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**PERSONALITY TRAITS AND ADDICTION RELAPSE RATES:  
IS THERE A CONNECTION**

by  
Lori Sadwin O'Leary

A Thesis

Submitted in partial fulfillment of the requirements of the  
Master of Arts Degree  
of  
The Graduate School  
at  
Rowan University  
April 19, 2000

Approved by

Professor

Date Approved

5/8/00

## ABSTRACT

Lori Sadwin O'Leary

*Personality Traits and Addiction Relapse Rates:  
Is There a Connection*

2000

Dr. John Klanderman

Graduate Program of School Psychology

The purpose of this study was to examine what differences, if any, there were in personality trait levels of Neuroticism and Conscientiousness between addicts/ alcoholics who relapsed and those who remained abstinent. It was hypothesized that high levels of Neuroticisms combined with low levels of Conscientiousness would be associated with relapsing addicts and low levels of Neuroticism combined with high levels of Conscientiousness would be associated with abstaining addicts. Fifty-one subjects participated in this study and their personality traits were measured with the NEO-FFI, a self-reporting personality questionnaire. Relapse and abstinence was observed over a three-month period. A one-way ANOVA showed significance between the personality traits and relapse. The results supported the hypothesis. The levels of Neuroticism and Conscientiousness were significantly different between relapsing and abstaining addicts. Additional factors, including drug of choice, socio-economic background, employment, age, gender, ethnicity, marital status, length of time using, number of previous treatment attempts, and previous psychiatric history were studied for significance with relapse. Although many of these factors were significantly correlated with each other, only the length of time using and gender were significant with relapse.

## MINI-ABSTRACT

Lori Sadwin O'Leary

*Personality Traits and Addiction Relapse Rates:  
Is There a Connection*

2000

Dr. John Klanderman

Graduate Program of School Psychology

This study examined the significance between personality trait levels and substance addiction relapse. High levels of Neuroticism combined with low levels of Conscientiousness were associated with addicts who relapsed and the reverse was true for addicts who remained abstinent. Additional factors that were studied revealed significance when correlated with relapse.

## *Acknowledgments*

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## **CHAPTER I**

### ***Overview of the Thesis***

#### ***Need***

Addiction to drugs and alcohol is a nationwide epidemic. Substance abuse is the number one leading cause of preventable death in the United States. (NIDA, 1999) In 1995 there were 1.9 million admissions to addiction treatment centers. (NIDA, 1995) According to a 1999 survey by the National Institute on Drug Abuse, 14 million Americans admitted to using illicit drugs in the past month. (NIDA, 1999) In 1992, health problems, related to substance abuse, cost insurance companies in excess of 97.7 billion dollars and more than half of the money spent was used to pay for outpatient treatment. (NIDA, 1992)

Outpatient treatment has, in the past decade, become the standard approach for rehabilitation of drug addicts and alcoholics. Residential treatment was once considered the only way to treat the addicted population, however, today's alcoholics and drug addicts (referred to generically as "addicts") seeking treatment rarely receive residential benefits through their insurance coverage. This change is due to managed healthcare and its increasing efforts to reduce excessive costs for ineffective treatment. Research by the Minnesota Department of Human Services (1998) has provided evidence that inpatient rehabilitation produces the same recidivism rates as outpatient treatment at four times the cost. The national recidivism rate for addicts is 60% after one month and at least 80% after 6 months (Fisher et al., 1998). As a result, insurance companies have eliminated residential treatment as a standard approach for dealing with addicts because sobriety is not a product of lengthy inpatient rehabilitation, as once believed.

So why are so many addicts incapable of maintaining abstinence while a select few achieve sobriety? The answer lies within the individual seeking treatment. Perhaps some



addicts have personality traits that foster recovery, while others have traits that perpetuate the addictive process. If a set of personality traits, common to addicts who chronically relapse, can be identified and compared to the personality traits of recovering addicts, then treatment can focus on modifying personality traits of addicts who chronically relapse. This may, in-turn, reduce recidivism rates and thereby decrease disproportionate healthcare costs for the addicted population.

### ***Purpose***

The personality trait differences between addicts who relapse and addicts who abstain will be identified through personality testing. A comparative analysis of traits in both relapsers and abstainers will present useful information for treating the addicted population. Personality traits of addicts who maintain abstinence will provide a format for chronic relapsers to follow. Personality traits of addicts who repeatedly fail treatment can be modified to match the traits of the addicts who maintain sobriety. This will improve treatment outcome by reducing recidivism and the need for future treatment.

Cognitive-behavioral theory defines addiction as acquired behaviors and overlearned habits with biological, psychological and social determinants with biological, psychological and social consequences. (Martlatt, 1998) This theory has been shown to be the most widely accepted approach in the treatment of the addicted population, (Ogborne et al., 1998) because it is more effective than traditional psychotherapy within the constraints of time-limited outpatient treatment. This approach is based on the belief that addicts have irrational thought processes and equally maladaptive behaviors. The therapist acts more as an educator than a counselor by challenging the addict's irrational beliefs and teaching them more appropriate coping strategies. The therapist assists the addict in recognition of the need to work hard in emotive and behavioral ways to change the dysfunctional feelings and actions that follow. (Corey, 1996)

“Traditionally, a personality trait perspective has been uncommon within

cognitive-behavioral orientations. However... assessment of personality traits can be used to prescribe very specific cognitive-behavioral interventions.” (Moffett et al., 1996 p. 133) Personality traits have been correlated with coping styles and may be viewed as facets of personality. (Moffett et al., 1996) As previously stated, cognitive-behavioral approaches have been structured to improve coping skills. Therefore, the assessment of personality traits of relapsers and abstainers can identify the deficits in the coping styles of relapsers that need to be addressed in treatment. Psychoeducational programs can be modified to focus on individual differences in the addicts’ coping styles. Assessing the personality traits of chronic relapsers and comparing them to the traits of addicts who maintain abstinence may identify specific coping styles essential to recovery from the disease of addiction.

The purpose of this study is to examine if there are any personality traits, common to addicts who chronically relapse, that are separate and distinct from personality traits common to addicts who maintain abstinence. A comparison through personality testing will provide information about individual differences between relapsers and abstainers. This information may enable addictions counseling professionals to reform treatment for chronic relapsers and to recommend specific skills training to modify problematic personality traits.

### ***Hypothesis***

Personality traits of addicts who chronically relapse are significantly different than personality traits of addicts who are able to maintain abstinence. Specifically, the trait level Neuroticism will be higher and the trait level Conscientiousness will be lower in addicts who relapse than in addicts who remain abstinent.

### ***Research Questions***

Because the nature of personality development depends in part on the subjects’

environments, the following factors should be considered during this study; age, gender, ethnicity, length of time using, and drug of choice. Some addicts have very little social support, which may play an even larger role in relapse than any particular personality trait. These factors will be addressed in the literature review as they relate to relapse and personality traits in addition to how they correlate with relapse.

## *Theory*

In order to understand why more than half of the addicted population relapses within one month of treatment, the individual differences among addicts who relapse and those who maintain abstinence must be explored. Some variables that have been predictive of relapse are “severity of drug dependence, number of previous treatments, age of onset and co-morbid psychopathology.” (Fisher, et al. 1998 p. 1041) Studies have documented high recidivism rates with antisocial personality disorder, borderline personality disorder, and depression. Regier et al. (1990) and Rosse et al. (1986) discovered that more than 50% of all addicts admitted to substance abuse treatment centers and mental health clinics had at least one other psychiatric disorder. Other studies have found depression rates as high as 40% for addicts in treatment and coexisting antisocial personality disorder rates of nearly 50%. (Moos et al. 1993) “In addition to these critical variables, many clinicians intuitively suspect that personality characteristics contribute to the likelihood of relapse.” (Fisher, et al. 1998 p. 1041)

It is important to first identify personality traits that have been associated with addicts. A study by Retka and Chatam (1974, p. 15) described addicts as “alienated, frustrated, aggressive, emotionally unstable, nomadic, narcissistic, dependent, sociopathic, hedonistic, childlike, paranoid, rebellious, hostile, infantile, retreatist, cyclothymic, constitutionally immoral, hysterical, neuroesthenic, self-indulgent, introspective, essentially normal...” Although there have been a wide variety of personality descriptives that wear the label of “addictive personality” many commonalties have been identified,

specifically with the trait “Neuroticism,” defined as “the degree in which individuals are susceptible to experiencing negative emotions.” (Fisher et al., 1998 p. 1041) Barnes (1983) and Bergman (1979) both discovered raised levels of Neuroticism in drug addicts and alcoholics. The Eysenck Personality Questionnaire (EPQ) (Eysenck & Eysenck, 1975) has been used in study after study resulting in similar data of higher levels of Neuroticism-Stability dimensions for addicts. (Sutherland, 1997) Conscientiousness is another personality element, to be studied, which defines the level of motivation, organization and persistence. (Fisher et al., 1998) It could be presumed that the preceding trait would be considerably lower in addicts who are incapable of consistency in goal directed behavior. Low organizational skills and a lack of motivation necessary in preparing for high risk situations would be representative of low Conscientiousness scores for the relapsing addict. (Fisher et al., 1998) The 5-factor model of personality, including dimensions of Neuroticism, Extroversion, Openness, Agreeableness, and Conscientiousness, would be representative of the two traits that are justifiably predictive of personality factors necessary for recovery from addiction. Therefore, a test utilizing the NEO- Five Factor Inventory will presumably discriminate and effectively predict those addicts who will chronically relapse and those who will likely maintain abstinence.

## ***Definitions***

**Abstinence:** *Not engaging in a behavior, particularly in the context of avoiding intoxicating substances.*

**Addict:** *An individual who is chemically dependent.*

**Addiction:** *A compulsive dependency on some external substance to regulate an internal state.*

**Agreeableness:** *Trust, modesty, compliance, altruism, straightforwardness, tender-mindedness.*

**Antisocial Personality Disorder:** *A pattern of behavior involving impulsivity and inability to restrain antisocial urges.*

**Borderline Personality Disorder:** *A personality disorder characterized by intense, variable*

*relationships with others, and labile emotions.*

**Conscientiousness:** *Competence, self-discipline, achievement-striving, dutifulness, order, and deliberation.*

**Extroversion:** *Warmth, gregariousness, assertiveness, activity, excitement-seeking, positive emotions.*

**Intensive Outpatient Treatment:** *Treatment, which includes but is not limited to group therapy and individual counseling that is done 2, 3 or 5 times weekly.*

**Openness:** *Fantasy, aesthetics, feelings, actions, ideas, values.*

**Neuroticism:** *Anxiety, hostility, depression, self-consciousness, impulsivity, and vulnerability.*

**Recidivism:** *A tendency to relapse to a former behavior, specifically to using addictive substances.*

**Relapse:** *The act of returning to the use of addictive substances after partial recovery.*

**Residential Treatment:** *24 Hour treatment for drug and alcohol dependency, not including detoxification, which does not require medical management.*

### ***Assumptions***

In order to conduct this study, several assumptions must be made. All subjects in this study were seeking treatment for substance dependence or alcoholism. These subjects met the criteria for substance dependence or alcoholism as defined by the DSM-IV. All data collected was collected in an unbiased manner. It was assumed that the subjects answered self-report questions honestly. In addition, for the purpose of this study, all subjects were treated equally. There was no discrimination between alcohol dependency and substance dependency except when testing for significance regarding drug of choice. All subjects were assumed to have an addiction and will, therefore, be referred to as “addicts” throughout this paper.

## ***Limitations***

There were several recognized limitations when completing this study. The first limitation was that the sample size was very small. Only one type of personality test was utilized in this study. Subjects were studied from only one treatment center. Because there were not comparisons from multiple treatment centers from various parts of the country, the sample was not representative of the general addicted population. The subjects in this study were addicts who were seeking treatment, however, there are many addicts who do not seek treatment, so results from this study may not be applied to the general addicted population. Time constraints allowed for only three months of data collection, so long-term outcomes could not be predicted. Finally, results from this study were based on the subjects' self report and specific personality traits that were being tested for, by nature, would suggest that subjects would not be completely truthful.

## ***Overview***

The differences between personality traits among addicts who relapse and addicts who maintain abstinence will be investigated in this study. Through a Five-Factor model of personality assessment, the following personality traits will be assessed: Neuroticism, Extroversion, Agreeableness, Conscientiousness, and Openness. These traits will be measured in each subject and compared with their individual treatment outcome. Additionally, through the use of a psychosocial history of each subject, the traits will be compared to the following factors; age, gender, ethnicity, previous treatment attempts, length of time using, and specific drug of choice.

An examination of previous research, which has assessed addictive personality, reviewed different types of effective treatment for the substance abusing population, and revealed characteristic personality dimensions of addicts who relapse, will follow in Chapter II. An overview of research on identified personality traits of the general addicted population using various assessment tools will be addressed. Attention will also

be given to research disputing the existence of the “addictive personality.” Other factors contributing to relapse, such as, demographic information and involvement in a 12-step program following detoxification, will be examined. The process of change in recovery and self-efficacy expectations as a factor in maintenance will be addressed. Finally, studied which utilized the five-factor method of personality assessment to examine personality traits predictive of chronic relapsers will be explored in detail. Chapter III will follow with an explanation of the method in which this study will be executed.

## CHAPTER II

### *A Review of Literature*

In order to address the issue of whether or not personality traits are responsible for why some drug addicts and alcoholics relapse and others remain abstinent, several aspects of addiction and personality traits, must be reviewed. First, studies discussing the existence of an addictive personality will be given attention. Next, there will be an examination of personality differences between drug addicts and alcoholics followed by a review of the personality of the addicted population. Then types of treatment and relapse will be reviewed. Finally, personality trait dimensions, as predictors of relapse will be discussed in detail.

#### *Is There an Addictive Personality?*

The first topic to be discussed is the actual existence of an “addictive personality” Sutherland, (1997), questioned the existence of an “addictive personality.” He stated that previous researchers have claimed that any traits identified as addictive were, in fact, a consequence of the addiction itself. Psychopathology or personality findings in drug addicts and alcoholics have been said to be the result of the dependency rather than contributing to it.

Sutherland referred to Costa and McCrae, (1985) as having postulated that personality traits tend to remain stable over time, therefore, if addictive personality traits do exist, it should be assumed that traits would remain relatively stable throughout the addictive process. A study by Brown et al., (1991) in which they studied recovering addicts, showed that 40% of recently detoxified alcoholics reported significantly elevated levels of anxiety and depression one week after they had stopped drinking, with



levels steadily decreasing after that, until levels comparable to nonaddicts were achieved. If there is an “addictive personality” it would not follow that addict’s levels should fall back within normal limits after they were detoxified. Christopher and Sutton, (1994) found anxiety and self-esteem were initially elevated in early recovery and decreased with length of time in recovery. Sutherland utilized the Minnesota Multiphasic Personality Inventory, MMPI, and found that no single personality type was characteristic of all alcoholics and therefore, he determined that no “addictive personality” could be supported.

Rajasthan completed a study in India, (1995) to determine whether the addictive personality is a result of the drugs or if the addictive personality came before the addiction. The personality traits of 140 adolescents who reported using drugs were tested using the MMPI. The conclusion was that certain personality factors did precede the addiction and that the addiction may not create the addictive personality.

Another researcher Lopez-Corvo (1993) questioned the existence of a personality profile of addiction that was separate from borderline or narcissistic personality disorder. The results indicated that there were variables present enough to clearly identify certain traits in people who used drugs or alcohol. The theory was that addicts used these substances in order to lower paralyzing levels of anxiety. The results revealed that there were addictive personality traits that were indicative of addicts.

McDonough, (1989) studied addictive tendencies and personality traits of graduate students who were in school for nursing and nurse anesthesia. The nursing students were the control group and the nurse anesthesia students were the study group. The personality facets studied were impulsiveness, assertiveness and excitement seeking from the NEO-PI, a five-factor personality inventory. Addictive tendency was

determined by using the MacAndrew scales of the MMPI. The study group had lower scores on assertiveness, was no different than the control group for impulsivity, but was much higher in excitement-seeking scores. The addiction tendency in the study group was significantly higher than the control group. The results suggested that there were not only differences in personality facets of nursing students who specialized in anesthesia, but they also have higher addictive tendencies, indicating that they may already have a greater risk for developing addictions in the presence of drugs in their line of work. It may also indicate that the addictive tendencies may have directed their choice of careers.

The MacAndrew scale of the MMPI was also used to study personality as an explanation of drug use by Lavelle. (1991) Personalities of patients in a residential drug treatment center were compared to those in a long-term hostel for the homeless as well as with students who had no addictions. Drug users tended to be shrewd, tough-minded, anxious and high in experience seeking.

DeMoja studied drug addicts and locus of control in 1997 to determine if there is a correlation between drug use and personality. The author hypothesized that external locus of control is a fundamental factor in personalities of drug abusers. Locus of control was defined as a person's view about how much they feel personally responsible for what happens to them. Internal locus of control was characterized by an individual's belief that they have control internally. When a person believed that events occur by something beyond their control, they were defined as having an external locus of control. The author further defined external locus of control as related to an escape mechanism to cover problems rather than cope with them. Drug addicts, according to the author, may exhibit elements of an external locus of control by demonstrating very little control over their impulses. The study also involved testing for spontaneous aggression and correlated

both scores. The results showed that addicts had high scores on spontaneous aggression, had little control over their aggressive impulses, and additionally, had high external locus of control.

The results are mixed regarding support for an “addictive personality.” While studies have found many differences in personalities between the addicted population and those who are not addicted, there seems to be a set of sub-traits that are most commonly noted in the data. These are self-esteem, depression, anxiety, hypochondria, hostility, and fantasy. (Sutherland, 1997, p.255)

### ***Personality Assessment of Drug Addicts and Alcoholics***

In an effort to begin to understand differences between abstaining addicts and those who chronically relapse, as a function of personality traits, it is necessary to examine studies that have previously attempted to differentiate addictive personality subtypes. Subtypes of cocaine abusers were studied by Ball, Carroll, Babor, and Rounsaville, (1995) to determine if they fell into two categories that had been previously found to be true of alcoholics. The Type A cocaine abusers were defined as having later age of onset, lower heritability, fewer childhood risk factors, less severe dependence, lower impulsivity and novelty seeking, and high harm avoidance. Type B cocaine abusers were defined as having an earlier onset, higher heritability, more childhood risk factors, more severe dependency, polydrug abuse, psychiatric comorbidity, high impulsivity and novelty seeking and antisocial behavior. After one-year follow-up Type B cocaine abusers had higher relapse probability. The study findings were consistent with previous studies regarding alcohol types.

Vukov et al., (1995) studied opiate addicts and their personality dimensions. The opiate addicts were compared to controls with the Diagnostic Statistical Manual third

addition revised, (DSM IIIR) and the Tridimensional Personality Questionnaire, (TPQ). Novelty seeking, harm avoidance, and reward dependence were studied. The addicts scored higher on the novelty seeking and on subscales of the harm avoidance and reward dependence. The addicts also demonstrated a higher percentage of impulsivity and erratic personality disorders. The personality dimensions of opiate addicts showed certain temperament traits which included impulsiveness, shyness with strangers, fear of uncertainty, and dependence.

Narayan et al. (1997) also studied personality characteristics of people addicted to heroin. They matched subjects for family income, birth order, education and first use of heroin. Addicts were compared to non-addicted college students. The tests used were a Hindi version of Eysencks Personality Inventory, EPI, a Hindi version of the Trait Scale of the State-Trait Anxiety inventory, and a Hindi version of the 16 Personality Factor Questionnaire, 16PF. Addicts scored higher on Neuroticism, extroversion, impulsivity and sociability on the first two tests. Addicts had lower intelligence scores, were less emotionally stable, had lower ego strength, and lower self-sentiment integration. In addition, Patalano did a cross-cultural study of the similarities in the personality dimensions of heroin addicts. (1998) It was shown that personality traits among opiate addicts were similar across cultures in higher Neuroticism, higher extroversion, higher impulsivity and lower sociability. The opiate addicts were also similar across cultures as being lower on emotional stability, lower ego strength, were more insecure, more frustrated and tended to disregard rules.

Barnes, (1983) indicated, in his findings, that the consensus of opinion among researchers is that addicts, relative to non-addicts, exhibit elevated levels of Neuroticism either before, during or after active addiction. The Eysenck Personality Questionnaire, (EPQ) has been used extensively in this area and addicts have invariably been found to

score significantly higher than non-addicts do on Neuroticism-stability dimensions.

Bartsch and Hoffman, (1985) attempted to identify subtypes of alcoholics using the Millon Clinical Multiaxial Inventory, (MCMI) that were comparable to previous findings of subtypes using the MMPI. They found five distinct subtypes. The first group was called the *Acute Reactive Depressives*, group two was named *Antisocial Sociopaths*, the third group was named *Paranoid Alienated*, group four was called *Passive-Aggressive Sociopaths*, and the fifth group was deemed *Chronic Severely Distressed*. These subtypes were similar to findings that had previously been reported from the MMPI studies. The identification of types of alcoholics was thought, by the researchers, to be instrumental for enhancing the effectiveness of future treatment.

In addition, Bergman et al., (1998) assessed personalities of alcoholic women, who were in treatment for the first time, with the Rorschach test. The testing was compared to non-alcoholic controls. The alcoholics differed on all aspects of psychopathological scores. The findings were consistent with the assumption that, although early in their alcoholism, the women revealed an underlying psychopathology.

Finally, O'Boyle and Brandon performed a study of personality, substance abuse, and suicide attempts in 1998. Using the Eysenck personality measure, substance abusers were studied regarding how their personality style affected their likelihood of suicide attempt. Those who scored higher in Neuroticism were more likely to attempt suicide and were characterized as anxious, depressed, guilty, moody, and emotional.

### ***Personality Style Defined by Drug of Choice***

There have been several studies that have addressed the issue of different personality styles based upon substances of addiction. Craig and Olson (1990) studied the different personality styles between cocaine addicts and opiate addicts to support the

explanation of drug of choice. The data suggested that both types of drug addicts were quite similar in basic personality style and therefore, the data did not support the hypothesis.

In conjunction with determining differences between personality styles among drug addicts, Schinka, Curtiss, and Mulloy, (1994) hypothesized that personality testing would show underlying pathology behind the individual's choice of drug. They believed those addicts self-medicate their underlying pathology with that specific drug. They utilized the MMPI and the Personality Assessment Form, (PAF), to find if the addicts were, in-fact, self-medicating. Neither study showed any evidence of self-medication. This data suggested that personality traits that were different among addicts were not due to self-medication behaviors. Anxiety, depression, nor mania played a significant role in discriminating between drugs of choice.

Craig and Weinberg (1992) used the MCMI to assess personality styles of different types of addicts. The comparison between opiate addicts and cocaine addicts showed little difference in terms of personality style. However, analysis of the data showed that there were different types of addicts, not because of their drug of choice, but because of their underlying personality style. The types that were discovered were; narcissistic/antisocial, passive-aggressive/ withdrawn, dependent and those with psychopathology who were considered to have a personality disorder.

Campbell and Stark also studied psychopathology and personality characteristics in different forms of substance abuse. (1990) Previous studies had shown high levels of psychopathology among substance abusers, but relating specific personality factors to specific patterns of substance abuse had been inconsistent. The inconsistency was attributed to methodological problems such as inadequate control for demographic variables known to influence test performance and reliance on single, unidimensional

measures of personality. This study compared differences in personality characteristics among well-defined groups of substance abusers using multiple personality measures. Four groups were identified based on their drug of choice. The results did not support the hypothesis that particular symptom clusters or personality disorders were associated with specific substances of abuse.

A study, by Johnson et al., (1992) tested personality differences between cocaine abusers and alcohol abusers. The researchers matched cocaine abusers and alcohol abusers, by age, gender and ethnicity, which were entering inpatient treatment, and tested them using MMPI profiles. More similarities than differences were observed, so the theory that personality traits are responsible for the choice of drugs had to be rejected.

McGue et al., (1999) also studied the personality differences between alcohol addiction and drug addiction. His hypothesis was that substance addicts would have higher negative emotionality, or tendency to experience negative mood states, more psychological distress, and behavioral disinhibition, which is the inability or unwillingness to inhibit behavioral impulses, than alcoholics.

Both alcoholics and drug addicts had high levels of negative emotionality and lower levels of constraint, or behavioral disinhibition. Negative emotionality was defined as the tendency to experience psychological distress and negative moods. The inability to inhibit behavioral impulses and to endorse conventional moral values defined low levels of constraint. When controlling for alcohol use, only drug addicts had low levels of constraint. So the behavioral disinhibition, or low level of constraint, that had previously been associated with alcoholism may characterize only a subset of alcoholics who also abuse drugs. Alcoholics who did not abuse drugs scored high on negative emotionality but did not score low on levels of constraint as anticipated. The

data suggested that comorbid drug abuse might be the critical clinical factor differentiating two types of alcoholism.

Moffett et al., (1996) discussed the design and implementation of personality assessments of patients in a therapeutic community. The Personality Research Form, (PRF), a general personality assessment, was utilized to assess normal traits rather than pathological ones so the results could assist in treatment planning to improve coping styles such as social irresponsibility, impulsivity, easily offended by criticism, and hostility. By getting feedback on their results, the patients could understand their problems and counselors could employ specific interventions for problematic traits. These were traits that would otherwise be overlooked.

### ***Treatment for Substance Abuse***

Several studies will be examined that address the question of which type of treatment has been shown to be most effective for the addicted population. Fiorentine, (1998) tested the hypothesis that drug abuse treatment needs to address psychosocial aspects of the individual, not just the addiction, in order to be effective. He termed the psychosocial needs as “distal needs.” These included employment, health, housing, legal, emotional and family issues. The study tested whether or not the distal needs were resolved or unresolved during treatment and the outcomes were measured. The results showed that attending to distal needs did not affect treatment outcome. Fiorentine discussed issues for further research including factors that influence treatment retention and treatment effectiveness.

Swan, (1999) reviewed a study, performed by McLellan in 1997, that evaluated the effectiveness of matching drug abusers with the right type of treatment. The patients were matched to treatment based on results from McLellan’s *Addiction Severity Index*, (ASI). The researchers incurred limitations because insurance coverage requirements



prevented some patients from being placed in their selected treatment programs. Despite their limitations, they placed patients in as many programs as available that were tailored to each patient's needs, as determined by the ASI. The patients were shown to stay in treatment longer, were more likely to complete treatment, and had a better six month outcome than the standard-care patients who were in programs that did not have services tailored to their needs. This indicated that if an addict's needs could be identified at the onset of treatment, the psychiatric, occupational, social relationship, legal and family issues, which tend to compromise treatment, could be addressed. This could, presumably, reduce the chances for relapse.

Guydish et al., (1998) assessed whether inpatient, or residential treatment, was more effective in reducing problems and producing positive outcomes than outpatient day treatment. The comparison of the treatment modalities was done by random assignment of subjects and comparison of baseline scores, on severity of problems, to outcome scores on problem severity. Day treatment subjects had reduced severity in employment, legal, alcohol and drug problems, and decreased depression. Residential treatment subjects had the same improvements but had greater gains in social and psychiatric symptoms. The results showed that both settings were equally effective in reducing symptoms of substance abuse related problems. In addition, another study performed by Ogborn et al. (1998) showed that according to staff members of 53 different drug and alcohol treatment programs, Cognitive-behavioral processes were rated as essential for drug and alcohol treatment to be effective.

### ***Affiliation With Alcoholics Anonymous***

In conjunction with formal substance abuse treatment, Alcoholics Anonymous and Narcotics Anonymous have been shown to be effective. The following studies review the importance of the 12 Step method of recovery.

Another study by Fiorentine in 1999 addressed the issue of the effectiveness of affiliation with AA after treatment in maintaining abstinence. Fiorentine found that it was difficult to determine if the 12-step program was, in fact, the sole reason for maintaining abstinence because of confounding variables. Those variables included professional treatment that the subjects received in addition to AA and other outside activities that the subjects were involved in. However, it was clear that three times weekly, or more, attendance in 12 step meetings has been associated with drug and alcohol abstinence. Less than weekly attendance has not shown favorable correlation with abstinence.

Morgenstern et al. studied affiliation with Alcoholics Anonymous after treatment as a predictor of abstinence. (1997) It was noted that about one in ten Americans suffer from an addictive disorder each year. About one million Americans enter formal treatment each year according to the National Institute of Alcoholism and Alcohol Abuse. (1993) Studies have shown a modest relationship between attendance in 12 step meetings after formal treatment and abstinence. (Emrick et al., 1993) The underlying strategy in AA is to resolve basic personality problems like grandiosity and self-centeredness that serve to maintain the dependency on the substances. "Findings suggest that increased affiliation with AA after formal treatment is associated with better proximal substance abuse outcomes." (Morganstern et al. 1997 p.774) It was shown that AA integration was predictive of sustained high levels of commitment to abstinence as evidenced in appraisal of harm avoidance and self-efficacy at follow-up. The findings of this study "...indicate that AA's association with outcome was mediated by its effects on sustaining beliefs in the cost-benefit of maintaining behavior change, commitment to a specific goal, and ability to achieve this goal and through promoting active coping efforts." (Morganstern et al. 1997 p. 774) The addicts who were highly motivated prior

to treatment and affiliated with the 12-step program increased self-efficacy and coping efforts. It was noted that there needs to be a reevaluation of the method in which people with low levels of motivation and self-efficacy are identified and effective strategies must be employed to increase these factors to improve their outcomes.

### ***Related Factors to Substance Abuse Relapse***

The preceding studies have given credence to the existence of personality features that are common among addicts. The following review will begin to address factors that are relative to relapse.

McLellan et al., (1994) found that the severity of the addict's problems pretreatment predicted their six-month outcome. He discovered that if the treatment, including group therapy, drug and alcohol education and 12 step meetings, was focused only on the addiction and not other psychosocial issues, it may effect change in substance use, but it had little effect on their psychosocial problems. This study suggested that psychosocial services such as employment counseling, psychotherapy and family therapy provided during treatment may provide better social adjustment, thereby increasing positive outcome rates.

A study by McKay et al., (1996) addressed the issue of gender differences and relapse in substance abusers. The results suggested that women relapse less frequently than men. Even when controlling for the amount of drugs used, the frequency of use, the length of time in active addiction and the use of multiple drugs including crack cocaine, women were shown to have a higher rate of abstinence than men. This was found to be due, in part, to the fact that women were more likely to engage in group therapy, to receive more social support than men from their families, friends and coworkers, and women appeared to be initially more motivated for treatment as evidenced by the fact that women had more barriers to entering treatment. Women were also more likely to

ask for help for their problems and report negative emotions where men felt that they could handle their problems on their own. Men reported feeling less need for 12 step meetings.

Moos et al., (1993) studied relapse predictors as a factor of age and psychiatric disorders. It was determined that relapse rates were higher for those with concomitant psychiatric disorder. Also, readmission into treatment and multiple relapse was characterized by younger age, unmarried status, more previous treatment episodes, and shorter hospital stay during treatment.

A study by Brown et al. (1994) was executed to determine whether or not alcoholics who experience high levels of stress following substance abuse treatment were more likely to relapse than alcoholics not experiencing stress. The authors predicted that personality characteristics, specifically coping styles, would contribute to vulnerability to relapse in alcoholic men when confronted with adversity. Relapse rates after one year following treatment was related to coping style, self-efficacy and social support. In the presence of stressful situations after treatment, men who reported better coping styles, and who were problem-focused and willing to seek support, were less likely to relapse. Changes in coping skills and self-efficacy from intake to three-month follow-up were predictive of abstinence. There may be an insufficient amount of time to implement cognitive-behavioral changes due to time-limited treatment and the lasting effects of the alcohol on neurocognition. Even if the patients were able to integrate some changes, these changes must be maintained and practiced in order to be effective.

### ***Review of Similar Studies on Substance Abuse Relapse as a Function of Personality***

Next there will be a review of literature that directly addresses the notion that

differences in personality traits, among addicts, are representative of their ability to maintain abstinence or their tendency to relapse.

A study by Miller in 1991 evaluated a neuropsychodynamic model for assessing and treating the addicted population. Variables that were predictive of both relapse and sustained recovery were discussed. Personality features of abstainers included future goal-oriented, frustration tolerance, and self-efficacy. Relapsers were shown to do poorly on tests of language, abstract reasoning, planning, and cognitive flexibility. They were categorized as being impulsive, having antisocial personality and affective disorders. The author stated that chronic relapsers had a cognitive style that was non-reflective and impulsive and they lacked the ability to use inner speech and other types of self-regulating mechanisms that enable evaluation and planning of behavior.

Neuropsychological predictors of alcohol abstinence included high cognitive efficiency, having religious beliefs and joining AA, being employed, having higher educational levels, better social skills and an internal locus of control. Opiate addicts who were more likely to remain abstinent had higher IQs than those who relapsed and the author attributes their abstinence, in part, to having greater cognitive coping resources.

In summary, the variables that were most predictive of relapse included lower educational and employment status, lower intelligence and lower levels of cognitive efficiency, specifically those functions involving abstraction, problems solving, perceptuomotor integration, language skills, and verbal reasoning. The preceding neurologic functions have been associated with impaired frontal lobe and/or left hemisphere functioning. The author suggested that these qualities were likely indicative of premorbid features of cognitive style that predisposed certain individuals to chronic substance dependence.

Sellman et al., (1997) studied the relationship between personality measures and relapse in alcoholics who were in treatment. The addicts did not have a personality disorder as a primary diagnosis. Using the DSM IV and the Tridimensional Personality Questionnaire, the subject's personalities were investigated. Relapse was not associated with personality disorder, conduct disorder, or novelty seeking even though these features have been correlated with early onset of alcoholism in previous studies. The personality trait that was associated with relapse was low persistence. The subjects with low persistence, or low motivation to recovery, were 4.42 times more likely to relapse in comparison to the subjects with high persistence ratings. High persistence was described as being industrious, hard working, willing to sacrifice to succeed. Low persistence was characterized as those who rarely increased efforts toward success despite the anticipation of a reward. Subjects with low persistence gave up easily when they became frustrated or when criticized, when they were fatigued, or when they were faced with obstacles. The author suggested that identification of low persistence in alcoholics in treatment could be incorporated into the initial assessment so strategies could be developed and implemented to those people. This would theoretically decrease their vulnerability to relapse.

Cannon, Keefe and Clark, (1997) also studied relapse as a function of persistence levels in alcoholics. This study evaluated alcoholics six months after an inpatient detoxification. Two measures using the Tridimensional Personality Questionnaire, (TPQ), were shown to be predictive of persistence; the persistence scale and the orderliness/ persistence factor scale. The results showed that low persistence was indicative of relapsers.

DiClemente et al. (1994) showed how self-efficacy, in addictive behavior change, could be a reliable predictor of relapse potential. Increased self-efficacy was shown to reduce the probability of relapse. Efficacy increases with the individual's ability to cope

with negative emotional states, interpersonal conflict and social pressure. It was evident in the results of this study that a measure of self-efficacy, among other things, can improve the ability to predict relapse.

A study by Meszarosk et al., (1999) utilized the Tridimensional Personality Questionnaire as a predictor of relapse. The results showed that Novelty seeking was a strong predictor of relapse in males but not females. Harm Avoidance and reward dependence was not a predictor in long-term abstinence but it was predictive of early relapse.

Brewer et al., (1998) believed that identifying patient characteristics that predict continued opiate use after treatment could be done through meta-analytic techniques. Many studies attempting to identify risk factors of relapse to opiate use had not used a systematic approach of summarizing previous research. Most opiate addicts relapse after treatment, typically within the first three months. (Hunt & Bospalec, 1974) Many opiate addicts even continue to use during treatment. Brewer et al., (1998) attempted to determine the characteristics of continued opiate use after treatment through a review of literature on the topic. The results revealed 28 independent variables for which there were at least two studies with similar results between the independent variable and relapse. There were eight basic subgroups of independent variables: demographics, drug use history, non-opiate drug use, physical and mental health, criminal behavior and legal problems, employment, psychosocial variables, treatment length, and completion.

Demographic variables, except occupational status, had no significant correlation to continued drug use. Younger, non-married, noncaucasion subjects were slightly more likely to continue using or relapse. Gender and education had no correlation. Those with a higher status occupation had a slightly lower chance of relapse to opiate use. Subjects with a longer history of substance abuse problems prior to seeking treatment

were more likely to continue using after treatment. Addicts with a longer history of opiates use and an earlier age onset of use, in particular, also had a higher risk of relapse. Physical and mental health variables had a weak correlation to continued use. Criminal behavior and legal problems had a mild to moderate concurrent association with continued use. Employment problems, referring to degree of employment and income showed a significant correlation to continued use. Those subjects who were unemployed were more likely to continue using opiates after treatment than those who were employed.

Psychosocial variables were among the strongest predictors of relapse to opiate use after treatment, however, few studies have been done in this area. Low self-efficacy, referring to the lack of self-confidence in the ability to remain abstinent, and social support variables, such as continued contact with drug using peers, had high correlation to continued use. Family and social problems were only slightly correlated with continued use. Residential relocation after treatment showed a negative correlation with continued use. If the addict is removed from the people associated with opiate use, he or she is better able to maintain abstinence according to previous studies. Treatment length and completion are negatively correlated to continued use of opiates, which indicated that the subjects who stayed in treatment for a longer time and completed treatment were less likely to relapse or continue to use opiates. The evidence in this study showed that there was no single variable that definitively predicted relapse to opiate use and only a few variables appeared to be modestly longitudinally associated with continued use.

Another study by McGue et al (1997) revealed that high levels of the trait Neuroticism and low levels of constraint (similar in definition to Conscientiousness) were associated with more severe addiction. Although that study did not investigate the relapse rates of the subjects, the results may indicate that the severity of the addiction, itself, may be a predictor of relapse. The author postulates that addiction may be only one symptom of high Neuroticism and low constraint and that psychiatric disorders and



antisocial behavior may be another. The existence of the aforementioned trait levels may predispose the individual to addictive behaviors and could perpetuate the addiction once the threshold has been crossed.

McCormick, Dowd, Quirck, and Zegarra, (1998) performed a study of the relationship of the NEO-PI performance to coping styles, patterns of use and triggers among substance abusers. Substance abusers were more neurotic and less agreeable and less conscientious than the normative sample. Subgroups of abusers had different levels of various subscales. However, it is important to note that Neuroticism was highly related to escape avoidant coping, agreeableness was negatively related to confrontive coping, Conscientiousness was related to problem solving and negatively related to escape avoidance. Neuroticism, agreeableness and extroversion were associated with reported triggers of use including negative emotional states, social rejection and tension. Higher levels of Conscientiousness, agreeableness, and extroversion were associated with greater confidence in ability to refrain from use, however, Neuroticism was associated with a corresponding lack of confidence in self-restraint.

Quirk and McCormick (1998) showed that the NEO-PI was effective in demonstrating meaningful subtypes of substance abusers. The areas of study included coping style, psychopathological symptoms and pattern of substance choice. The largest differences were noted in measures of Neuroticism, agreeableness, and Conscientiousness. Those subjects with elevated levels of Neuroticism had low levels of both Conscientiousness and Agreeableness. The more extreme the levels on these dimensions, the higher reported level of depressive symptoms, aggressiveness, impulsivity, maladaptive coping styles, and the likelihood of abusing more than one substance.

A study by McCormick and Smith (1995) utilized the NEO-PI hostility scale,

which is a subscale of Neuroticism. Subjects who were polysubstance abusers scored significantly higher on all measures of hostility and aggression. These subjects utilized escape-avoidance, distancing, and confrontational coping styles on a more regular basis than those addicts scoring lower on aggression and hostility. The subjects scoring higher on aggression and hostility reported more situations in which they had triggers and less confidence that they would resist using. This was particularly true when involving situations such as rejection, and interpersonal conflict with family and friends. This study showed that higher levels of subscales of Neuroticism were predictive of relapse in polysubstance abusers.

Fisher, Elias, and Ritz, (1998) performed a study predicting relapse to substance abuse as a function of personality dimensions. In this study substance abusers were assessed in the following variables as they related to relapse: severity of drug dependence, number of previous treatment attempts, age, co-morbid psychopathology, depression, and antisocial personality disorders. These factors were then related to the five-factor analysis of personality dimensions, which are: Neuroticism, extroversion, openness, agreeableness, and Conscientiousness. Neuroticism was defined as the degree to which individuals are susceptible to experiencing negative emotions. It was noted that negative affective states played a role in relapse and high levels of Neuroticism played a role in relapse. Agreeableness involves interpersonal behaviors and interpersonal conflict was a determining factor in relapse. Low levels of Agreeableness were indicated in relapse. Conscientiousness was related to the level of motivation, organization and persistence. Lacking the organizational skills required for maintenance represented a low level of Conscientiousness in relapsers. Those who were able to maintain abstinence had a high level of Conscientiousness.

In this study, the NEO-PI was utilized to test personality traits as they predicted relapse. It was noted that no current studies directly examine the influence of these five

factors on relapse. Personality testing was used on opiate addicts and the subjects scored high on Neuroticism, low on Agreeableness and Conscientiousness. Lower Agreeableness was also associated with earlier age of onset. Differences that had important implications regarding relapse were Neuroticism, Agreeableness, and Conscientiousness.

An association was demonstrated between high hostility on the NEO-PI hostility scale, a subscale of Neuroticism, and self reported relapse. Those with high hostility had greater number of relapse triggers across a wider number of situations. It was stated that negative affective states led to an increased likelihood of relapse.

The purpose of this study was to gain a better understanding of the personality characteristics of substance abusers by assessing an inpatient population. Another purpose was to determine whether these stable personality dimensions were related to the relapse after treatment.

Patients were in a 28-day rehab and were given the NEO-PI after seven days to avoid elevated scores due to detoxification. The patients scored higher than the norm on Neuroticism and lower than norm on Conscientiousness scales. The Neuroticism and Conscientiousness scores both significantly influenced relapse patterns. Openness, extroversion, and agreeableness did not influence relapse patterns.

Previous literature has shown that a correlation between substance abuse, emotional instability (Neuroticism), behavioral disinhibition, and lack of constraint (Conscientiousness) has been well established. Emotional instability was established as a precursor for the development of substance abuse disorders. Many have postulated "individuals develop addictive disorders in an effort to modulate negative affectivity."(Fisher et al., 1998. p1044)

The data suggested that high scores on Neuroticism and low scores on Conscientiousness might even serve to maintain the addiction by their correlation with higher relapse rates. However, other factors may be predictive of relapse such as age of onset, psychiatric co morbidity, number of previous treatment, and severity of

dependence. This study did not compare personality traits with those factors.

Limitations included the lack of comparison of a variety of relapse predictors, and lack of exploration and correlation of severity of addiction. Another limitation, which is evident in many self-report type studies, is the validity of the subject's answers. Because addictive behavior is centered on deception and manipulation, the traits required to report honestly about relapse were really what were being tested. Addicts who did not possess the trait of being honest may have been just as likely to relapse but were very unlikely to report it if they did. Harrison and Hughes, (1997) used standard questionnaires to survey previous drug abusers to examine whether or not known drug users would report their drug use honestly even when guaranteed anonymity. The subjects were likely to report, "Ever used" on less stigmatized drugs but less likely to report use on cocaine or heroin. The selection, "used within one year", which by records they all had, was underreported, specifically in subjects that had previously been court ordered to treatment.

The study by Fisher et al., (1998) fell short in the sample size and it only used data from addicts who were actively seeking treatment. Therefore, the results are not necessarily adaptable to the general addicted population.

### ***Summary***

In this chapter, relevant research was discussed as it pertains to the topic of addiction, personality, and relapse. Personality assessment of the addicted population was reviewed, drugs of choice were examined, and several factors contributing to relapse were revealed through previous research. As evidenced from these prior studies, it is likely that addicts who relapsed, experienced one or more of the following factors: they had poor social and family support; they lacked affiliation with Alcoholics Anonymous; were poorly educated; had poor career status; had an early age of onset of use; had a co-morbid psychiatric disorder; had low self-efficacy; or had specific levels of personality traits that

have been shown in addicts who relapse. A high level of Neuroticism and a low level of Conscientiousness have, in previous research, been found to be indicative of addicts who relapse. Levels of the personality traits Neuroticism and Conscientiousness will be the focus of this study. In addition, age, length of time used, ethnicity, and drug of choice will each be tested for significance with personality traits and relapse. Finally, the se factors will all be correlated with relapse for significance.

In Chapter III, the method for assessment of personality traits of addicts will be described. The subjects were patients who were consecutively admitted into an outpatient substance abuse treatment program. They completed a personality assessment called the NEO-FFI, a condensed version of the NEO-PI, and their scores were compared with their amount of time abstinent and their demographic information, obtained at initial intake. After each subject's personality trait scores were tabulated they were then divided into three subgroups; those who relapsed within the first month of the study, those who relapsed between the second and third month of the study and those who remained abstinent throughout the three month testing period. The results will be discussed in following chapters.

## **CHAPTER III**

### ***Methodology and Procedures***

#### ***Introduction***

The purpose of this study was to examine the differences between certain personality traits and relapse rates among individuals addicted to drugs and/or alcohol. The NEO Five-Factor Inventory, (NEO-FFI) was administered, and resulting personality trait scores were compared to corresponding individual treatment outcomes. Additionally, the Unified Assessment Form was utilized for addressing further research questions.

#### ***Sample***

The subjects in this study included 51 people who were actively seeking outpatient treatment for substance addiction in a hospital based treatment center in Southern New Jersey. Subjects were addicted to one or more of the following substances; Heroin and other opiates, Crack, Cocaine, Marijuana and Angel Dust (PCP), and Alcohol. All of the subjects who were addicted to either Alcohol or Heroin (or other opiates) had been detoxified prior to being admitted into the outpatient program, and into this study. The rest of the subjects, who were addicted to Crack, Cocaine, Marijuana, or PCP, did not require a formal detoxification prior to beginning outpatient treatment, or to being admitted into the study.

The outpatient treatment, of this hospital, consists of a Stabilization Program, in which patients attend Monday through Friday for four hours each day, and an Intensive Outpatient Program, which meets three days weekly for four hours each day. Subjects were drawn from both programs. To be included in this study, the subjects had to have had at least five days of sobriety before being given the NEO-FFI.

The age range for the population in the study was 17 to 60 with a mean age of 36.4. There were 16 African American subjects, 32 Caucasian, two Hispanics, and one Asian. Thirty-two of the subjects were male and nineteen were female. There were 17 alcoholics, 16 crack addicts, 14 heroin (opiate) addicts, two cocaine addicts, and two marijuana and PCP addicts.

## ***Measures***

The measures utilized for this study were the NEO-FFI, the Health Status Survey, and the Unified Assessment Form. The NEO Personality Inventory, developed by Costa and McCrae in 1985, began as a measure of three major personality dimensions; Neuroticism, Extroversion, and Openness. Agreeableness and Conscientiousness were added later. This model was originated in research on the structure of trait descriptive adjectives. (Costa and McCrae 1985) The five-factor model, which this measure is termed, is the model of choice when seeking to represent the domain of personality variables broadly and systematically. (Costa and McCrae, 1985) Costa and McCrae composed items to assess eighteen facets of each heading. The items were refined to produce maximally discriminate facet scales. Costa and McCrae used factor analysis as a tool to evaluate item assignments to produce the NEO-PI. (Costa and McCrae, NEO-PI-R Professional Manual 1989) An abbreviated version of the NEO-PI was produced, using the highest-loaded items, called the NEO-FFI. (Costa and McCrae, 1989) Each factor of the NEO-FFI is assessed with twelve items. While this tests lacks facet scores, it is a reliable tool for assessing the five-factor model of personality simply and efficiently. (Costa and McCrae, 1989) The NEO-FFI reportedly accounts for about 85% as much of the variance in convergent criteria as the full NEO-PI. (Costa and McCrae, 1989) Internal consistency values for the NEO-FFI scales was calculated using coefficient alpha and coefficients were .86, .77 .73, .68, and .81 for Neuroticism, Extroversion, Openness,

Agreeableness, and Conscientiousness, respectively. (Costa and McCrae, 1989, p 53)

In this study, the questionnaire was given individually, except for two cases in which the subjects were unable to read. In those two cases, the questions were read to both of the non-reading subjects by this researcher. The NEO-FFI has 60 questions that are equally divided into the five categories, Neuroticism, Extroversion, Openness, Agreeableness, and Conscientiousness. It is a self-report questionnaire. The questions are scored as Strongly Agree, Agree, Neutral, Disagree, or Strongly Disagree. Each answer carries a corresponding number between zero and four. After the subject completed the questionnaire the numbers were tallied and the sum of each of the five categories was plotted to the corresponding T-Score, which was the final score for that personality trait. So, each subject received five NEO-FFI trait scores, one for each of the five domains. Following the scoring, a *NEOSummary*, which rated his or her personality on the five domains as high, average or low, was given to each subject. Each domain had a descriptive for the high, average and low ratings in that category. The *NEOSummary* served as an indication to the subjects to where they rated according to the normal range of personality as it corresponds to Neuroticism, Extroversion, Openness, Agreeableness, and Conscientiousness. The ratings that were of interest in this study were Neuroticism and Conscientiousness. It was presumed that addicts who relapsed would have high Neuroticism and low Conscientiousness which was described on the *NEOSummary* as sensitive, emotional and prone to experiencing feelings that are upsetting, in addition to being easygoing, not very well-organized, and careless. The expectation for addicts who maintained abstinence was to have low Neuroticism and high Conscientiousness which was described on the *NEOSummary* as secure, hardy, and generally relaxed even under stressful conditions, conscientious, well organized, having high standards and as always striving to achieve goals.

The other measure utilized in this study is called the Unified Assessment Form.



This measure was developed by the hospital to assess all patients entering the treatment program. This assessment tool addresses the following areas: Chief complaint and History of complaint, Mental status, Substance abuse, Social issues, Financial status, Personal strengths and weaknesses, Medical screening, DSM IV diagnosis, and a brief narrative Summary and Recommendations section. The purpose of using this measure in the study was to examine specific research questions regarding demographics, social concerns, medical problems, psychiatric issues, and substance abuse history, as they relate to relapse tendency. A Masters level clinician from the hospital evaluated all subjects upon admission to the treatment program. They utilized the Unified Assessment Form.

### ***Procedure***

After obtaining information from the NEO-FFI, the subjects were categorized based on relapse and maintained abstinence. The scores in each of the personality traits of Neuroticism, Extroversion, Openness, Agreeableness, and Conscientiousness were compared to the subjects' rates of relapse using a one-way analysis of variance and a Post Hoc test for multiple comparisons. The results were graphed to depict any significance. Further research questions regarding demographics such as social issues, age, gender, ethnicity, drug of choice, and substance abuse history were addressed regarding relapse and abstinence. A Pearson Correlation (2-tailed) test was completed to find significant correlation between each of the following factors; relapse rates, drug of choice, gender, age, ethnicity, and number of years of drug use.

### ***Testable Hypothesis***

Personality traits of addicts who chronically relapse are not significantly different than personality traits of addicts who are able to maintain abstinence. Specifically, addicts who relapse will not have higher levels of the trait Neuroticism and lower levels of the trait Conscientiousness than addicts who remain abstinent over the three-month

testing period.

### ***Research Questions:***

Because the nature of personality development depends, in part, on the subjects' environments, the following factors were considered during this study; drug of choice, gender, age, ethnicity, and number of years of drug use. Substance abuse history will be evaluated as it pertained to relapse rates, in the discussion.

### ***Summary***

The purpose of this study was to examine the differences in personality traits and relapse rates between relapsing addicts and abstaining addicts seeking treatment. Subjects were given the NEO-FFI to measure their levels in five personality traits including Neuroticism, Extroversion, Openness, Agreeableness, and Conscientiousness. Specific personality traits were observed for significance when compared to relapse rates. The findings were then compared to, and correlated with information gathered from the Unified Assessment Form regarding each subject's drug of choice, gender, age, ethnicity, and number of years of drug use.

## **CHAPTER IV**

### ***Analysis of Results***

#### ***Statement of Hypothesis***

This study was performed to examine the differences in specific personality traits among alcoholics and drug addicts (addicts) in relation to their rate of relapse or abstinence. The hypothesis was that addicts who relapsed during the three-month testing period, after beginning outpatient treatment, would have significantly different personality trait levels than the addicts who remained abstinent during the testing period. Specifically, those addicts who relapsed would have a higher level of the trait Neuroticism and a lower level of the trait Conscientiousness than addicts who maintained abstinence.

#### ***Analysis of Results***

Fifty-one subjects, who were seeking outpatient treatment for addiction, participated in this study of personality traits and relapse. Data was gathered by administering a personality trait survey, the NEO-FFI, and observing the subjects, for relapse, during their first three months of outpatient treatment. The NEO-FFI measured the following traits; Neuroticism, Extroversion, Openness, Agreeableness, and Conscientiousness. The traits that were considered to be of interest were Neuroticism and Conscientiousness, as these two traits have been found, in previous research, to be significantly different between addicts who relapsed chronically and those who remained abstinent. High Neuroticism which is characterized by being sensitive, emotional and prone to experience emotions that are upsetting, combined with low Conscientiousness which is described as being unorganized and careless, has been associated with addicts who relapsed chronically. Conversely, addicts who maintained abstinence were

previously associated with both low Neuroticism, described as secure and able to handle stress, and high Conscientiousness, defined as well organized, motivated and goal oriented.

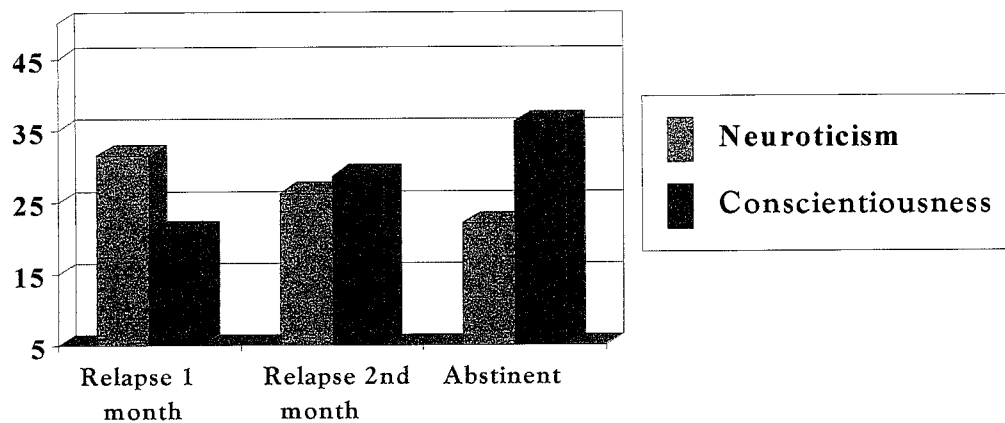
The personality trait survey results and relapse rates were tabulated and the raw scores were subjected to a one way analysis of variance and a Post Hoc test for multiple comparisons. Each of the five trait scores for every subject was correlated with their length of time clean which was categorized by one of the following; relapsed in the first month, relapsed between two and three months, or maintained abstinence for three months. Significant confidence levels were observed at the .01 level for Neuroticism between subjects who relapsed within one month and subjects who remained abstinent for three months. Additionally, significant confidence levels were observed at the .01 level for Conscientiousness between subjects who relapsed within one month and subjects who remained abstinent for three months. Conscientiousness was also observed as significant at the .05 level for subjects who relapsed between two and three months and those who maintained abstinence for three months. Significance was not observed for any other trait. Table 4.1 shows the significance levels for Neuroticism and Conscientiousness and length of time clean.

**TABLE 4.1**  
**ANOVA for Neuroticism and Conscientiousness and Relapse**  
**MULTIPLE COMPARISONS/ SCHEFFE**

	Relapse	Relapse	Mean Diff.	Significance
<b>Neuroticism</b>	Within 1 month	Between 2-3 months	3.4118	0.51
		Remained Abstinent	8.9118	0.004
	Between 2-3 months	Within 1 month	-3.4118	0.51
		Remained Abstinent	5.5	0.152
	Remained Abstinent	Within 1 month	-8.9118	0.004
		Between 2-3 months	-5.5	0.152
<b>Conscientiousness</b>	Within 1 month	Between 2-3 months	-0.25	0.996
		Remained Abstinent	-8.1818	0.009
	Between 2-3 months	Within 1 month	0.25	0.996
		Remained Abstinent	-7.9318	0.026
	Remained Abstinent	Within 1 month	8.1818	0.009
		Between 2-3 months	7.9318	0.026

The mean scores for the traits Neuroticism and Conscientiousness were graphed according to the subjects' relapse or abstinence as depicted in Figure 4.1. In support of the hypothesis, the chart reveals that the mean scores for Neuroticism are higher and mean scores for Conscientiousness are lower for subjects who relapsed than for subjects who maintained abstinence over three months.

**FIGURE 4.1**  
Mean Scores of Personality Traits Categorized by Relapse Rates



Additional research questions that were addressed, regarding relapse and personality traits included the subjects' socio-economic background, employment status, age, gender, marital status, ethnicity, whether or not they had a previous psychiatric history, and whether or not the specific drug of choice was related to relapse. A one-way analysis of variance and a Post Hoc test was performed comparing drug of choice, socio-economic background, employment, age, gender, marital status, and previous psychiatric history to relapse and personality traits. There was no significance observed.

Finally, a Pearson Correlation was performed to find significance between subjects' drug of choice, gender, age, ethnicity, number of years of drug use, and relapse rate. The results can be seen in Table 4.2. Significance at the .01 level was observed for drug of choice and ethnicity, relapse and the number of years used, gender and the number of years used, age and the number of years used, gender and relapse, gender and age, ethnicity and the drug of choice and significance was observed at the .05 level for ethnicity and age.

**TABLE 4.2**  
**Correlation Between Personal Factors and Relapse**

	Drug of Choice	Relapse	Years used	Sex	Age	Race
Drug of Choice	0	0.658	0.234	0.69	0.635	.009**
Relapse	0.658	0	.006**	.022*	0.158	0.59
Years used	0.234	.006**	0	.003**	.000**	0.903
Sex	0.69	.022*	.003**	0	.004**	0.565
Age	0.635	0.158	.000**	.004**	0	.015*
Race	.009**	0.59	0.903	0.565	.015*	0

\*\*Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

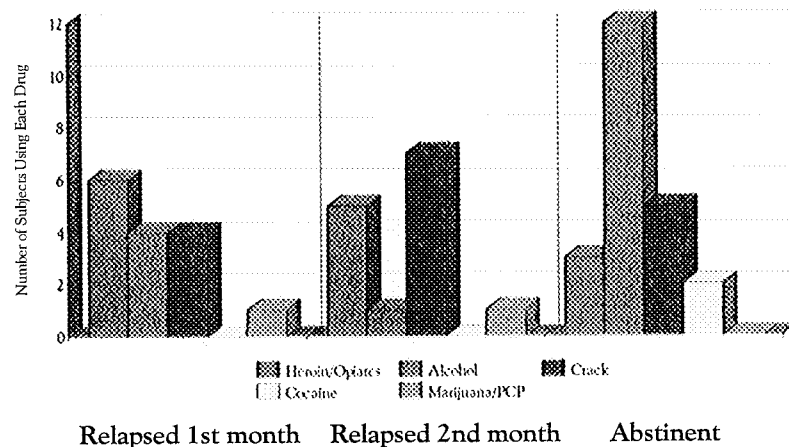
### ***Relapse and Drug of Choice***

There was no significant correlation between the drug of choice and relapse rates, however, drug of choice was significantly correlated with ethnicity. To illustrate the percentages of subjects who remained abstinent, with respect to their drug of choice, statistics were calculated. Subjects were divided into three categories: 1. Relapsed within the first month, 2. Relapsed between one and two months, and 3. Maintained abstinence for three months. Subjects were then further divided into four categories according to their drug of choice: 1. Heroin/ Opiates, 2. Alcohol, 3. Crack, 4. Cocaine, and 5. THC/ PCP. Twenty-one percent of the heroin/opiate dependent subjects remained abstinent for the three months while forty-three percent relapsed in the first month. A total of

seventy-eight percent of the heroin/opiate dependent subjects relapsed. Seventy percent of the alcoholics remained abstinent and twenty-five percent relapsed in the first month. A total of twenty-six percent of the alcoholics relapsed. Thirty-one percent of the subjects addicted to crack remained abstinent throughout the testing period while twenty-six percent relapsed in the first month. A total of sixty-nine percent of the crack addicts relapsed. One hundred percent of the cocaine addicts remained clean for the three-month testing period. None of the subjects dependent on marijuana (THC)/ PCP were able to remain clean. See Figure 4.2

**FIGURE 4.2**

Relapse and Drug of Choice



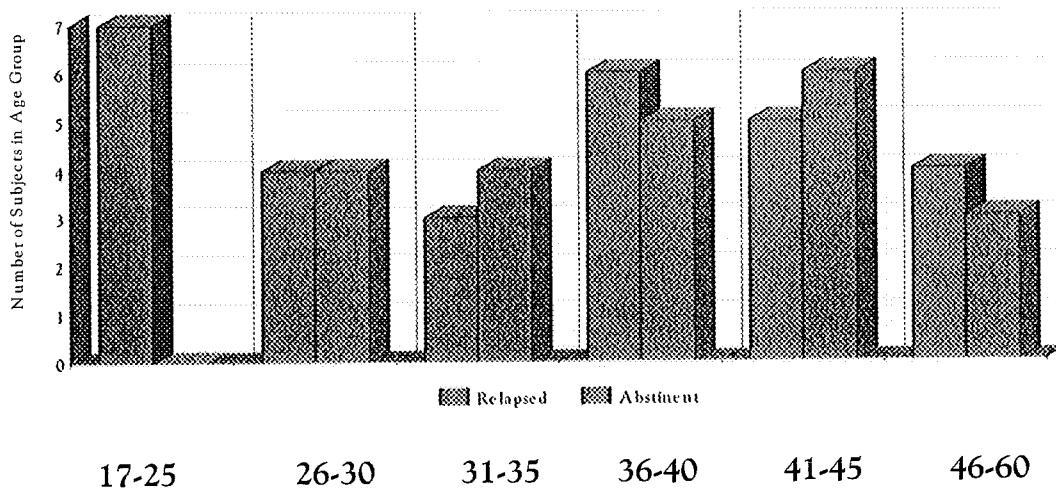
### *Relapse and Age*

Age was not significantly correlated with abstinence although it was correlated with the number of years used, gender, and ethnicity. Subjects were divided into age categories and statistics were calculated to reveal the different relapse rates for each age group. The age groups were as follows: 17-25, 26-30, 31-35, 36-40, 41-45, and 46-60. None of the subjects between the ages of 17-25 were able to remain clean. Fifty percent of the subjects between the ages of 26-30 remained clean, fifty-seven percent of the subjects between 31-35 remained clean, forty-five percent of the subjects between ages 36-40 remained clean, fifty-four percent of the subjects between 41-45 remained clean

and forty-two percent of the subjects between 46-60 remained clean. See Figure 4.3.

**FIGURE 4.3**

Relapse/ Abstinence Based on Age

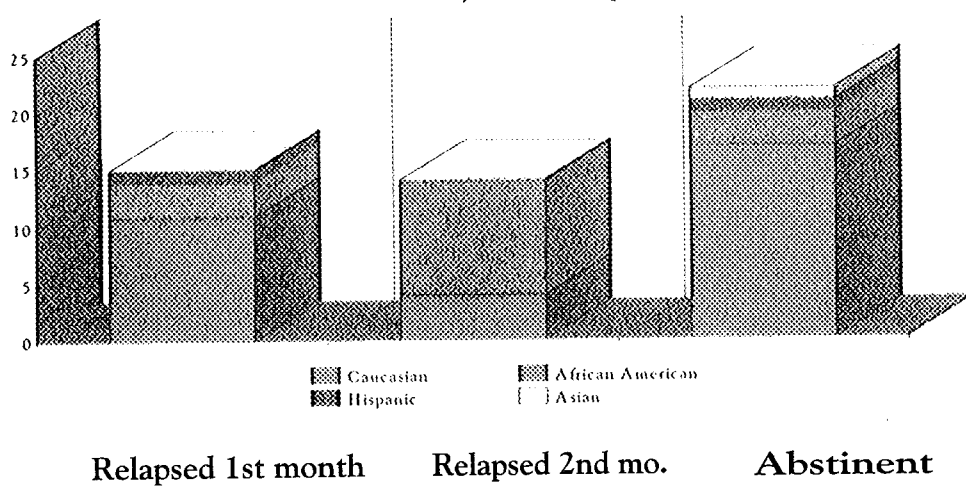


### Relapse and Ethnicity

Ethnicity was not significantly correlated with relapse or drug of choice although it was significant with age. Fifty-three percent of the Caucasian subjects remained clean, eighteen percent of the African American subjects remained clean, fifty percent of the Hispanic subjects remained clean and the Asian subject remained clean. Figure 4.4

**FIGURE 4.4**

Ethnicity and Relapse





## Relapse and Gender

Gender was significantly correlated with relapse as well as number of years used, and age. Thirty-two of the subjects were male and nineteen were female. Fifty-four percent of the males in the study relapsed and sixty-four percent of the females relapsed. (See Figure 4.5) Eight of the heroin/ opiate dependent subjects were male and six were female. Twelve percent of the males remained abstinent from heroin/opiates and sixteen percent of the females addicted to heroin/opiates remained abstinent. Sixty-nine percent of the male alcoholics stayed clean and seventy-five percent of the female alcoholics stayed clean. Forty-two percent of the females in the study were addicted to crack and sixty-three percent of them relapsed.

**FIGURE 4.5**

**Relapse and Gender**

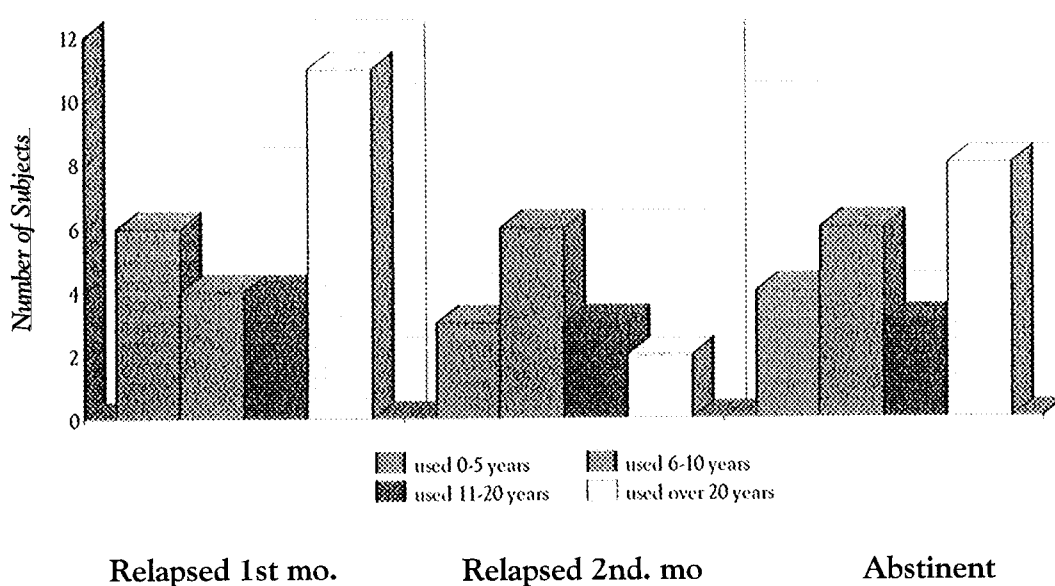


## Relapse and Years Used

The number of years used was correlated significantly with relapse as well as with age and gender. Subjects were divided into the following categories of length of time using; Group I-less than five years, Group II-six to ten years, Group III-eleven to twenty years, and Group IV-over twenty years. Seventy percent of those in Group I, who had a mean age of 27.2, relapsed. Sixty-three percent of those in Group II, with the mean age 36.3, relapsed. Sixty-four percent of subjects in Group III, with a mean age of 41.3, relapsed. Finally, the mean age of Group IV was 43.9 and twenty-seven percent of subjects relapsed. See Figure 4.6.

**FIGURE 4.6**

**Number of Years Using Drug  
And Relapse Rates**



## Summary

The results of this study support the hypothesis that specific personality traits are significantly different between the addicts who relapsed and those who maintained

abstinence over the three-month period. Neuroticism scores were higher and Conscientiousness scores were lower in the addicts who relapsed in the first month than in those addicts who maintained abstinence over three months. The mean scores for Neuroticism in addicts who relapsed in the first month and addicts who maintained abstinence were 33 and 23 respectively. The mean scores for Conscientiousness for addicts who relapsed in the first month and those who maintained abstinence were 21 and 36 respectively. None of the remaining personality traits, Extroversion, Openness, or Agreeableness was significantly different between the relapsers and abstainers.

As earlier stated there was no significance observed when a one-way analysis of variance and a Post Hoc test was performed comparing drug of choice, socio-economic background, employment, age, gender, marital status, and previous psychiatric history to relapse and personality traits. However, when a Pearson Correlation was performed, regarding research questions alone, relapse was significantly correlated with the number of years used and gender. The drug of choice was significantly correlated with ethnicity, the number of years used and the subjects' gender was significantly correlated with age, and the age and ethnicity of the subjects were significantly correlated.

## CHAPTER V

### *Discussion*

#### *Summary*

Personality traits have been correlated with coping styles, thus coping styles can be viewed as facets of personality. Assessment of personality traits of relapsing addicts and addicts who remain abstinent can identify the deficits in coping styles of the relapsers. These deficits can then be altered, through appropriate treatment, to match the coping styles essential to recovery from addiction.

The purpose of this study was to examine if there were any differences in personality traits between addicts who relapsed and addicts who remained abstinent during the testing period. Previous studies have shown that the levels of Neuroticisms and Conscientiousness were different between the relapsing and abstaining addicts. (Fisher et al., 1998; McGue et al., 1997; McCormick et al., 1997; McCormick & Smith, 1995) In this study, the aforementioned personality traits were measured through the use of the NEO-FFI, a personality-testing tool. The results were tabulated and the findings replicated previous research studies. High levels of Neuroticism combined with low levels of Conscientiousness were associated with relapse. Conversely, low levels of Neuroticism combined with high levels of Conscientiousness were associated with addicts who maintained abstinence. Fisher, et al, (1998) also found that the combination of high Neuroticism and low Conscientiousness was associated with the highest odds of relapse

and the combination of low Neuroticism and high Conscientiousness was associated with the lowest odds of relapse. As stated in Chapter IV, the results of this research support the hypothesis that there are specific personality traits that are significantly different between the addicts who relapsed in the first month and the addicts who maintained abstinence.

### ***Conclusions for Hypothesis***

The coping patterns necessary for recovery from addiction include being able to deal effectively with stress, using faith to respond to threats, losses, or challenges, the ability to use positive thinking and to be able to deal with problems directly, the ability to use healthy defense mechanisms, the ability to self-motivate, be goal oriented, have persistence, and be well-organized, the ability to redirect negative thoughts and focus on positive thoughts, and most importantly be able to control impulses. A person with a low Neuroticism score is perceived as being calm, relaxed, free of worry, does not experience long periods of unhappiness, is able to control stress well, and is able to control impulses. A person, who scores high in Conscientiousness is efficient, makes rational decisions, is sensible, well organized, and conscientious, adheres strictly to their ethical principles, is highly motivated, and strives for excellence, is determined, persistent and able to think before acting and is willing to do whatever is necessary to achieve a goal. In previous studies, personalities of abstainers were found to be distinctly different than personalities of the relapsers. Personality features of abstainers were found to be goal-oriented, having frustration tolerance, and self-efficacy. (Miller, 1991) Increased self-efficacy was shown

to reduce the probability of relapse and self-efficacy increased with the addict's ability to cope with negative emotional states. (DiClementi et al., 1994) Addicts who were highly motivated prior to treatment and who affiliated with the 12-step program increased self-efficacy and coping efforts. (Morganstern et al., 1997) This would suggest that there are specific coping patterns that are associated with recovery from an addictive disease that can be defined in terms of personality traits. These traits are Neuroticism and Conscientiousness.

The combination of high Neuroticism and low Conscientiousness “may function to maintain the addictive cycle by increasing vulnerability to relapse, such that returning to active addiction, is more likely among individuals with these particular personality dispositions.” (Fisher et al., 1998, p1045) Therefore, relapsers can also be defined in terms of personality trait patterns. A person with higher levels of Neuroticism is perceived as being anxious, worrisome, depressed, being over stressed, and having poor impulse control. A person with a low level of Conscientiousness is inefficient, irrational, has trouble making decisions, is poorly organized, has low motivation, has negative thought processes, lacks persistence and determination, and does not think before acting. Low persistence has been previously associated with chronic relapse. (Sellman et al., 1997; Cannon et al., 1997; DiClementi et al., 1994) In another study, addicts with low persistence or low motivation for treatment were 4.42 times more likely to relapse than addicts with high persistence. (Sellman et al., 1997) These personality traits may serve to perpetuate the addictive process and inevitably lead to relapse. Another study reveals how addicts were given personality tests and relapsers scored poorly on abstract reasoning,

planning, and cognitive flexibility and were shown to be highly impulsive. (Miller, 1991)

Personality, according to learning theorists, is defined as changing qualities rather than constant traits. Behaviors change systematically as a result of experience, and personality is the sum of what we have learned up to this point. As stated in the first chapter of this thesis, the cognitive-behavioral approach defines addiction as over learned habits. The counselor serves to challenge the addict's irrational beliefs and teach more appropriate coping strategies. Changes in coping styles and self-efficacy during treatment have been shown to be predictive of abstinence. (Brown et al., 1994) Therefore, it is conceivable that with proper cognitive / behavioral counseling the trait combination of high Neuroticism and low Conscientiousness can be altered to prevent future relapse.

### ***Conclusions for Research Questions***

In addition to personality traits, there were other factors that were correlated with relapse. The severity of the addiction, which was defined by the number of years used, was significantly correlated with relapse rates. Nearly half of the addicts who relapsed in the first month of this study had been using drugs for more than twenty years. It would follow that the longer a person uses drugs or alcohol, the less likely they will ever be able to remain abstinent. Subjects with a longer history of substance abuse are more likely to continue using after treatment. (Brewer et al., 1998)

As stated in Chapter IV, relapse was also significantly correlated with gender. More females relapsed in the first month than stayed clean. More women were addicted to crack than men and more men were alcoholic. However, a study by McKay et al.

(1996) showed that women relapsed less frequently than men, even when controlling for the severity of the addiction and the use of crack. A previous study by Brewer et al. (1998) found that there was no correlation between gender and relapse.

When relapse was graphed according to drug of choice it was clear that more alcoholics were able to remain abstinent than with any other drug of choice. The crucial period for alcoholics is getting through the first month. More heroin/ opiate addicts relapsed in the first month than stayed clean. According to another study, most opiate addicts relapse after treatment, typically, within the first three months and many continued to use during treatment. Additionally, opiate addicts with an earlier age of onset of use had a higher risk of relapse. (Brewer et al., 1998) All of the subjects who snorted cocaine remained clean after three months and all of the subjects who smoked marijuana relapsed in this study. Marijuana has traditionally been thought of as a “safe” drug that did not create dependency. However, according to a NIDA publication, people who smoke marijuana on a regular basis experience withdrawal symptoms after they stop smoking the drug. (Zickler, 1999) Therefore, perhaps because people did not expect to suffer marijuana withdrawal, the unexpected symptoms may have triggered their relapses.

### ***Limitations***

Some of the limitations of this study include the small number of subjects, that all subjects were seeking treatment and the fact that the personality test was self-reporting. This study, like others, fell short in the sample size and it only used data from addicts who were actively seeking treatment in one particular treatment center in one part of the country. Therefore, the results are not necessarily adaptable to the general addicted



population. Another limitation, which is evident in many self-report type studies, is the validity of the subject's answers. As earlier stated, because addictive behavior is centered on deception and manipulation, the traits required to report honestly about personality styles and relapse were really what were being tested.

### ***Implications for Future Research***

Because a set of personality traits, that is indicative of relapsing addicts, has been identified, this information can be utilized in treatment to reduce recidivism rates. Addicts can be given a five-factor personality test to identify their personality deficits that need to be changed. According to the cognitive-behavioral model of the relapse process, abstainers are more likely to utilize adaptive coping responses and less likely to relapse. (Miller, 1991) Therefore, individuals with low Neuroticism and high Conscientiousness have improved outcome rates in addiction treatment. The addicts' personality traits can be modified as a part of the treatment program to shift the levels of the two traits, Neuroticism and Conscientiousness, to reduce recidivism rates. Also, personality can be observed in young adolescents and tested for the personality trait combination of high Neuroticism and low Conscientiousness. This effort may possibly prevent future enduring addictive diseases. Early intervention can effectively treat the addiction before it begins.

### ***Implications for Future Treatment***

Addicts and alcoholics can be trained how to remain abstinent during treatment by teaching adaptive coping responses and by increasing self-efficacy. As individuals acquire coping skills and begin to master experiences in which they successfully avoid

relapse in high-risk situations, their self-efficacy increases systematically. (Miller, 1991)

In a study by Burling, Reilly, Moltzen, & Ziff (1989) in which self-efficacy was measured and compared in addicts during treatment and at follow-up, the patients with greater changes in self-efficacy while in treatment had higher rates of abstinence at follow-up.

The in-treatment change in self-efficacy may predict the rate of abstinence. (Miller, 1991)

This indicates that more efficient treatment planning can better assist addicts and alcoholics in long-term abstinence. Future treatment can include implementation of techniques that would lower levels of Neuroticism and raise levels of Conscientiousness in addicts and alcoholics seeking treatment, and thereby increase self-efficacy.

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