with adult attachment. It remains unclear whether the PBI is an appropriate measure for this purpose.

In terms of the measures used to assess current interpersonal functioning, it seems that the MDR scale of West et al.'s (1987) No Attachment Scale is a good measure of at least one aspect of avoidant attachment style. It is less clear, however, whether the weighted affiliation scores on the SASB tapped an interpersonal aspect of avoidant attachment style. Correlations with the MDR were scale significant and negative, indicating some discriminant validity across the two measures. But the strongest and most consistent relationships across all four affiliation scores and the RRQ and CRQ rating scales were with the anxious-ambivalent style. Again, these relationships were all negative. While it seems that the SASB affiliation scores may have some relationship to aspects of avoidant and anxious-ambivalent attachment, this relationship is not clear from the present study and there is no known published research to date on the SASB and attachment styles. The SASB was chosen because it seems to be the strongest interpersonal measure available in terms of theoretical complexity, clinical utility, reliability, validity, and research base. Again, additional research on the

relationship of the SASB to attachment styles may illuminate the possible best use of this instrument in future studies concerning attachment theory.

Lastly, though the Community-Oriented Programs Environment Scale difference score seemed to function well as a measure of satisfaction with the program, a recent article calls into question an assumption underlying the proposed attachment link concerning perceptual filters based on attachment style (Kobak & Sceery, 1988). Dozier (1990), in a study looking at attachment style and use of treatment in adults with diagnosed psychiatric disorders, made the observation that this population provided a unique opportunity to study "the relationship between attachment organization and the reliance on attachment figures in adulthood" (p. 53). In other words, the therapists for these patients were a rather clear adult prototype of an attachment figure. The assumption in the present study was that the program itself would function as an attachment figure of sorts, with the analogous perceptual distortions and behavioral correlates (i.e., dropping out of treatment early). Clearly, in retrospect, this is a tenuous assumption and one which may have minimized the proposed attachment connections between this variable and its theoretical antecedents.

In summary, the present study did not find the proposed attachment-related links between the independent variables.

This is considered to be due primarily to the choice of measures used in this study and to a retrospectively tenuous assumption concerning the substance abuse treatment program functioning as an attachment figure.

Limitations of the Study

Several limitations of the present study will now be explored. Issues related to the dependent variable of 15-day retention will be presented first, followed by the implications of lack of a control group in this study. The important factor of sampling issues will be discussed next. Lastly, limitations related to instrumentation will be examined.

As mentioned previously, the present review of the literature on retention in drug treatment produced no clear baseline of early or treatment completion retention data across types of programs and client populations. This makes it difficult to assess the relative importance of the 15-day retention rate found in this study. The varying definitions of early retention also provide some limitations to comparing results across studies.

Lack of a control group in this study also limits interpretation of the results of the present study. This is a problem of particular difficulty, since it is not clear what would constitute an appropriate control group in assessing retention in substance abuse programs. Does one compare different types of substance abuse treatment

programs? Or, does a more appropriate control group consist of patients in other types of mental health treatment or, perhaps, patients in some type of general medical treatment program, such as a cardiac rehabilitation program? This problem is compounded by trying to match type of clients as well as type of program.

The sample for the present study was predominantly of African-American descent. The subjects were all male veterans, who were mostly high school graduates with a history of full-time employment. The primary drug of abuse was crack and most subjects had been in treatment at least two previous times. Generalizability of the results of this study are limited to groups of drug abusers with similar characteristics.

Generalizability would also be more appropriate only to studies looking at similar types of treatment programs, i.e., short-term substance abuse treatment programs within a larger institutional setting. It is particularly noted that length of program may affect early retention rates.

A second sampling concern is the possibility of a selection bias in the sample. As discussed previously, it is fairly certain that such a bias was operative in the Northport sample since there was a large number of subjects who refused to participate. Due to the ethical considerations of testing a population in treatment, participation in this study was voluntary with the clear

understanding that participation or non-participation would not in any direct way affect a subject's treatment program. It is not known to what extent subjects who refused to participate in the study differed from those who did participate.

Several limitations concerning measurement issues need to be addressed, some of which have been more fully discussed earlier in this paper. First, there is the issue of lack of appropriate norms against which to compare the results of this study. Of particular concern is the lack of norms for racial, ethnic groups on the measures of perceived early parenting and current interpersonal functioning. This is a special concern since there are some indications that race may play a role in each of these factors (Vaux, 1985).

A second measurement concern, which was dealt with in more detail above, was the possibly attentuated results on the SASB due to lack of an appropriate instructional set. It must also be mentioned that on the COPES-Real questionnaire, two of the categories within the System Maintenance dimension showed restricted ranges. Both Order and Organization and Staff Control were skewed to the low side of these categories. In general, all three of the System Maintenance categories (the two above plus Program Clarity) showed some skewness to the low side across the Real and Ideal versions of the COPES.

There was also one particular problem of construct validity across the two exploratory measures of self-reported attachment style. As mentioned earlier, the secure scale on the RRQ rating scale showed a moderate correlation with the avoidant-dismissing scale on the CRQ rating scale. Ten of the subjects who labelled themselves as secure on the RRQ re-labelled themselves as dismissing or fearful avoidant on the CRQ. An earlier study on attachment styles in undergraduates (Kobak & Sceery, 1988) found that their secure and dismissing groups did not differ on self-report measures of social competence or distress and attributed this to a bias against admitting negative affect. This, however, would not explain why the subjects in this study changed their self-evaluation in a relatively negative direction on the CRQ. It seems that this discrepancy must be due to either the difference between rating oneself in romantic versus close relationships or to subtle changes in wording on the items of the two different measures.

Recommendations for Future Research

As mentioned previously, the results of this study point to several areas in which more research is needed. Other directions and suggestions for future research have also emerged during the course of this study.

First, as discussed previously, there is a need for more research on baseline rates of early attrition and retention defined as program completion. There is a clear need for

baseline data on different types (i.e., therapeutic communities, outpatient programs, short-term inpatient programs followed by outpatient treatment, etc.) and lengths of programs and for different types of client populations. What constitutes "early" attrition also needs to be clearly defined, taking into account programs of different lengths. For example, early attrition may not be a significant problem in shorter programs, such as the ones in this study.

The prediction of retention/attrition appears to be a complex issue, while the review of the literature conducted for this study suggests that the research in this area has often been approached in a rather simplistic manner. As called for by Craig (1985) and Siddall and Conway (1988), there is a need for prospective research on retention which takes into account the possible interactional relationships among variables. Such research should also be cross-sectional in design so that results are not primarily study-specific. Populations should be clearly defined and as homogeneous as possible, e.g., not mixing substance abusers with no psychiatric history with psychiatric patients who have some addictive problems. It would also help if future research in this area would have some theoretical basis and would be designed to clarify and eliminate alternative explanations for attrition.

The results of this study suggest that perception of the program, attachment style, and avoidant interpersonal

patterns may play some role in early retention. It does not appear that this role is a significant, primary one, however. While the results of this study did not provide a strong, consistent pattern of relationship to early retention, there are hints that there may be some benefit in including variables such as these in future studies. These variables have the potential to provide some clinically-related interpretative material for studies which may be exploring other variables related to retention.

A particular concern for future studies on retention is the problem of control groups. There is definitely a need for some thought on this issue from researchers and clinicians in drug treatment. Future studies on drug treatment retention might begin including different control groups for comparison in order to explore the issue of which control groups are most appropriate.

As mentioned previously, it appears that much of the current work on the etiology of drug abuse is conducted with adolescents. It would be interesting to have some retrospective data on older populations of substance abusers in treatment to compare the origins of their drug problems with present etiological literature. Such data would also need to take into account issues such as ethnic background, primary drug of abuse, current and past SES status, geographic region, military history, family history,

and perhaps, some history concerning adolescent peer relationships (Kozel & Adams, 1986; Swaim et al., 1989).

Lastly, there continues to be a need for additional research on the relationship between interpersonal variables and adult attachment patterns. In particular, research needs to focus on the measurement of adult attachment and its family of origin antecedents. It would be helpful if there were more standardized ways of measuring adult attachment, so that larger scale studies could be conducted and different, less traditionally compliant populations could be utilized. From a review of the literature on adult attachment measurement, there appear to be several instruments available or in research stages, but few of these have been subjected to extensive cross-measurement construct validational studies. As Rice et al. have pointed out (1990), the measurement of adult attachment at this stage is an ambiguous process. In addition, there might be some benefit from looking at the relationship of such well-developed interpersonal instruments as the Structural Analysis of Social Behavior and adult attachment patterns or styles. This might not only provide interesting theoretical validation or explanation, but might also aid in increasing the measurement choices when exploring adult attachment issues.

Conclusions and Implications

Based on the above discussion, the following conclusions and implications are presented.

1. Early retention may not be a major problem in shorter substance abuse treatment programs, such as the ones in this study. The 15-day retention rate in this study was higher than that found in previous studies, though most of the dropout that did occur was in the first 15-16 days as expected. More baseline research on early retention and on completion rates in substance abuse treatment across programs and populations is needed.

2. There is an indication that perception of the treatment program, defined as degree of dissatisfaction with treatment program, did play a modest role in 15-day retention in the current study. This variable showed a significant relationship to discharge status. A higher degree of dissatisfaction with treatment program was associated with more irregular discharge. Most subjects showed only low to moderate levels of dissatisfaction with their treatment program.

3. There appeared to be a trend for subjects who reported more avoidant attachment patterns to have fewer irregular discharges and less early attrition from substance abuse treatment. Avoidant attachment patterns did not appear to play a major, primary role in early retention, however. It was speculated that avoidant patterns may

influence early retention or attrition through the perception of treatment alternatives, specifically the lack of alternatives such as relationships or support networks outside of treatment.

4. A combination of two variables in this study were found to predict classification into retention groups with about 64% accuracy. Both the avoidant attachment pattern of maintaining distance in relationships and perception of treatment program, defined as degree of dissatisfaction with the program, contributed to a discriminant function with a modest level of predictive ability compared to that in previous studies. It was suggested that this combination of variables could be interpreted as affecting early retention through a treatment intensity by attachment style interaction. Perhaps the level of intensity of the programs studied was appropriate for a more avoidant population.

5. This study provided further validation of the heterogeneity of interpersonal styles among substance abusers suggested in previous research. Though interpersonal style did not appear to play a major role in early retention, it does appear to be an issue of possible clinical importance in drug treatment.

6. No relationship between perceived history of parental care and 15-day retention was found in this study. Subjects generally characterized their early parenting as moderately caring. An avoidant-style response bias which

blocks out negative affect was suggested as one possible explanation for these results. The other possibility explored was that the early parenting of these substance abusers was fairly positive and this was related to recent findings on the strong social support networks and family ties among African-Americans.

7. This study did not directly affirm the proposed attachment-related connective links between perceived history of parental care, current interpersonal functioning, and perception of the program. As mentioned previously, however, the suggested treatment intensity by attachment style interpretation of the predictive discriminant function might lend some support to the proposed theoretical attachment underpinning of this study. One premise of the present study was that the demanding interpersonal nature of early substance abuse treatment would activate the attachment system and thus influence reactions and perceptions to the program. Apparently, this did not occur to the extent expected. This may not be a negative outcome, however, if level of treatment intensity may interact with attachment style to influence treatment compliance. The primary reasons advanced for the lack of predicted attachment-related connections between the variables were measurement issues, i.e., the difficulty of assessing adult attachment patterns.

APPENDIX A

INFORMED CONSENT

VA RESEARCH CONSENT FORM

Subject Name: ______________________ **Date** ____________

Title of Study: Attrition in Substance Abuse Treatment: Predictive Factors

Principal Investigator: Kay Bryant, M.S. Psychology Service **VAMC:** Northport

DESCRIPTION OF RESEARCH BY INVESTIGATOR

1. **Purpose of study and how long it will last:**
2. **Description of the study including procedures to be used:**
3. **Description of any procedures that may result in discomfort or inconvenience:**
4. **Expected risks of study:**
5. **Expected benefits of study:**
6. **Other treatment available:**
7. **Use of research results:**
8. **Special circumstances:**

You are being asked to participate in a study looking at factors which may have some effect on staying in or dropping out of substance abuse treatment programs. At this point in time, we are not sure why some people stay in treatment and others do not. But we do know that this is an important issue in providing the best outcome to people trying to get and remain sober. The data-gathering part of this study is expected to last up to 9 months, from January through August, 1991, but the length of time required for each subject to complete his part of the study is just one week, that is, the first week of treatment.

If you agree to participate in this study, you will be asked to fill out two sets of questionnaires. The first set has several questionnaires asking about the way your parents raised you and about your current way of relating to other people. It is estimated that this first set of questions will take an hour or less to fill out and will be taken immediately after screening or within 24 hours of admission to the program. The second questionnaire packet will ask how you see the substance abuse treatment program in which you are participating and how you would picture an ideal program (in other words, the way you would most like a program to be). The second set of questions will take about 30 minutes or less to fill out and will be given to you 3-5 days after admission to the program.

For the purpose of the study, we will also be gathering some basic background information (directly from you or from your screening information) on age, race, employment status, marital status, drug use history, and

SUBJECT'S IDENTIFICATION (I.D. plate or give name-last, first, middle)

Department of Veterans Affairs

VA RESEARCH CONSENT FORM
(Continuation Page 2 of 2)

Subject Name: ______________________ **Date** ____________

Title of Study: Attrition in Substance Abuse Treatment: Predictive Factors

Principal Investigator: Kay Bryant, M.S., Psychology Service **VAMC:** Northport

psychiatric history. We will also obtain your starting and ending dates in the program from program records.

All of your questionnaire results and background information will be totally confidential. You will be assigned a code number to guarantee privacy. Only the principal investigator will keep a list of names and social security numbers associated with the codes and questionnaire results, and this information will be kept under locked conditions. All results from the study will be reported for groups of people, not individuals. No individual results will be shared with program staff unless requested by the subject and with that person's written permission.

No known risks, inconveniences, or side effects are expected from participation in this study. If any discomfort or questions occur which cannot be dealt with in the context of the therapeutic community, the principal investigator, Kay Bryant, Psychology Service, will be available for discussion or help at (516) 261-4400, ext. 2266 or 2258. If a subject wishes to speak with a member of the Institutional Review Board or the Subcommittee on Human Studies, he/she may make this request by calling the Research Office at (516) 261-4400, ext. 2850.

The primary benefit of participation in this study is to help improve substance abuse treatment in general by helping us better understand issues related to continuing with or leaving treatment. Feedback on patients' perceptions of the program (as a group, not as individuals) may also be helpful to the staff of your treatment program. Besides giving helpful feedback to individual programs, it is hoped that this study will help improve substance abuse treatment in general. Again, it is emphasized that all results reported or published will be group results. No individual information will be used or revealed.

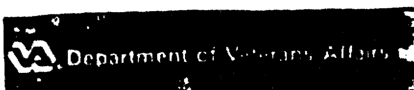
Participation in this study is voluntary. You may withdraw from participation in the study at any time, without affecting any of your options for treatment or the continuity of your care at the VA. If you agree to participate, you will be given a copy of this signed statement.

"I have been given the above information and understand it."

______________________ ______________
Subject Date

____
Principal Investigator

____
Witness



VA RESEARCH CONSENT FORM

(Continuation Page 3 of 3)

Subject Name: ______________________ **Date** ____________

Title of Study: Attrition in Substance Abuse Treatment: Predictive Factors

Principal Investigator: Kay Bryant, M.S., Psychology Service **VAMC:** ~~Northport~~ Northport VAMC

RESEARCH SUBJECTS' RIGHTS: I have read or have had read to me all of the above.
~~Dr.~~ Kay Bryant, M.S. has explained the study to me and answered all of my questions. I have been told of the risks or discomforts and possible benefits of the study. I have been told of other choices of treatment available to me.

I understand that I do not have to take part in this study, and my refusal to participate will involve no penalty or loss of rights to which I am entitled. I may withdraw from this study at any time without penalty or loss of VA or other benefits to which I am entitled.

The results of this study may be published, but my records will not be revealed unless required by law.

This paragraph is not applicable since this is not a medical study.
In case there are medical problems or questions, I have been told I can call Dr. ____________ at ____________ during the day and Dr. ____________ at ____________ after hours. If any medical problems occur in connection with this study the VA will provide emergency care.

I understand my rights as a research subject, and I voluntarily consent to participate in this study. I understand what the study is about and how and why it is being done. I will receive a signed copy of this consent form.

Subject's Signature	Date
Signature of Subject's Representative*	Subject's Representatives
Signature of Witness	Witness (print)
Signature of Investigator	

*Only required if subject not competent.

APPENDIX B

TEST PACKET 1

(1-4) Subject _ _ _
(5-6) Record 01

PERSONAL DATA QUESTIONNAIRE

INSTRUCTIONS: In the space next to the items below, please enter the number that best answers the question. Fill in information when requested in the spaces provided. Please answer every item. Once again, all information you provide will be kept confidential and used only with your subject code number above--it will not be linked to your name.

(7-8) ______ A. Age

(9-10) ______ B. Year of Birth (for example, 55 if born in 1955)

(11) ______ C. Sex
1. male
2. female

(12-17) ______ D. Date of admission to program
(for example, 3/15/91)

(18) ______ E. Race
1. Black (not of Hispanic origin)
2. White (not of Hispanic origin)
3. American Indian
4. Alaskan Native
5. Asian or Pacific Islander
6. Hispanic - Mexican
7. Hispanic - Puerto Rican
8. Hispanic - Cuban
9. Other ______________

(19-20) ______ F. Education completed, in years (GED = 12 years)

(21-22) ______ G. Training or technical education completed, in months (for example, 15 months in auto mechanics)

(23) ______ H. Do you have a profession, trade or skill?
1. No
2. Yes (please specify) ______________

(24) ______ I. Usual employment pattern, past 3 years:
1. full time (40 hours/week)
2. part time
3. student
4. service
5. retired/disability
6. unemployed
7. in controlled environment (e.g., treatment)

Please continue on next page

Subject C019
Record 01

(25-26) ______ J. Which of the following substances do you consider your major substance abuse problem?
1. Alcohol
2. Heroin
3. Methadone
4. Other opiates/analgesics
5. Barbiturates
6. Other sedatives/hypnotics/tranquilizers
7. Cocaine
8. Crack
9. Amphetamines
10. Cannabis (marijuana)
11. Hallucinogens (LSD)
12. Inhalants
13. Other ______________________

(27-28) ______ K. For which substance use are you now in treatment?
Answer using same list above, items 1-13.

(29) ______ L. Do you have a history of abuse of several substances?
1. No
2. Yes

(30-31) ______ M. If you answered yes to question L, please identify your second most frequently used substance (second drug of choice), again using the list of 13 substances given in question J.

(32-33) ______ N. How many times in your life have you been treated for substance abuse (including alcohol)?

(34-35) ______ O. How many of these treatments were detox only?

(36) ______ P. Please indicate your current relationship status:
1. currently married
2. currently separated
3. divorced
4. widowed
5. single, long-term relationship
6. single, actively dating
7. single, not actively dating

Please continue on next page

Subject 0019
Record 01

(37) ______ Q. Are you satisfied with your current relationship status?
1. No
2. Yes
3. Indifferent

(38-39) ______ R. How many close friends do you have?

(40-41) ______ S. How many times have you been in treatment for any psychological or emotional problems in a hospital?

(42-43) ______ T. How many times have you been in treatment for any psychological or emotional problems as an outpatient or as a private patient?

(44) ______ U. Do you receive a pension for a psychiatric disability?
1. No
2. Yes

V. Have you had a significant period, (that was not a direct result of drug/alcohol use), in which you have experienced any of the following symptoms in your life?

(45) ______ a. serious depression
1. No 2. Yes

(46) ______ b. serious anxiety or tension
1. No 2. Yes

(47) ______ c. hallucinations (seeing things that really aren't there)
1. No 2. Yes

(48) ______ d. trouble understanding, concentrating, or remembering
1. No 2. Yes

(49) ______ e. trouble controlling violent behavior
1. No 2. Yes

(50) ______ f. serious thoughts of suicide
1. No 2. Yes

(51) ______ g. attempted suicide
1. No 2. Yes

Please continue on next page

Subject 0019
Record 01

(52) ______ W. Have you ever taken prescribed medication for any psychological/emotional problem?
1. No
2. Yes

(53-54) ______ X. How many days in the past 30 days have you experienced any of the psychological or emotional problems listed in question V?

Please continue on next page

(1-4) Subject C019
(5-6) Record 02

PBI

This questionnaire lists various attitudes and behaviors of parents. As you remember the person who was most responsible for raising you in your first 16 years (this could be mother, father, grandparent, aunt, etc.), please tell us how the following statements apply to that person. Please use the following scale to record your answers.

Very unlike	Moderately unlike	Moderately like	Very like
0	1	2	3

(7) _____ 1. Spoke to me with a warm and friendly voice

_____ 2. Did not help me as much as I needed

_____ 3. Let me do those things I liked doing

_____ 4. Seemed emotionally cold to me

_____ 5. Appeared to understand my problems and worries

_____ 6. Was affectionate to me

_____ 7. Liked me to make my own decisions

_____ 8. Did not want me to grow up

_____ 9. Tried to control everything I did

_____ 10. Invaded my privacy

_____ 11. Enjoyed talking things over with me

_____ 12. Frequently smiled at me

_____ 13. Tended to baby me

_____ 14. Did not seem to understand what I needed or wanted

_____ 15. Let me decide things for myself

_____ 16. Made me feel I wasn't wanted

(23) _____ 17. Could make me feel better when I was upset

Please continue on next page

Subject 0019
Record 02

Very unlike	Moderately unlike	Moderately like	Very like
0	1	2	3

(24) _____ 18. Did not talk with me very much

_____ 19. Tried to make me dependent on her/him

_____ 20. Felt I could not look after myself unless she/he was around

_____ 21. Gave me as much freedom as I wanted

_____ 22. Let me go out as often as I wanted

_____ 23. Was overprotective of me

_____ 24. Did not praise me

(31) _____ 25. Let me dress in any way I pleased

(32) Please indicate the person you thought of in answering the above questions (for example, mother, father, grandmother, brother, aunt, uncle, etc.).

____

Please continue on next page

Subject C019
Record 02

RRQ

This questionnaire is concerned with your experiences in romantic love relationships. Take a moment to think about these experiences and answer the following questions with them in mind.

(33) 1). Read each of the three self-descriptions below (1, 2, and 3) and then place a checkmark next to the single alternative that best describes how you feel in romantic relationships or is nearest to the way you are. (NOTE: The terms "close" and "intimate" refer to psychological or emotional closeness, not necessarily to sexual intimacy.)

_____ A. I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being.

_____ B. I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to get very close to my partner, and this sometimes scares people away.

_____ C. I find it relatively easy to get close to others and am comfortable depending on them. I don't often worry about being abandoned or about someone getting too close to me.

2) Now please rate each of the relationship styles above according to the extent to which you think each description corresponds to your general relationship style.

	Not at all like me			Somewhat like me			Very much like me
(34) Style A.	1	2	3	4	5	6	7
(35) Style B.	1	2	3	4	5	6	7
(36) Style C.	1	2	3	4	5	6	7

Please continue on next page

Subject 0019
Record 02

CRQ

This questionnaire is similar to the one you just answered, but it has been changed in various ways. A fourth relationship style has been added, the other three descriptions are now worded differently, and the order of the types is different. This questionnaire applies to <u>all emotionally close relationships</u>, not just romantic ones. Please read each alternative carefully; <u>don't transfer answers from the previous page</u>.

(37) 1) Following are descriptions of four general relationship styles that people often report. Please place a <u>checkmark</u> next to the letter corresponding to the style that <u>best</u> describes you or is <u>closest</u> to the way you are.

_____ A. It is relatively easy for me to become emotionally close to others. I am comfortable depending on others and having others depend on me. I don't worry about being alone or having others not accept me.

_____ B. I am somewhat uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I sometimes worry that I will be hurt if I allow myself to become too close to others.

_____ C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

_____ D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

2) Now please rate each of the relationship styles above according to the <u>extent</u> to which you think each description corresponds to your general relationship style.

	Not at all like me			Somewhat like me			Very much like me
(38) Style A.	1	2	3	4	5	6	7
(39) Style B.	1	2	3	4	5	6	7
(40) Style C.	1	2	3	4	5	6	7
(41) Style D.	1	2	3	4	5	6	7

Please continue on next page

Subject 0019
Record 02

Some of the following questions will ask about your relationship to one special person in your life. We call this special person your "attachment figure". By attachment figure, we mean:

-The person you feel closest to right now.

-The person you'd be most likely to turn to for comfort, help, advice, love or understanding.

-The person you'd be most likely to depend on, and who may depend on you for some things.

-Possibly, the person you are living with or romantically involved with.

In the space next to the questions below, place the number of the statement that best answers the question.

(42) ______A. How clearly can you identify someone in your life right now whom you would describe as your attachment figure?

1. No one in my life fits this description very well.
2. More than one person fits this description.
3. I can identify one person who fits this description.
4. I don't understand exactly what this means.

(43) ______B. If you answered 3 above, what is your relationship to your attachment figure?

1. mother
2. father
3. friend
4. relative
5. husband or wife
6. person romantically involved with
7. other (please specify) ______________________

Please continue on next page

(1-4) Subject 0019
(5-6) Record 03

NAQ

On the following pages, you will find a series of statements. In each instance, you are asked to rate how strongly you agree that the statement is typical of you. Using the scale below, please indicate your answer by circling the appropriate number after each statement.

1	2	3	4	5
Strongly Disagree	Disagree	Somewhat agree/ Somewhat disagree	Agree	Strongly Agree

(7) 1. I get "cold feet" when someone expects to be close to me.................................. 1 2 3 4 5
2. I am always looking for someone special to make me feel secure............................ 1 2 3 4 5
3. I feel it's a sign of weakness to ask others for help.................................... 1 2 3 4 5
4. It bothers me that I don't have any close friends................................. 1 2 3 4 5
5. I'm afraid that if I care for someone I won't get a response back....................... 1 2 3 4 5
6. In close relationships, I reach a point where I want to retain distance..................... 1 2 3 4 5
7. Being with others makes me feel more secure................................. 1 2 3 4 5
8. I wish there was someone close who needed me..1 2 3 4 5
9. I always feel that I can never make someone understand how I feel....................1 2 3 4 5
10. I've always been afraid of getting close to others.....................................1 2 3 4 5
11. I get my sense of security from myself....1 2 3 4 5
12. I turn to other people for comfort and reassurance..............................1 2 3 4 5
13. I feel that I'm cold to others............1 2 3 4 5
14. I would like to be good friends with someone....................................1 2 3 4 5
15. Caring for someone would make me feel weak and exhausted..............................1 2 3 4 5
16. I've broken up a relationship for fear of getting hurt..............................1 2 3 4 5
17. It upsets me that I have no close friends.1 2 3 4 5
18. Being close to someone makes me think of suffocation..............................1 2 3 4 5
19. My friends make me feel secure............1 2 3 4 5
(26) 20. I long for someone to share my feelings with......................................1 2 3 4 5

Please continue on next page

Subject 0019
Record 03

1	2	3	4	5
Strongly Disagree	Disagree	Somewhat agree/ Somewhat disagree	Agree	Strongly Agree

(27) 21. I don't let anyone get close to me........1 2 3 4 5
22. My strength comes only from myself........1 2 3 4 5
23. I don't need anyone......................1 2 3 4 5
24. I wouldn't want to share my life with anyone..................................1 2 3 4 5

25. I will never feel really secure until I have someone special in my life................1 2 3 4 5
26. I'm afraid to chance showing that I want to be cared for................................1 2 3 4 5
27. I would be lost without a close friend....1 2 3 4 5
28. I take great pride in not needing anyone..1 2 3 4 5
29. I would lose my feeling of security if I had to share my life with someone................1 2 3 4 5
30. I feel like I'm hiding from others........1 2 3 4 5
31. Close friends are important to me.........1 2 3 4 5
32. I always do something to block further involvement with someone............................1 2 3 4 5
33. I wish that I had a single, lasting relationship..............................1 2 3 4 5
34. I'm afraid of getting close to others.....1 2 3 4 5
35. Even when I've had someone special, I can't get in touch with him/her.....................1 2 3 4 5
36. I'm so used to doing things on my own that I don't ask others for help...............1 2 3 4 5
37. I have a hard time giving affection to someone....................................1 2 3 4 5
38. I'm afraid to care for someone because I would lose myself...............................1 2 3 4 5
39. I sometimes wonder: "Why doesn't someone find me"?..................................1 2 3 4 5
40. I've built a wall around myself...........1 2 3 4 5
41. I would be uncomfortable being a close friend to someone................................1 2 3 4 5
42. Whenever I feel myself getting close to someone, I push them away.........................1 2 3 4 5
43. You've got to be able to survive on your own.......................................1 2 3 4 5
44. I hold myself back in close relationships.1 2 3 4 5
(51) 45. I don't worry about being hurt in close relationships............................1 2 3 4 5

Please continue on next page

Subject 0019
Record 03

1	2	3	4	5
Strongly Disagree	Disagree	Somewhat agree/ Somewhat disagree	Agree	Strongly Agree

(52)46. When I'm upset, I wish that I could talk things over with a close friend................1 2 3 4 5
47. Having someone special would make me feel more secure..................................1 2 3 4 5
48. I look to others for support.............1 2 3 4 5
49. I feel that there's something wrong with me because I can't seem to care for someone else....1 2 3 4 5
50. I'm reluctant to get close to others.....1 2 3 4 5
51. I feel it best never to depend on any one person..................................1 2 3 4 5
52. I only feel secure when I'm by myself....1 2 3 4 5
53. Needing someone makes me feel weak.......1 2 3 4 5
54. I wish I had someone with whom I could share my whole life..............................1 2 3 4 5
55. I wouldn't want someone relying on me....1 2 3 4 5
56. It bothers me that I have no close ties to anyone..................................1 2 3 4 5
57. Closeness to others frightens me because they may reject me............................1 2 3 4 5
58. I don't need close friends...............1 2 3 4 5
(65)59. When someone wants to be close to me, I feel like screaming, "Leave me alone".............1 2 3 4 5

If you would like, take a few minutes and relax now before completing the remaining questionnaires. Then continue with the next page.

Please continue on next page

(1-4) Subject 0019
(5-6) Record 04

INTREX form B. Copyright, 1983, Lorna Smith Benjamin.

Please indicate how well each question describes the most important relationship in your life right now, that is, the person you are closest to. Please indicate your answer by circling the number based on the scale below. A rating of less than 50 indicates "false"; a rating of 50 or more indicates "true".

NEVER / NOT AT ALL — ALWAYS / PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

1. With much kindness and good sense, he/she figures out and explains things to me....................
(7-8) 0 10 20 30 40 50 60 70 80 90 100
2. Has a clear sense of who he/she is separately from me
0 10 20 30 40 50 60 70 80 90 100
3. Makes me follow his/her rules and ideas of what is right and proper..
0 10 20 30 40 50 60 70 80 90 100
4. Puts me down, tells me my ways are wrong and his/her ways are better...................................
0 10 20 30 40 50 60 70 80 90 100
5. Learns from me, comfortably takes advice and guidance from me...
0 10 20 30 40 50 60 70 80 90 100
6. Gives up, helplessly does things my way without feelings or views of his/her own.........................
0 10 20 30 40 50 60 70 80 90 100
7. Angrily leaves me out. Completely refuses to have anything to do with me..........................
0 10 20 30 40 50 60 70 80 90 100
8. Warmly, comfortably accepts my help and caregiving....
0 10 20 30 40 50 60 70 80 90 100
9. To do his/her own thing, he/she does the opposite of what I want....................................
0 10 20 30 40 50 60 70 80 90 100
10. Is straightforward, truthful and clear with me about his/her own position............................
0 10 20 30 40 50 60 70 80 90 100
11. Is joyful, happy and very open with me..............
0 10 20 30 40 50 60 70 80 90 100
12. Murders, kills, destroys and leaves me as a useless heap...
0 10 20 30 40 50 60 70 80 90 100
13. Reacts to what I say or do in strange, unconnected, unrelated ways..................................
(31-32) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

Subject 0019
Record 04

NEVER NOT AT ALL — ALWAYS PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

14. Joyfully, lovingly, very happily responds to me sexually..
(33-34) 0 10 20 30 40 50 60 70 80 90 100
15. Warmly, cheerfully invites me to be in touch with him/her as often as I want......................
0 10 20 30 40 50 60 70 80 90 100
16. Warmly, happily stays around and keeps in touch with me
0 10 20 30 40 50 60 70 80 90 100
17. Freely comes and goes; does his/her own thing separately from me..............................
0 10 20 30 40 50 60 70 80 90 100
18. With gentle, loving tenderness, he/she connects sexually if I seem to want it...................
0 10 20 30 40 50 60 70 80 90 100
19. Gets me interested and teaches me how to understand and do things......................................
0 10 20 30 40 50 60 70 80 90 100
20. Accuses and blames me. He/she tries to get me to believe and say I am wrong....................
0 10 20 30 40 50 60 70 80 90 100
21. Full of happy smiles, he/she lovingly greets me just as I am..
0 10 20 30 40 50 60 70 80 90 100
22. Trustingly depends on me to meet every need.........
0 10 20 30 40 50 60 70 80 90 100
23. Harshly punishes and tortures me, takes revenge.....
0 10 20 30 40 50 60 70 80 90 100
24. Clearly understands me and likes me even when we disagree ....
0 10 20 30 40 50 60 70 80 90 100
25. Is trusting with me. Comfortably counts on me to come through when needed............................
0 10 20 30 40 50 60 70 80 90 100
26. Willingly accepts, goes along with my reasonable suggestions, ideas.............................
0 10 20 30 40 50 60 70 80 90 100
27. In pain and rage, he/she screams and shouts that I am destroying him/her.............................
0 10 20 30 40 50 60 70 80 90 100
28. Gently, lovingly strokes and soothes me without asking for anything in return..................
(61-62) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

(1-4) Subject 0019
(5-6) Record 05

NEVER NOT AT ALL — ALWAYS PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

29. Butts in and takes over, blocks and restricts me..
(7-8) 0 10 20 30 40 50 60 70 80 90 100
30. Full of doubts and tension, he/she sort of goes along with my views anyway............................
0 10 20 30 40 50 60 70 80 90 100
31. Mindlessly obeys my rules, standards, ideas about how things should be done..........................
0 10 20 30 40 50 60 70 80 90 100
32. Rips me off, tears, steals, grabs all he/she can from me..
0 10 20 30 40 50 60 70 80 90 100
33. Checks with me about every little thing because he/she cares so much about what I think...............
0 10 20 30 40 50 60 70 80 90 100
34. Is very tense, shaky, wary, fearful with me.........
0 10 20 30 40 50 60 70 80 90 100
35. Misleads me, disguises things, tries to throw me off track...
0 10 20 30 40 50 60 70 80 90 100
36. Bitterly, hatefully, resentfully chooses to let my needs and wants count more than his/her own.....
0 10 20 30 40 50 60 70 80 90 100
37. Provides for, nurtures, takes care of me...........
0 10 20 30 40 50 60 70 80 90 100
38. Lets me speak freely and hears me even if we disagree
0 10 20 30 40 50 60 70 80 90 100
39. Just doesn't notice or pay attention to me at all...
0 10 20 30 40 50 60 70 80 90 100
40. Without concern, he/she lets me do and be anything at all..
0 10 20 30 40 50 60 70 80 90 100
41. Furiously, angrily, hatefully refuses to accept my offers to help out............................
0 10 20 30 40 50 60 70 80 90 100
42. Boiling over with rage and/or fear, he/she tries to escape, flee, or hide from me..................
0 10 20 30 40 50 60 70 80 90 100
43. Believing it's really for my own good, he/she checks often on me and reminds me of what ought to be done
0 10 20 30 40 50 60 70 80 90 100
44. Leaves me free to do and be whatever I think is best
(37-38) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

Subject 0019
Record 05

NEVER
NOT AT ALL

ALWAYS
PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

45. Forgets all about me, our agreements, plans.........
(39-40) 0 10 20 30 40 50 60 70 80 90 100
46. Caves in to me and does things my way, but sulks and fumes about it..................................
0 10 20 30 40 50 60 70 80 90 100
47. Gives in to me, yields and submits to me.............
0 10 20 30 40 50 60 70 80 90 100
48. Looking very mean, he/she follows me and tries to hurt me...
0 10 20 30 40 50 60 70 80 90 100
49. Controls me in a matter-of-fact way. He/she has the habit of taking charge of everything............
0 10 20 30 40 50 60 70 80 90 100
50. Believing I do things well, he/she leaves me to do them my own way....................................
0 10 20 30 40 50 60 70 80 90 100
51. Expresses himself/herself clearly in a warm and friendly way...................................
0 10 20 30 40 50 60 70 80 90 100
52. Feels, thinks, does, becomes what he/she thinks I want...
0 10 20 30 40 50 60 70 80 90 100
53. Angrily leaves me to go without what I need very much even when he/she easily could give it to me.....
0 10 20 30 40 50 60 70 80 90 100
54. Really hears me, acknowledges my views even if we disagree.....................................
0 10 20 30 40 50 60 70 80 90 100
55. Bitterly, angrily detaches from me and doesn't ask for anything. He/she weeps alone about me..........
0 10 20 30 40 50 60 70 80 90 100
56. Pays close attention to me so he/she can figure out all of my needs and take care of everything.........
0 10 20 30 40 50 60 70 80 90 100
57. Whines, unhappily protests, tries to defend himself/herself from me..........................
0 10 20 30 40 50 60 70 80 90 100
58. Speaks up, clearly and firmly states his/her own separate position...............................
0 10 20 30 40 50 60 70 80 90 100
59. Is too busy and alone with his/her "own thing" to be with me......................................
0 10 20 30 40 50 60 70 80 90 100
60. Likes me and thinks I'm fine just as I am..........
(69-70) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

(1-4) Subject 0019
(5-6) Record 06

NEVER — ALWAYS
NOT AT ALL — PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

61. Walls himself/herself off from me; doesn't hear, doesn't react......................................
(7-8) 0 10 20 30 40 50 60 70 80 90 100

62. Relaxes, lets go, enjoys, feels wonderful about being with me..
0 10 20 30 40 50 60 70 80 90 100

63. Believing he/she really knows what's best for me, he/she tells me exactly what to do, be, think...
0 10 20 30 40 50 60 70 80 90 100

64. To avoid my disapproval, he/she bottles up his/her rage and resentment.................................
0 10 20 30 40 50 60 70 80 90 100

65. Ignores the facts and offers me unbelievable nonsense and craziness..................................
0 10 20 30 40 50 60 70 80 90 100

66. Goes his/her own separate way apart from me.........
0 10 20 30 40 50 60 70 80 90 100

67. Lovingly looks after my interests and takes steps to protect me. He/she actively backs me up........
0 10 20 30 40 50 60 70 80 90 100

68. Freely and openly talks with me about his/her innermost self...
0 10 20 30 40 50 60 70 80 90 100

69. Is very happy, playful, joyful, delighted to be with me
0 10 20 30 40 50 60 70 80 90 100

70. Just when he/she is needed most, he/she abandons me, leaves me alone with trouble....................
0 10 20 30 40 50 60 70 80 90 100

71. Neglects me, my interests, needs...................
0 10 20 30 40 50 60 70 80 90 100

72. Peacefully leaves me completely on my own............
(29-30) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

(1-4) Subject 0019
(5-6) Record 07

For questions 73 through 144, change from rating the person to whom you are the closest to rating YOURSELF IN THIS RELATIONSHIP. Continue using the same scale as shown below.

NEVER NOT AT ALL -- ALWAYS PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

73. With much kindness and good sense, I figure out and explain things to him/her......................
(7-8) 0 10 20 30 40 50 60 70 80 90 100

74. I have a clear sense of who I am separately from him/her..
0 10 20 30 40 50 60 70 80 90 100

75. Make him/her follow my rules and ideas of what is right and proper.....................................
0 10 20 30 40 50 60 70 80 90 100

76. I put him/her down, tell him/her his ways are wrong and my ways are better..............................
0 10 20 30 40 50 60 70 80 90 100

77. I learn from him/her, comfortably take advice and guidance from him/her..........................
0 10 20 30 40 50 60 70 80 90 100

78. I give up, helplessly do things his/her way without feelings or views of my own....................
0 10 20 30 40 50 60 70 80 90 100

79. I angrily leave him/her out, I completely refuse to have anything to do with him/her...............
0 10 20 30 40 50 60 70 80 90 100

80. I warmly, comfortably accept his/her help and caregiving.....................................
0 10 20 30 40 50 60 70 80 90 100

81. To do my own thing, I do the opposite of what he/she wants...
0 10 20 30 40 50 60 70 80 90 100

82. I am straightforward, truthful and clear with him/her about my own position..........................
0 10 20 30 40 50 60 70 80 90 100

83. I am joyful, happy and very open with him/her.......
0 10 20 30 40 50 60 70 80 90 100

84. I murder, kill, destroy and leave him/her as a useless heap...
0 10 20 30 40 50 60 70 80 90 100

85. I react to what he/she says or does in strange, unconnected, unrelated ways....................
0 10 20 30 40 50 60 70 80 90 100

86. I joyfully, lovingly, very happily respond to him/her sexually......................................
(33-34) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

Subject C019
Record 07

NEVER
NOT AT ALL

ALWAYS
PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

87. I warmly, cheerfully invite him/her to be in touch with me as often as he/she wants..................
(35-36) 0 10 20 30 40 50 60 70 80 90 100
88. I warmly, happily stay around and keep in touch with him/her..
0 10 20 30 40 50 60 70 80 90 100
89. I freely come and go; do my own thing separately from him/her..
0 10 20 30 40 50 60 70 80 90 100
90. With gentle, loving tenderness, I connect sexually if he/she seems to want it...........................
0 10 20 30 40 50 60 70 80 90 100
91. I get him/her interested and teach him/her how to understand and do things............................
0 10 20 30 40 50 60 70 80 90 100
92. I accuse and blame him/her. I try to get him/her to believe and say he/she is wrong..................
0 10 20 30 40 50 60 70 80 90 100
93. Full of happy smiles, I lovingly greet him/her just as he/she is.....................................
0 10 20 30 40 50 60 70 80 90 100
94. I trustingly depend on him/her to meet every need..
0 10 20 30 40 50 60 70 80 90 100
95. I harshly punish and torture him/her, take revenge...
0 10 20 30 40 50 60 70 80 90 100
96. I clearly understand him/her and like him/her even when we disagree.....................................
0 10 20 30 40 50 60 70 80 90 100
97. Am trusting with him/her. Comfortably count on him/her to come through when needed.......................
0 10 20 30 40 50 60 70 80 90 100
98. I willingly accept, go along with his/her reasonable suggestions, ideas..............................
0 10 20 30 40 50 60 70 80 90 100
99. In pain and rage, I scream and shout that he/she is destroying me......................................
0 10 20 30 40 50 60 70 80 90 100
100. I gently, lovingly stroke and soothe him/her without asking for anything in return.....................
0 10 20 30 40 50 60 70 80 90 100
101. I butt in and take over, block and restrict him/her..
(63-64) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

(1-4) Subject 0019
(5-6) Record 08

NEVER NOT AT ALL — ALWAYS PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

102. Full of doubts and tension, I sort of go along with his/her views anyway..............................
(7-8) 0 10 20 30 40 50 60 70 80 90 100

103. Mindlessly obey his/her rules, standards, ideas about how things should be done........................
0 10 20 30 40 50 60 70 80 90 100

104. I rip him/her off, tear, steal, grab all I can from him/her...
0 10 20 30 40 50 60 70 80 90 100

105. Check with him/her about every little thing because I care so much about what he/she thinks.............
0 10 20 30 40 50 60 70 80 90 100

106. I am very tense, shaky, wary, fearful with him/her...
0 10 20 30 40 50 60 70 80 90 100

107. I mislead him/her, disguise things, try to throw him/her off track................................
0 10 20 30 40 50 60 70 80 90 100

108. I bitterly, hatefully, resentfully choose to let his/her needs and wants count more than my own....
0 10 20 30 40 50 60 70 80 90 100

109. I provide for, nurture, take care of him/her.......
0 10 20 30 40 50 60 70 80 90 100

110. I let him/her speak freely and hear him/her even if we disagree......................................
0 10 20 30 40 50 60 70 80 90 100

111. I just don't notice or pay attention to him/her at all
0 10 20 30 40 50 60 70 80 90 100

112. Without concern, I let him/her do and be anything at all..
0 10 20 30 40 50 60 70 80 90 100

113. I furiously, angrily, hatefully refuse to accept his/her offers to help out.......................
0 10 20 30 40 50 60 70 80 90 100

114. Boiling over with rage and/or fear, I try to escape, flee, or hide from him/her.......................
0 10 20 30 40 50 60 70 80 90 100

115. Believing it's really for his/her own good, I check often on him/her and remind him/her of what should be done...
0 10 20 30 40 50 60 70 80 90 100

116. I leave him/her free to do and be whatever he/she thinks is best.................................
0 10 20 30 40 50 60 70 80 90 100

117. I forget all about him/her, our agreements, plans..
(37-38) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

Subject 0019
Record 03

NEVER NOT AT ALL — ALWAYS PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

118. I cave in to him/her and do things his/her way, but sulk and fume about it............................
(39-40) 0 10 20 30 40 50 60 70 80 90 100
119. I give in to him/her, yield and submit to him/her..
0 10 20 30 40 50 60 70 80 90 100
120. Looking very mean, I follow him/her and try to hurt him/her...
0 10 20 30 40 50 60 70 80 90 100
121. I control him/her in a matter-of-fact way. I have the habit of taking charge of everything.............
0 10 20 30 40 50 60 70 80 90 100
122. Believing he/she does things well, I leave him/her to do them in his/her own way.......................
0 10 20 30 40 50 60 70 80 90 100
123. I express myself clearly in a warm and friendly way.
0 10 20 30 40 50 60 70 80 90 100
124. I feel, think, do, become what I think he/she wants
0 10 20 30 40 50 60 70 80 90 100
125. I angrily leave him/her to go without what he/she needs very much even when I easily could give it to him/her..
0 10 20 30 40 50 60 70 80 90 100
126. I really hear him/her, acknowledge his/her views even if we disagree..................................
0 10 20 30 40 50 60 70 80 90 100
127. I bitterly, angrily detach from him/her and don't ask for anything. I weep alone about him/her.........
0 10 20 30 40 50 60 70 80 90 100
128. I pay close attention to him/her so I can figure out all his/her needs and take care of everything.....
0 10 20 30 40 50 60 70 80 90 100
129. I whine, unhappily protest, try to defend myself from him/her..
0 10 20 30 40 50 60 70 80 90 100
130. I speak up, clearly and firmly state my own separate position..
0 10 20 30 40 50 60 70 80 90 100
131. I am too busy and alone with "my thing" to be with him/her..
0 10 20 30 40 50 60 70 80 90 100
132. I like him/her and think he/she is fine just as he/she is..
0 10 20 30 40 50 60 70 80 90 100
133. I wall myself off from him/her; don't hear, don't react...
(69-70) 0 10 20 30 40 50 60 70 80 90 100

Please continue on next page

(1-4) Subject 0019
(5-6) Record 09

NEVER
NOT AT ALL

ALWAYS
PERFECTLY

0 10 20 30 40 50 60 70 80 90 100

134. I relax, let go, enjoy, feel wonderful about being with him/her..
(7-8) 0 10 20 30 40 50 60 70 80 90 100

135. Believing I really know what's best for him/her, I tell him/her exactly what to do, be, think........
0 10 20 30 40 50 60 70 80 90 100

136. To avoid his/her disapproval, I bottle up my rage and resentment.......................................
0 10 20 30 40 50 60 70 80 90 100

137. I ignore the facts and offer him/her unbelievable nonsense and craziness............................
0 10 20 30 40 50 60 70 80 90 100

138. I go my own separate way apart from him/her........
0 10 20 30 40 50 60 70 80 90 100

139. I lovingly look after his/her interests and take steps to protect him/her. I actively back him/her up...
0 10 20 30 40 50 60 70 80 90 100

140. I freely and openly talk with him/her about my innermost self....................................
0 10 20 30 40 50 60 70 80 90 100

141. I am very happy, playful, joyful, delighted to be with him/her...
0 10 20 30 40 50 60 70 80 90 100

142. Just when I am needed most, I abandon him/her, leave him/her alone with trouble.........................
0 10 20 30 40 50 60 70 80 90 100

143. I neglect him/her, his/her interests, needs........
0 10 20 30 40 50 60 70 80 90 100

144. I peacefully leave him/her completely on his/her own.
(27-28) 0 10 20 30 40 50 60 70 80 90 100

(29) In answering the above questions, you were asked to think of the most important relationship in your life right now, that is, the person you are closest to. Please indicate below the nature of this most important relationship. Please circle your answer.

1. mother
2. father
3. friend
4. relative
5. husband or wife
6. person romantically involved with
7. other (please specify) ____________________

APPENDIX C

TEST PACKET 2

(1-4) Subject ______
(5-6) Record __01__

COPES-short

Please read each statement below, then indicate whether you think the statement is true or false of the program you are currently in by putting either a 1 for true or a 2 for false in the blank beside the statement. Remember that all information you provide is confidential and will be used only with your subject code number above. Any information shared with your program staff will only be based on group results, not individual answers.

1-True 2-False

(7) _____1. Members put a lot of energy into what they do around here.

_____2. The healthier members here help take care of the less healthy ones.

_____3. Members tend to hide their feelings from one another.

_____4. There is no membership government in this program.

_____5. This program emphasizes training for new kinds of jobs.

_____6. Members hardly ever discuss their sexual lives.

_____7. It's hard to get people to argue around here.

_____8. Members' activities are carefully planned.

_____9. If a member breaks a rule, he knows what the consequences will be.

_____10. Once a schedule is arranged for a member, the member must follow it.

_____11. This is a lively place.

_____12. Staff have relatively little time to encourage members.

_____13. Members say anything they want to staff.

_____14. Members can leave here anytime without saying where they are going.

_____15. There is relatively little emphasis on teaching members solutions to practical problems.

(22) _____16. Personal problems are openly talked about.

Please continue on next page

Subject 0019
Record 01

1-True 2-False

(23) ______17. Members often criticize or joke about the staff.

______18. This is a very well organized program.

______19. If a member's program is changed, staff always tell him why.

______20. The staff very rarely punish members by taking away their privileges.

______21. The members are proud of this program.

______22. Members seldom help each other.

______23. It is hard to tell how members are feeling here.

______24. Members are expected to take leadership here.

______25. Members are expected to make detailed, specific plans for the future.

______26. Members are rarely asked personal questions by the staff.

______27. Members here rarely argue.

______28. The staff make sure that this place is always neat.

______29. Staff rarely give members a detailed explanation of what the program is about.

______30. Members who break the rules are punished for it.

______31. There is very little group spirit in this program.

______32. Staff are very interested in following up members once they leave the program.

______33. Members are careful about what they say when staff are around.

______34. The staff tend to discourage criticism from members.

(41) ______35. There is relatively little discussion about exactly what members will be doing after they leave the program.

Please continue on next page

Subject 0019
Record 01

1-True 2-False

(42) _____36. Members are expected to share their personal problems with each other.

_____37. Staff sometimes argue openly with each other.

_____38. This place usually looks a little messy.

_____39. The program rules are clearly understood by the members.

(46) _____40. If a member fights with another member, he will get into real trouble with the staff.

Please continue on next page

(1-4) Subject 0019
(5-6) Record 02

COPES-ideal short

Please read each statement below. They are items about programs. They ask you what you think an ideal program would be like. You are to decide which of these items would be true of an ideal program and which would be false. Then indicate your answer by putting either a 1 for true or a 2 for false in the blank beside the statement. Please be sure to answer every item.

1-True 2-False

(7) _____1. Members will put a lot of energy into what they do.

_____2. The healthier members will help take care of the less healthy ones.

_____3. Members will tend to hide their feelings from one another.

_____4. There will be no membership government in the program.

_____5. The program will emphasize training for new kinds of jobs.

_____6. Members will hardly ever discuss their sexual lives.

_____7. It will be hard to get people to argue.

_____8. Members' activities will be carefully planned.

_____9. If a member breaks a rule, he or she will know what the consequences will be.

_____10. Once a schedule is arranged for a member, he or she will have to follow it.

_____11. It will be a lively place.

_____12. Staff will have relatively little time to encourage members.

_____13. Members will say anything they want to the staff.

_____14. Members will be able to leave anytime without saying where they are going.

_____15. There will be relatively little emphasis on teaching members solutions to practical problems.

(22) _____16. Personal problems will be openly talked about.

Please continue on next page

Subject 0019
Record 02

1-True 2-False

(23) _____17. Members will often criticize or joke about the staff.

_____18. It will be a very well organized program.

_____19. If a member's program is changed, staff will always explain why.

_____20. The staff will very rarely punish members by taking away their privileges.

_____21. The members will be proud of the program.

_____22. Members will seldom help each other.

_____23. It will be hard to tell how members are feeling.

_____24. Members will be expected to take leadership.

_____25. Members will be expected to make detailed specific plans for the future.

_____26. Members rarely will be asked personal questions by the staff.

_____27. Members will rarely argue.

_____28. The staff will make sure that the place is always neat.

_____29. Staff will rarely give members a detailed explanation of what the program is about.

_____30. Members who break the rules will be punished for it.

_____31. There will be very little group spirit in the program.

_____32. Staff will be very interested in following up members once they leave the program.

_____33. Members will be careful about what they say when staff are around.

_____34. The staff will tend to discourage criticism from members.

(41) _____35. There will be relatively little discussion about exactly what members will be doing after they leave the program.

Please continue on next page

Subject 0019
Record 02

1-True 2-False

(42) _____36. Members will be expected to share their personal problems with each other.

_____37. Staff will sometimes argue openly with each other.

_____38. The place will usually look a little messy.

_____39. The program rules will be clearly understood by the members.

(46) _____40. If a member fights with another member, he or she will get into real trouble with the staff.

APPENDIX D

SUPPLEMENTAL TABLES

Table D-1

Demographic Characteristics of the Sample (N = 78)

Variable	Total Sample		Stay Group		Leave Group		Atlanta		Northport	
	M	SD	M	SD	M	SD	M	SD	M	SD
Age	36.9	6.1	36.5	5.7	38.6	7.8	36.7	6.1	37.7	6.2
Education*	12.7	1.5	12.6	1.4	13.1	1.9	12.7	1.6	12.5	1.0
No. of Prior Drug Treatment	2.2	2.6	2.2	2.8	2.2	1.5	1.7	1.6	4.1	4.4
	f	%	f	%	f	%	f	%	f	%
Race										
African-American	66	84.6	56	87.5	10	71.4	55	88.7	11	68.8
White	6	7.7	5	7.8	1	7.1	5	8.1	1	6.2
Hispanic	4	5.1	3	4.7	1	7.1	1	1.6	3	18.8
Other	2	2.6	0	---	2	14.2	1	1.6	1	6.2
Employment Pattern Past Three Years										
Full-time	47	60.3	40	62.5	7	50.0	36	59.0	11	68.7
Part-time	14	17.9	10	15.6	4	28.6	12	19.7	2	12.5
Unempl.	10	12.8	10	15.6	0	---	8	13.1	2	12.5
Other	7	8.9	4	6.3	3	21.4	5	8.2	1	6.3
Trade, Profession, or Skill?										
Yes	57	73.1	46	71.9	11	78.6	44	71.0	13	81.2
No	20	25.6	17	26.6	3	21.4	18	29.0	2	12.5

					Primary Drug					
Crack	47	60.3	41	64.1	6	42.9	36	58.1	11	68.7
Cocaine	21	26.9	16	25.0	5	35.7	18	29.0	3	18.8
Alcohol	3	3.8	3	4.7	0	---	2	3.2	1	6.2
Other	7	9.0	4	6.2	3	21.4	6	9.6	1	6.3
					Multi-drug Use?					
Yes	53	67.9	42	65.6	11	78.6	45	72.6	8	50.0
No	25	32.0	22	34.4	3	21.4	17	27.4	8	50.0
					Relationship Status					
Married	12	15.4	8	12.5	4	28.6	10	16.1	2	12.5
Divorced/ Separated	39	50.0	32	50.0	7	50.0	30	48.4	9	56.3
Single-in Relation-ship	12	15.4	11	17.2	1	7.1	11	17.8	1	6.2
Single-no Relation-ship	14	17.9	13	20.3	1	7.1	10	16.1	4	25.0
					Relationship Satisfaction					
Yes	23	29.5	17	26.6	6	42.9	16	25.8	7	43.7
No	50	64.1	43	67.2	7	50.0	41	66.1	9	56.3
Indiff.	4	5.1	4	6.3	0	---	4	6.5	--	---
					Number of Close Friends					
0	30	38.5	25	41.0	5	35.7	24	40.7	6	37.5
1	9	11.5	7	11.5	2	14.3	6	10.2	3	18.8
2	12	15.4	8	13.1	4	28.6	11	18.6	1	6.2
3+	24	30.7	21	34.4	3	21.3	18	30.5	6	37.5

*given in years.

Table D-2

Frequencies and Percentages of RRQ and CRQ Categories

RRQ		CRQ				
		Secure	Avoidant-Fearful	Preoccupied (Anxious-Ambivalent)	Avoidant Dismissing	Totals
Avoidant	1*	2	16	4	10	32
	2*	6.25	50.00	12.50	31.25	47.06
	3*	12.50	80.00	30.77	52.63	
Anxious-Ambivalent	1*	1	1	8	2	12
	2*	8.33	8.33	66.67	16.67	17.65
	3*	6.25	5.00	61.54	10.53	
Secure	1*	13	3	1	7	24
	2*	54.17	12.50	4.17	29.17	35.29
	3*	81.25	15.00	7.69	36.84	
Totals	1*	16	20	13	19	68*
	2*	23.53	29.41	19.12	27.94	100.00

Note. 1* = Frequency; 2* = Raw %; 3* = Column %. RRQ = Romantic Relationships Questionnaire; CRQ = Close Relationship Questionnaire.

*Data missing on 10 subjects.

Table D-3

Correlation Matrix of Dependent and Independent Measures for Entire Sample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. PBI Care	1.00	-.33[b]	-.22	-.17	.10	.21	.08	.04	.12	.02	-.13	.05	-.06	-.07	.07	.09	-.00	.14	.12
2. PBI Protec		1.00	.12	.16	.01	-.04	-.02	-.05	.01	.07	-.01	-.01	-.04	.06	-.10	.15	-.02	-.13	.06
3. MDR			1.00	.76[c]	-.34[b]	-.39[c]	-.33[b]	-.37[c]	.03	.54[c]	.05	-.27[a]	-.25[a]	.43[c]	.08	.05	-.21	-.29[a]	.14
4. FEAR				1.00	-.26[a]	-.32[b]	-.27[a]	-.29[b]	.05	.46[c]	.27[a]	-.36[b]	-.35[b]	.52[c]	.32[b]	-.08	-.21	-.21	.16
5. SASB-Afil 1					1.00	.92[c]	.67[c]	.68[c]	-.04	-.19	-.33[b]	.29[b]	.10	-.20	-.28[a]	.19	.15	.00	.06
6. SASB-Afil 2						1.00	.70[c]	.73[c]	-.05	-.16	-.32[b]	.19	.10	-.18	-.29[a]	.15	.12	.08	.13
7. SASB-Afil 3							1.00	.88[c]	.03	-.08	-.32[b]	.18	.12	-.14	-.28[a]	.08	.08	.06	.01
8. SASB-Afil 4								1.00	.02	-.09	-.28[a]	.18	.17	-.16	-.21	-.04	.03	.03	.02
9. COPED									1.00	-.07	.08	-.04	-.01	.02	.11	-.19	.16	.28[a]	.22
10. RRQ 1										1.00	.02	-.46[c]	-.33[b]	.58[c]	-.08	.09	-.46[c]	-.43[c]	.19
11. RRQ 2											1.00	-.29[b]	-.04	.31[b]	.65[c]	-.32[b]	-.15	.09	.07
12. RRQ 3												1.00	.46[c]	-.38[c]	-.17	.21	.29[b]	.07	-.02
13. CRQ 1													1.00	-.34[b]	-.12	.02	.07	.09	-.07
14. CRQ 2														1.00	.21	-.19	-.21	-.29[a]	.08
15. CRQ 3															1.00	-.26[a]	.04	.26[a]	-.05
16. CRQ 4																1.00	-.19	-.23	.19
17. RET																	1.00	.56[c]	-.39[c]
18. STAT																		1.00	-.24[a]
19. LOS																			1.00

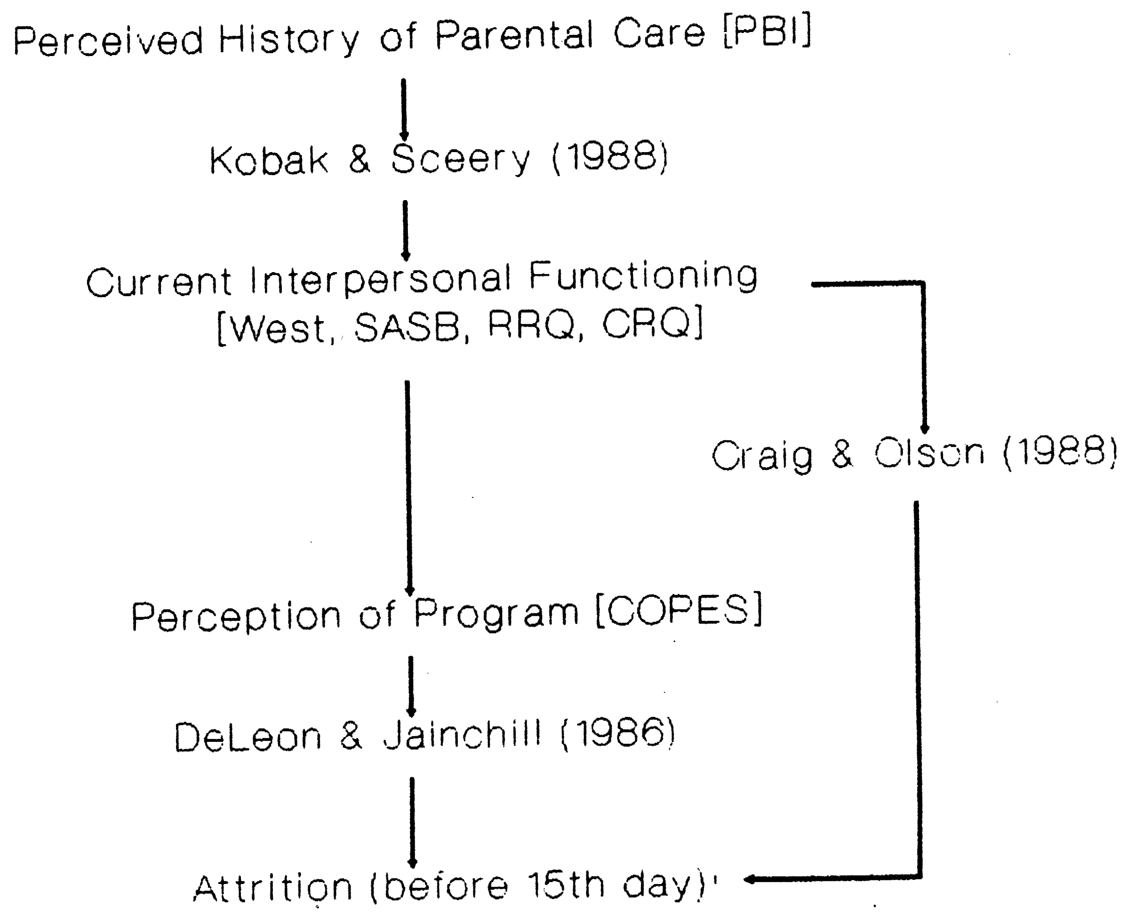
[a] *p* < .05; [b] *p* < .01; [c] *p* < .001

Note. PBI Care = Parental Bonding Instrument, Care scale; PBI Protec = Parental Bonding Instrument, Protection scale; MDR = No Attachment Questionnaire, Maintains distance in relationships scale; FEAR = No Attachment Questionnaire, Fear of hurt or rejection scale; SASB-Afil 1-4 = Structural Analysis of Social Behavior, Weighted Affiliation scales 1-4; COPED = Community-Oriented Programs Environment Scale, Real and Ideal versions difference score; RRQ 1-3 = Romantic Relationships Questionnaire (1 = Avoidant, 2 = Anxious-ambivalent, 3 = Secure); CRQ 1-4 = Close Relationship Questionaire (1 = Secure, 2 = Avoidant-Fearful, 3 = Preoccupied, 4 = Avoidant-Dismissing); RET = 15-day retention; STAT = Discharge status; LOS = Length of Stay in days.

APPENDIX E

FIGURE

Figure 1.
PROPOSED MODEL OF FACTORS IN ATTRITION.



REFERENCES

Ainsworth, M. D. S. (1982). Attachment: Retrospect and prospect. In C. M. Parkes & J. Stevenson (Eds.), The place of attachment in human behavior (pp. 1-28). New York: Basic.

Ainsworth, M. D. S. (1989). Attachments beyond infancy. American Psychologist, 44, 709-716.

Allison, M., & Hubbard, R. L. (1985). Drug abuse treatment process: A review of the literature. The International Journal of the Addictions, 20, 1321-1345.

American Psychiatric Association. (1987). Diagnostic and Statistical Manual of Mental Disorders (3rd ed., rev.). Washington, D. C.: Author.

Aron, W. S., & Daily, D. W. (1976). Graduates and splitees from therapeutic community drug treatment programs: A comparison. The International Journal of the Addictions, 11, 1-18.

Baekeland, F., & Lundwall, L. (1975). Dropping out of treatment: A critical review. Psychological Bulletin, 82, 738-783.

Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. Journal of Social and Personal Relationships, 7, 147-178.

Benjamin, L.S. (1974). Structural analysis of social behavior (SASB). Psychological Review, 81, 392-425.

Benjamin, L.S. (1977). Structural analysis of a family in therapy. Journal of Consulting and Clinical Psychology, 45, 391-406.

Blechman, E. A. (1982). Conventional wisdom about familial contributions to substance abuse. American Journal of Drug and Alcohol Abuse, 9, 35-53.

Bloom-Feshbach, J., & Bloom-Feshbach, S. (1987). Introduction: Psychological separateness and experiences of loss. In J. Bloom-Feshbach, S. Bloom-Feshbach, & Associates, The psychology of separation and loss (pp. 1-59). San Francisco: Jossey-Bass.

Bowlby, J. (1988). Developmental psychiatry comes of age. The American Journal of Psychiatry, 145, 1-10.

Brennan, K., Hazan, C., & Shaver, P. (1989, March). Multi-item measure of adult attachment style. Paper presented to accompany poster presentation at the annual convention of the Eastern Psychological Association, Boston, MA.

Brennan, K., Shaver, P., & Tobey, A. (1990). Attachment styles, gender, and parental drinking. Manuscript submitted for publication.

Calsyn, D. A., Roszell, D. K., & Anderson, L. S. (1988). Interpersonal style differences among drug abusers. Journal of Clinical Psychology, 44, 821-830.

Capone, T., Brahen, L., Condren, R., Kordal, N., Melchionda, R., & Peterson, M. (1986). Retention and outcome in a narcotic antagonist treatment program. Journal of Clinical Psychology, 42, 825-833.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. Psychological Bulletin, 98, 310-357.

Coleman, E. (1987). Chemical dependency and intimacy dysfunction: Inextricably bound. Journal of Chemical Dependency Treatment Monograph, 1 (1), 13-27.

Colgan, P. (1987). Assessment of boundary inadequacy in chemically dependent individuals and families. Journal of Chemical Dependency Treatment Monograph, 1 (1), 75-90.

Craig, R. J. (1984a). Can personality tests predict treatment dropouts? The International Journal of the Addictions, 19, 665-674.

Craig, R. J. (1984b). Personality dimensions related to premature termination from an inpatient drug abuse treatment program. Journal of Clinical Psychology, 40, 353-355.

Craig, R. J. (1985). Reducing the treatment dropout rate in drug abuse programs. Journal of Substance Abuse Treatment, 2, 209-219.

Craig, R. J., & Olson, R. E. (1988). Differences in psychological need hierarchy between program completers and dropouts from a drug abuse treatment program. American Journal of Drug and Alcohol Abuse, 14, 89-96.

Craig, R. J., Rogalski, C., & Veltri, D. (1982). Predicting treatment dropouts from a drug abuse rehabilitation program. The International Journal of the Addictions, 17, 641-653.

De La Rosa, M. (1988, Summer). Natural support systems of Puerto Ricans: A key dimension for well-being. Health and Social Work, 181-189.

DeLeon, G. (1974). Phoenix House: Psychopathological signs among male and female drug-free residents. Addictive Diseases: An International Journal, 1, 135-151.

DeLeon, G. (1985). The therapeutic community: Status and evolution. The International Journal of the Addictions, 20, 823-844.

DeLeon, G., & Jainchill, N. (1986). Circumstance, motivation, readiness and suitability as correlates of treatment tenure. Journal of Psychoactive Drugs, 18, 203-208.

DeLeon, G., & Schwartz, S. (1984). Therapeutic communities: What are the retention rates? American Journal of Drug and Alcohol Abuse, 10, 267-284.

DeLeon, G., Wexler, H. K., & Jainchill, N. (1982). The therapeutic community: Success and improvement rates 5 years after treatment. The International Journal of the Addictions, 17, 703-747.

Dozier, M. (1990). Attachment organization and treatment use for adults with serious psychopathological disorders. Development and Psychopathology, 2, 47-60.

Federer, M. B., McKenry, P. C., & Howard, L. (1986). Factors related to the treatment success of drug addicts enrolled in a residential rehabilitation facility. Advances in Alcohol and Substance Abuse, 5, 85-97.

Foureman, W. C., Parks, R., & Gardin, T. H. (1981). The MMPI as a predictor of retention in a therapeutic community for heroin addicts. The International Journal of the Addictions, 16, 893-903.

Friedman, A. S., Glickman, N. W., & Morrissey, M. R. (1986). Prediction to successful treatment outcome by client characteristics and retention in treatment in adolescent drug treatment programs: A large-scale cross validation study. Journal of Drug Education, 16, 149-165.

Gough, H., & Heilbrun, A. (1965). The Adjective Checklist manual. Palo Alto, CA: Consulting Psychologists Press.

Graham, S. (1992). "Most of the subjects were white and middle-class:" Trends in published research on African-Americans in selected APA journals, 1970-1989. American Psychologist, 47, 629-639.

Grief, G. L., & Porembski, E. (1987). Significant others of I.V. drug abusers with AIDS: New challenges for drug treatment programs. Journal of Substance Abuse Treatment, 4, 151-155.

Harris, R., Linn, M. W., & Pratt, T. C. (1980). A comparison of dropouts and disciplinary discharges from a therapeutic

community. International Journal of the Addictions, 15, 749-756.

Hawkins, J. D., Catalano, R. F., & Wells, E. A. (1986). Measuring effects of a skills training intervention for drug abusers. Journal of Consulting and Clinical Psychology, 54, 661-664.

Hawkins, J. D., & Fraser, M. W. (1987). The social networks of drug abusers before and after treatment. The International Journal of the Addictions, 22, 343-355.

Hazan, C. (1990). [Hazan adult attachment questionnaire: test protocol and reliability and validity data]. Unpublished raw data.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. Journal of Personality and Social Psychology, 52, 511-524.

Hazan, C., & Shaver, P. (1990). Love and work: An attachment-theoretical perspective. Journal of Personality and Social Psychology, 59, 270-280.

Keegan, J., & Lachar, D. (1979). The MMPI as a predictor of early termination from polydrug treatment. Journal of Personality Assessment, 14, 259-280.

Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. Child Development, 59, 135-146.

Kozel, N. J., & Adams, E. H. (1986). Epidemiology of drug abuse: An overview. Science, 234, 970-974.

Linn, M. W., Shares, R., Webb, N. L., & Pratt, T. L. (1979). Cultural factors and attitudes in drug abuse treatment. The International Journal of the Addictions, 14, 259-280.

McLellan, A. T., Luborsky, L., O'Brien, C. P., Barr, H. L., & Evans, R. (1986). Alcohol and drug abuse treatment in three different populations: Is there improvement and is it predictable? American Journal of Drug and Alcohol Abuse, 12, 101-120.

McLellan, A. T., Luborsky, L., O'Brien, C. P., Woody, G. E., & Druley, K. A. (1982). Is treatment for substance abuse effective? Journal of the American Medical Association, 247, 1423-1428.

McLellan, A. T., Luborsky, L., Woody, G. E., O'Brien, C. P., Druley, K. A. (1983). Predicting response to alcohol and drug abuse treatments: Role of psychiatric severity. Archives of General Psychiatry, 40, 620-625.

McLellan, A. T., Woody, G. E., Luborsky, L., O'Brien, C. P., & Druley, K. A. (1983). Increased effectiveness of substance abuse treatment: A prospective study of patient-treatment "matching". The Journal of Nervous and Mental Disease, 171, 597-605.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of

representation. Monographs of the Society for Research in Child Development, 50, (1, Serial No. 2).

Malow, R. M., West, J. A., Williams, J. L., & Sutker, P. B. (1989). Personality disorders classification and symptoms in cocaine and opioid addicts. Journal of Consulting and Clinical Psychology, 57, 765-767.

Marsh, G. (1990). The interactive effects of parental divorce, parental conflict, and attachment style on college student functioning. Unpublished master's thesis, University of North Texas, Denton, TX.

Miller, P. M., & Eisler, R. M. (1977). Assertive behavior of alcoholics: A descriptive analysis. Behavior Therapy, 8, 146-149.

Moos, R. H. (1988). Community-Oriented Programs Environment Scale Manual (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.

Needle, R., Lavee, Y., Su, S., Brown, P., Doherty, W. (1988). Familial, interpersonal, and intrapersonal correlates of drug use: A longitudinal comparison of adolescents in treatment, drug-using adolescents not in treatment, and non-drug-using adolescents. The International Journal of the Addictions, 23, 1211-1240.

Parker, G. (1983). Parental Overprotection: A risk factor in psychosocial development. New York: Grune & Stratton.

Parker, G. (1990). The Parental Bonding Instrument: A decade of research. Unpublished manuscript. University of

New South Wales, School of Psychiatry, Prince of Wales Hospital, Randwick, Australia.

Parker, G., Tupling, H, & Brown, L. B. (1979). A Parental Bonding Instrument. British Journal of Medical Psychology, 52, 1-10.

Quintana, S. M. & Meara, N. M. (1990). Internalization of therapeutic relationships in short-term psychotherapy. Journal of Counseling Psychology, 37, 123-130.

Rice, K. G., Cole, D. A., & Lapsley, D. K. (1990). Separation-individuation, family cohesion, and adjustment to college: Measurement validation and test of a theoretical model. Journal of Counseling Psychology, 37, 195-202.

Roffee, M. W. (1981). Predictive correlates of treatment program completion in a sample of male alcoholics. The International Journal of the Addictions, 16, 849-857.

Rogalski, C. J. (1986). The male addict's consciousness of women in his life. Women and Therapy, 5, 259-274.

Rosenthal, M. S. (1989). The therapeutic community: Exploring the boundaries. British Journal of Addiction, 84, 141-150.

Sarason, I. G., Sarason, B. R., & Shearin, E. N. (1986). Social support as an individual difference variable: Its stability, origins, and relational aspects. Journal of Personality and Social Psychology, 50, 845-855.

Sarason, B. R., Shearin, E. N., & Pierce, G. R. (1987). Interrelations of social support measures: Theoretical and

practical implications. Journal of Personality and Social Psychology, 52, 813-832.

Seldin, N. E. (1972). The family of the addict: A review of the literature. The International Journal of the Addictions, 7, 97-107.

Shedler, J., & Block, J. (1990). Adolescent drug use and psychological health: A longitudinal inquiry. American Psychologist, 45, 612-630.

Siddall, J. W., & Conway, G. L. (1988). Interactional variables associated with retention and success in residential drug treatment. The International Journal of the Addictions, 23, 1241-1254.

Simpson, D. D., & Lloyd, M. R. (1979). Client evaluations of drug abuse treatment in relation to follow-up outcomes. American Journal of Drug and Alcohol Abuse, 6, 397-411.

Sladen, B. J., & Mozdzierz, G. J. (1985). An MMPI scale to predict premature termination from inpatient alcohol treatment. Journal of Clinical Psychology, 41, 855-861.

Smalley, S., & Coleman, E. (1987). Treating intimacy dysfunctions in dyadic relationships among chemically dependent and codependent clients. Journal of Chemical Dependency Treatment Monograph, 1 (1), 229-243.

Stark, M. J., & Campbell, B. K. (1988). Personality, drug use, and early attrition from substance abuse treatment. American Journal of Drug and Alcohol Abuse, 14, 475-485.

Swaim, R. C., Oetting, E. R., Edwards, R. W., & Beauvais, F. (1989). Links from emotional distress to adoleescent drug use: A path model. Journal of Consulting and Clinical Psychology, 57, 227-231.

Tabachnick, B. G., & Fidell, L. S. (1983). Using multivariate statistics. New York: Harper & Row.

U.S. Department of Health and Human Services. (1987). Drug Abuse and Drug Abuse Research: The second triennial report to Congress from the Secretary, Department of Health and Human Services. (NIDA-DHHS Publication NO. ADM 87-1195). Washington, DC. U. S. Government Printing Office.

Vaux, A. (1985). Variations in social support associated with gender, ethnicity, and age. Journal of Social Issues, 41, 89-110.

West, M., Sheldon, A., & Reiffer, L. (1987). An approach to the delineation of adult attachment: Scale development and reliability. The Journal of Nervous and Mental Disease, 175, 738-741.

West, M., Sheldon, A., & Reiffer, L. (1989). Attachment theory and brief psychotherapy: Applying current research to clinical interventions. Canadian Journal of Psychiatry, 34, 369-374.

Wilhite, T. (1990). Interpersonal reactions to bereaved parents: An exploration of attachment and interpersonal theories. Unpublished doctoral dissertation, University of North Texas, Denton, TX.

Woody, G. E., Luborsky, L., McLellan, T., O'Brien, C. P., Beck, A. T., Blaine, J., Herman, I., & Hole, A. (1983). Psychotherapy for opiate addicts: Does it help? Archives of General Psychiatry, 40, 639-645.

Zuckerman, M., Sola, S., Masterson, J., & Angelone, J.V. (1975). MMPI patterns in drug abusers before and after treatment in a therapeutic community. Journal of Consulting and Clinical Psychology, 43, 286-296.