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Personality characteristics of chemically dependent persons in a nontraditional, long-term re-entry program

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The University of Arizona, 1991
PERSONALITY CHARACTERISTICS OF CHEMICALLY
DEPENDENT PERSONS IN A NONTRADITIONAL,
LONG-TERM RE-ENTRY PROGRAM

by
Susan Eileen Wills

A Thesis Submitted to the Faculty of the
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For the Degree of
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1991
STATEMENT BY AUTHOR

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APPROVAL BY THESIS DIRECTOR

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ABSTRACT

The purpose of this study was to determine if persons with a history of chemical dependency have personality traits that differ from a norm group and to determine if personality traits are associated with the perceived level of recovery facilitation.

Thirty-one subjects volunteered to fill out the research instruments (16 Personality Factor Questionnaire and a Self-Rated Perceived Level of Recovery Facilitation Scale).

The results indicated that persons with a history of substance abuse are significantly more cool, shrewd, dominant, and undisciplined in self conflict, than the norm population. The sample population was also found to score more toward the constructs: abstract thinking, suspicious, apprehensive, self-sufficient, and tense. No correlation was found between self-rated levels of recovery facilitation and personality traits.
CHAPTER 1

INTRODUCTION

Alcoholism and drug abuse are among the most prevalent and costly problems facing Western Civilization today, depleting social and human resources and causing incalculable human suffering. Problems of addiction are not limited to individuals in certain social strata but appear to affect people at all levels of society (Butcher, 1988 p. 171).

Drug addiction has become a public health crisis of vast priorities. Because alcohol is legal and ingrained in societal customs, it is the most widely abused drug in the United States. Currently, researchers have estimated that between 10 and 13 million alcoholics or problem drinkers reside in this country. Between the years 1982 and 1985, cocaine use increased from 4.2 million to 5.8 million. Government estimates from the mid 1980s reflect the number of heroin addicts in the United States to number about half a million. These numbers alone depict the addiction epidemic that has swept through the United States (Avraham, 1988).

As a result of the number of reported cases of drug and alcohol abuse, the need for treatment of drug addiction is recognized and supported by most experts. Although success rates for different treatment programs are not near their goals, the important factor is that these programs are reaching and helping significant numbers of people who are in desperate need (Avraham, 1988).

Researchers have often centered their studies around the search for causal factors in addiction disorders. Presently, researchers have not been able to agree upon any single set of contributing factors. One possibility which has long been suspected as a causal
factor in addiction, is personality. Attempts to distinguish a unitary addictive personality have not been successful, although researchers agree that "... the common personality features among individuals with addictive disorders are often striking and compelling" (Butcher, 1988, p. 171).

Rationale of the Study

In recent years, the problems of alcohol and drug abuse have become national concerns. As a result of these concerns, many different types of treatment programs have been developed across the country. Research has suggested that a greater awareness of the personality traits of substance abusers would be helpful in the development of more effective treatment programs, which may result in reduced relapse rates (Burling, Reilly, Moltzen, & Ziff, 1989).

Problem Statement

**Question 1:**

Do residents at a re-entry facility for substance abuse have personality traits that differ from a norm group, as measured by the 16 Personality Factor Questionnaire (16PF)?

**Question 2:**

Are resident personality traits, as measured by the 16 Personality Factor Questionnaire, associated with their perception of the extent to which the re-entry program has facilitated in their recovery?
Limitations of the Study

This study was limited to the sample from one re-entry facility located in the Southwest United States. The sample size was also limited to those currently residing at the facility. Because this is a privately owned and operated re-entry facility, the socioeconomic status of the sample may have been biased. Volunteer subjects were used for the sample. All of the participants were recovering from some sort of chemical dependency, but because of the unique nature of the re-entry facility, results cannot be generalized across other substance abuse treatment centers.

Definition of Terms

The following are brief continuum definitions of the personality factors used by the 16PF [Institute for Personality and Ability Testing (IPAT), 1986, p. 24]:

Cool: Reserved, impersonal, detached, formal, aloof vs. Warm: Outgoing, kindly, easygoing, participating, likes people.


Submissive: Humble, mild, easily led, accommodating vs. Dominant: Assertive, aggressive, stubborn, competitive, bossy.

Sober: Restrained, prudent, taciturn, serious vs. Enthusiastic: Spontaneous, heedless, expressive, cheerful.

Expedient: Disregards rules, self-indulgent vs. Conscientious: Conforming, moralistic, staid, rule-bound.
Shy: Threat-sensitive, timid, hesitant, intimidated vs. Bold: Venturesome, uninhibited, can take stress.


Trusting: Accepting conditions, easy to get on with vs. Suspicious: Hard to fool, distrustful, skeptical.

Practical: Concerned with "down to earth" issues, steady vs. Imaginative: Absent minded, absorbed in thought, impractical.

Forthright: Unpretentious, open, genuine, artless vs. Shrewd: Polished, socially aware, diplomatic, calculating.


Conservative: Respecting traditional ideas vs. Experimenting: Liberal, critical, open to change.

Group-oriented: A "joiner" and sound follower, listens to others vs. Self-sufficient: Resourceful, prefers own decisions.


Relaxed: Tranquil, composed, has low drive, unfrustrated vs. Tense: Frustrated, over-wrought, has high drive.

Summary

This chapter has demonstrated the importance of this present study. It was pointed out that this was a study of the personality characteristics of residents in a
re-entry program who have a history of chemical dependency. This study was also examining if there was a relation between personality traits and perceived recovery facilitation. The information gained from this study will provide insight to the personality characteristics of known substance abusers in recovery. Limitations of the study and the definitions of terms were explained.
CHAPTER 2

LITERATURE REVIEW

Questions Concerning a Predisposition for Addiction

Much controversy exists concerning the existence of stable personality traits related to alcoholism (von Knorring, von Knorring, Smigan, Lindberg, & Edholm, 1988).

According to Tarter (1988), offspring of alcoholics are at approximately a four times greater risk than children of nonalcoholics to become alcoholics themselves. Data suggest a good possibility that specific personality traits exist in persons who are predisposed to alcoholism. Research indicates that high anxiety, also associated with impulsivity, precedes alcoholism.

Stabenau (1984, p. 1178) stated "... the risk for developing alcoholism is increased by being male, having an antisocial personality, and having a family history of alcoholism." Antisocial personality is strongly related to the early onset of alcoholism. In one study, Stabenau found the antisocial personality significantly increased the risk for alcoholism. Stabenau's study supports other research that suggests antisocial personality associated with alcoholism results in an early onset of drinking in both men and women.

Beardslee and Vaillant (1984) determined that many factors present in childhood add to the risk that a person will develop either a drug or alcohol problem. Some of the psychosocial risks include urban demographic status, low socioeconomic status, weak cultural-religious affiliation, easy access to drugs and alcohol, family history of drug or alcohol use, family discord, identification with a non-normative peer group, alienation and weak inculcation of normative social values. Researchers have not determined a single
factor that appears to cause the development of a substance abuse problem. Out of the possible risk factors identified, a family history of substance abuse seems to have the most adverse outcome.

Through various investigations, Tarter (1988) found that persons who seem to be at risk for alcoholism portray characteristics of emotional instability. On the Deveraux Adolescent Behavior Scale, sons of alcoholics were rated as "less emotionally controlled" than were children of nonalcoholics (Tarter, 1988; Nathan, 1988). Tarter (1988, p. 191) also discussed how teachers have cited certain characteristics noticed in sons of alcoholics, "emotionally immature," "unable to take frustrations in stride," "sensitive to criticism," "anger open and direct," "impulsive," and "moody and depressed." Still another study by Block (1971, cited in Tarter, 1988) determined two types of personality configurations which characterized the subjects who later developed drinking problems. The first type, "anomic extroverts," described characteristics such as the tendency to cry easily, readily become angry, and excessive worrying, while on the outside these people maintain an err of being cheerful, gregarious and assertive. A second group identified, were classified as "unsettled undercontrollers," which were described as extrapunitive, irritable, and hostile. These two personality profiles are characterized by disturbances in emotional regulation (Tarter, 1988).

Results of different studies show the personality traits present prior to the onset of alcoholism include a tendency to be unafraid, self-confidence, aggressivity, lack of self-control, acting out behavior, impulsivity, psychopathy, hypomania, unconventional behavior, sociability, hyperactivity, concentration difficulties, subsolidity, and supervalidity (von Knorring et al., 1987). Barnes (1983) concluded that evidence suggests, the
personality traits for neuroticism and sensation seeking add to the risk for subsequent alcohol and drug abuse. Tarter (1988) summarized evidence drawn from diverse sources, that implicate a marked difference from a norm population in the temperament of persons who are at a heightened risk for substance abuse.

When considering the hypothesis that personality traits are present prior to the onset of substance abuse, Nathan (1988) concluded that the only finding that supports the standards of scientific proof is the link between certain behaviors synonymous with antisocial behavior and later, alcoholism. Sieber and Bentler (1982, cited in Tarter, 1988) tested 750 men when they were 19 years of age and again when they were 22 years of age. The factors found to be related to subsequent substance abuse were excitability, dominance, and aggressiveness.

Hyperactivity in childhood has been reported to be a risk factor for alcoholism. Several researchers (Morrison & Stewart, 1973; Cantwell, 1972) have found that hyperactive children are more likely than nonhyperactive children to have biological fathers who are alcoholics. Adults in treatment for alcoholism have a high prevalence of documented hyperactivity (Wood, Reimherr, Wender, & Johnson, 1976).

Evidence from many different sources indicates that hyperactivity during childhood may be a risk factor for alcohol abuse in adulthood. Childhood hyperactivity is often associated with childhood conduct disorder; researchers believe hyperactivity may precede the personality disposition of childhood conduct disorder (Tarter, Alterman, & Edwards, 1985).

Studies cited by Tarter (1988) lead toward the conclusion that deviations in temperament from a normal population occur in individuals who are at a heightened risk
for alcoholism. It is noted that this conclusion is limited because the sample populations were made up of a large proportion of men; also, research has not been carried over to other drug abuse populations besides alcoholism. As stated by Tarter (p. 192), "these limitations aside, the available research has illustrated quite strongly that the investigation of heritable behaviors provides a potentially fruitful means for clarifying the characteristics of persons who are at a risk for a substance-abuse disorder."

Controversy Concerning the Association between Personality Traits and Substance Abuse

Although many scientists and clinicians have explored the relevance of personality to substance abuse, research has not been extremely helpful toward developing a better understanding of the etiology, treatment, or course of alcohol or drug abuse (Nathan, 1988). Throughout the years, researchers have been searching for a single personality type which is predictive of alcohol misuse. Although there is great diversity of personality structures, many alcoholics portray a low tolerance for tension, along with an inability to cope with psychological stresses (Beardslee & Vaillant, 1984).

Alcoholism has often been viewed as a symptom of an underlying personality disorder; this perception is based on observations of psychological characteristics often seen in alcoholism. The observation of such characteristics can be linked to Freudian theories about "orality" and dependency needs (Khantzian, 1982). Researchers have various ideas concerning alcoholism.
Menninger (1938) hypothesized that alcoholism is due to self-destructive drives. McClelland et al. (1972) attributed drinking to a need for personal power. Knight (1937) defined alcoholism as a character disorder, which included excessive demandingness, lack of sustained effort and inability to express rage. Blane (1968) hypothesized that dependency conflicts played a key role in the development of alcoholism (all as cited in Beardslee & Valliant, 1984, p. 500).

Among the most common questions asked concerning personality and substance abuse, is whether various factors such as depression, antisocial behaviors, family problems and environmental stressors are results of a substance abuse problem, lead to a substance abuse problem, or both (Nathan, 1988). According to Nathan (1988), persuasive arguments have been made toward the position that specific personality factors that predict or predispose one to alcoholism, have not been identified.

When research focuses on personality and the course of alcohol and drug abuse, results seem to differ. Research focuses on identifying personality attributes differentiating substance abusers from nonabusers, and specifying personality factors that separate stages, levels, or intensities of one abuse problem from another (Nathan, 1988).

Arguments against the Association between Personality and Substance Abuse

Review of biological, social, personological, and environmental theories of drug use and dependence has led Platt (1986) to conclude that there is a low probability that common personality traits exist in all addicts. Numerous diverse studies on alcohol abuse have historically turned out inconclusive. Further investigations into the role of personality types in alcoholism are needed (Nerviano & Gross, 1983).

When considering whether specific personality traits lead to addiction, or whether certain personality traits are the results of addiction, Nurco (1980, as cited in Vetter
(1985) summarized that although studies on this topic are helpful, they seem irrelevant because they are conducted after the drug abuse has been firmly established.

A review of studies using different personality type tests, reveals the heterogeneity of alcoholics. A broad range of personality and mood disorders were found across different alcoholic types studied (Nerviano & Gross, 1983). According to Conley and Prioleau (1983), alcoholics are heterogeneous in several areas that include personality characteristics, psychopathology and demographic composition. The authors reported that studies conducted to determine a "clinical alcoholic personality" conclude that there is no single alcoholic type personality.

A study completed by Filstead, Drachman, Rossi, and Getsinger (1988) focused on moving away from the "alcoholic personality" toward developing personality subtypes within the population of alcoholics. The study utilized the Minnesota Multiphase Personality Inventory (MMPI) to determine whether subtype membership on the test was associated with initial substance misuse. This study reanalyzed the data from two previous studies and compared profiles. Results indicate that MMPI subtype membership was not associated with initial substance misuse.

One study (Stabenau, 1984) replicated across three sample groups found that eight dimensions describing 16 distinct clusters could be identified within groups of alcoholics; this finding supports the hypothesis for the study that proposed that unique personality subgroups exist within a population of alcoholic patients. Further discussed in this study was that there are many different types of alcoholic patients who portray widely differing personalities and psychopathologies.
Beardslee and Vaillant (1984) conducted a longitudinal study with 268 men. Their results support earlier reports that "high status alcohol misusers tend to go undiagnosed and untreated" (p. 502). Beardslee and Vaillant’s results also support other longitudinal studies with the conclusion that alcoholics have few, if any, symptoms that are not the direct result of alcohol intake. This also holds true for other studies conducted on various populations which suggest there may be no predictive personality type for alcoholism (Beardslee & Vaillant, 1984).

Along the lines of unspecified personality types homogeneous to substance abusers, Hurlburt, Gade, and Fuqua (1984) studied personality differences between Alcoholic Anonymous members and nonmembers. Results indicate that Alcoholics Anonymous provides attending alcoholics with what they seek: social acceptance, positive identity, feelings of normalcy, group membership, confidence, and healthiness. In contrast, nonmembers appeared toughminded, more introverted, and more emotional.

In summarizing various research studies, Nathan (1988) stated that the usefulness of personality in the differentiation of substance abusers from nonabusers, remains unproven. Further research within this area is recommended.

**Constructs and Personality Characteristics Associated with Substance Abuse**

In lieu of the research reported against the association of personality traits or types with substance abuse, certain constructs have been found to be associated with substance abuse. These constructs often linked to drug-use are low self-esteem, anxiety, depression, tolerance, deviance, behavioral impulsivity, youthful hyperactivity and religiosity (Sutker & Allain, 1988).
Several researchers have found strong connections between antisocial personality disorder and addictive behaviors. Also, the diagnosis of antisocial behavior and the presence of depression seem to be the only consistent distinguishing factors between alcoholics and nonalcoholics (Nathan, 1988; Stabenau, 1984; Koenigsberg, Kaplan, Gilmore & Cooper, 1985). Rounsaville, Weissman, Kleber, and Wilber (1982) found that two-thirds of their addict subjects had either chronic or episodic depression. In this same study, subjects showed various frequencies of antisocial personality disorder.

The most common characteristic associated with substance abuse is depression (Nathan, 1988). In a review of diagnostic studies of narcotic addicts, Khantzian and Treece (1985) found that addict populations were usually characterized by high levels of depression.

Investigators have difficulty in determining whether depression is a characteristic of substance abuse, or if depression is a consequence of the substance abuser's lifestyle (Nathan, 1988). The issue of self-esteem is also in question; findings suggest the paradox that alcoholism lowers self-esteem and self-esteem then causes a person to drink (Nathan, 1988). Although some research supports such findings, results of personality tests have yielded different results concerning depression (Filstead et al., 1988; Conley & Prioleau, 1983; Nathan, 1988).

Sutker and Allain (1988) presented arguments made by several researchers in support of a addictive-personality hypothesis. These dimensions were agreed upon by the researchers:

(a) drug use and dependence are antedated and are precipitated by psychopathology, including disordered personality and specific personality characteristics; (b) drug use and dependence are not necessarily or inevitably related to psychopathology,
constitutional defects or traits; and (c) psychopathology or abnormal psychological states result from drug use and dependence, including aberrant personality states and traits.

Vetter (1985) also discussed how substance abuse has been related to disturbed personality in two ways: psychopathology causes substance abuse, or substance abuse causes psychopathology. When investigating the approach that psychopathology causes drug abuse, investigators have sought to identify a "drug user personality."

One study was summed up with the conclusion that all addicts suffer from major personality disorders. Symptoms of addicts described include: inability to form close relationships, difficulties in assuming a masculine role, overwhelming sense of futility, expectation of failure, depression, easily frustrated, anxiety, often frustration and anxiety are found to be intolerable (Vetter, 1985). Throughout the years, the view of "nonmedical" drug use has been dominated by two perspectives which are characterized as the "disturbed personality" and "sociocultural perspectives." When discussing further the phenomenon of disturbed personality, it has been contended that substance abuse results from disturbances in interpersonal relations, and difficulties in coping with anxiety, frustration, and different types of stress (Dembo & Shern, 1982).

In a study on the possible subtypes of alcoholism, Cloninger (1987) found evidence for two subtypes of alcoholism based on three personality traits: novelty seeking, harm avoidance, and reward dependence. These were determined to be significant because they were found to be heritable and linked to the biological mechanisms that underlie behavioral activation, behavioral inhibition, and behavioral maintenance. Such findings lead to the conclusion that certain personality traits are associated with alcohol and drug abuse.
Buss and Plomin (1984) identified three primary temperament dimensions: activity level, emotionality, and sociability, which have been linked to alcoholism. The research linking such factors to other substances is too limited to draw conclusions pertaining to the role of temperament and substance abuse vulnerability (Buss & Plomin, 1984; Tarter, 1988).

As defined by Tarter (1988, p. 190), emotionality at the psychological level is the susceptibility to become easily and intensely distressed. Research into psychological functioning has cited emotionality as a vulnerability feature of alcoholism (Tarter, 1988).

In terms of sociability, several studies focus on scores obtained on the MacAndrew Alcoholism Scale of the MMPI. According to Finney, Smith, Skeeters, and Auvenshine (1971, p. 1050), characteristics measured by a high score on this scale indicates that alcoholics are "bold, uninhibited, self-confident, sociable people who mix well with others." In another study, nonalcoholics who had the same traits as cited above experienced a greater stress-dampening effect from alcohol than control subjects. When these findings are evaluated together, it can be suggested that alcohol consumption may be especially reinforcing for subjects who score high on the MacAndrew Alcoholism Scale (Tarter, 1988).

Barnes (1983) used the Eysenck Personality Inventory in a study comparing alcoholics with nonalcoholics. Results show the alcoholics to score higher on the dimension of neuroticism—stability, that the nonalcoholics. No differences between the two groups were found on the dimension measuring introversion vs. extraversion.

One study found that 18-year-old military conscripts, labeled as heavy alcohol abusers (1,000-4,999 g of alcohol/month), were more often consistently described as
irritable, restless, and tense on psychological examinations than were abstainers (Tarter, 1988). Another study found persons who were heavy alcohol abusers scored higher on scales measuring somatic anxiety, psychic anxiety, psychasthenia, irritability, and impulsiveness (Tarter, 1988).

Khantzian and Treece (1985), in their study on narcotic addicts, reported 65% of their subjects had some type of personality disorder. Included under the broad category of personality disorders were antisocial, avoidant, dependent, narcissistic, borderline, schizotypal, histrionic, schizoid, paranoid, and compulsive.

Sutker and Allain (1988) reported that a review of literature describing personality characteristics and psychopathology among alcoholics, reveals several instances where personality traits and addictive disorder were associated. This association was derived from repeated measures of trait and state variables among addicts at various stages of treatment and intervention.

When considering the use of both alcohol and illicit drugs, few investigations have delved into this area. One study, conducted by Labouvie and McGee (1986), used the Personality Research Form to explain relationships between alcohol, cigarette, marijuana, cocaine use, and personality variables. Results reveal that personality variables were antecedents and the drug and alcohol use were consequences.

Vetter (1985) concluded a review of studies considering the association between substance abuse and personality, with the perception that researchers need to also consider various sociocultural backgrounds within the same geographical setting in which different levels of involvement with different substances occur. Unless this type of study occurs, Vetter believed it will be difficult to evaluate effects of disturbed personality and
sociocultural perspectives toward a better understanding of substance use. Without such an understanding, efforts towards prevention of drug abuse are extremely hampered.

In a review of studies on alcoholics using the 16PF, replications were found on the "higher order" factors of anxiety and introversion. The scales measured for these factors are Emotional Instability (C-), Suspiciousness (L+), Apprehension (O+), Undisciplined Self-Concept (Q3-), Tension (Q4+), Submissiveness (E-), Timidity (H-), Group Dependency (Q2-), and Conservative Traditionally (Q1-) (Nerviano & Gross, 1983, pp. 844-5).

Another study using the 16PF, found that 74 out of 120 alcoholic subjects scored strongly in the direction of high lability. Items measuring shrewdness and low superego strength, correlated with high lability. These results suggest overlap between antisocial characteristics and emotional lability in alcoholics (Costello, 1981).

One study, cited by Conley and Prioleau (1983), using the 16PF along with the Personality Research Form, resulted in the proposition of five basic personality types of alcoholics: Aggressive, Obsessive-Compulsive, Impulsive, Schizoid, and Passive-Dependent.

The majority of the research cited, is strongly biased toward the male population; men outnumber women by a ratio of approximately 4:1 in most treatment centers. As a result, samples of women in studies have been limited, therefore making it difficult to get a global picture of women's substance abuse (Gomberg, 1981). Research discussing women and substance abuse is very limited; women account for about 8% of all research subjects (Harrison & Belille, 1986).
Summary

The research is varied and controversial concerning the association between personality traits and substance abuse. Some research clearly points out that substance abusers are characterized by personality attributes which are different from the general population. This is not to imply that these traits are necessarily bad or destructive, but they are simply different.
CHAPTER 3

METHODOLOGY AND PROCEDURES

The intent of this chapter is to describe the population from which the sample was drawn, discuss the procedures used for sampling and collecting the data, review the instruments and evidence for the validity and reliability, and discuss the research design and the method of data analysis.

Description of the Sample and Norm Groups

Sample

The subjects were drawn from the population of one re-entry facility located in the Southwest United States. All residents of this program must commit to at least a 3-month stay. This facility is a long-term program; meaning that if said residents abide by the rules and guidelines set forth by the community, they may stay for an infinite amount of time. This program accepts those people who have a history of alcohol abuse and/or chemical addiction.

Volunteers were recruited to take part in the research through written letters. All residents of the facility were requested to participate in the study.

The sample group was made up of 31 residents who have been involved in the re-entry program for a period of time ranging from less than one month, up to 2 years, 8 months. Of the total sample of 31, 23 were males and 8 were females. Only 1 of the residents did not participate in the study. The ages of the participants ranged from 18
to 63 years for the males, and from 24 to 55 years for the females. Out of the total sample of 31, 22 of the participants have had some type of prior treatment.

Norm Group

The data collection design employed in the standardization sample for the 16PF required sampling across 10 levels of community size and 10 levels of socioeconomic status. Community sizes ranged in population from less than twenty-five hundred to more than a million.

In terms of geographical stratification, the 50 states were divided into 10 regions along divisions established by the U.S. Census Bureau. Data was obtained in order that regional proportions in final norm sample matched closely with the U.S. census figures currently available. The final norm sample consisted of data from 30 states.

In order to achieve a racial balance with the norm sample, a fractional weighting procedure was used. Racial proportions match the most recently available demographic data.

Stratification on the basis of age was not considered important because age corrections were employed in generating the final tables. The final norm group ranged in age from 15 to 70 years.

Norms established for the general population had an age correction of 30 years for both females and males; the sample consisted of 5,077 males and females combined.

This norm group was selected because it most closely approximated the age distribution of the sample.
Description of the Instruments

Four instruments were used in this study. These instruments were the Personal Information Questionnaire, the Family Information Questionnaire, the 16 Personality Factor Questionnaire (16PF), and the Self-Rated Recovery Facilitation Scale.

The Personal Information Questionnaire was used to collect demographic information such as gender, date of birth, date of arrival at the facility, history of prior treatment, sobriety date, prior drug of choice, and birth order data.

A second demographic questionnaire requested information such as prior medical evaluation, and the participant's perception of his/her family's substance abuse.

The 16PF is a comprehensive coverage of personality which rests upon the measurement of 16 functionally independent and psychologically meaningful dimensions. The correlations among the 16 scales are quite small so that each scale provides some new piece of information about the person being tested. The personality factors measured by the 16PF rest within the context of a general theory of personality (IPAT, 1986 p. 5). Form C of the 16PF was chosen because it is a slightly shorter form than the two other forms, A or B. Form C was also chosen because of time constraints—this form requires an average of 25 to 35 minutes that, when completed with the other required questionnaires for the study, is a reasonable length of time. Cattell, Eber, and Tatsouka (1988, p. 25) also reported Form C to be designed for the average "man in the street." This definition seemed most appropriate for the intended sample population.

The Self-Rated Recovery Facilitation Scale is an instrument which asked the subjects to rate their opinion as to the extent their current re-entry program has facilitated their recovery. A 5-point Likert type scale was used to determine the subjects'
opinions. For purposes of tabulation and scoring, a numerical value was assigned to each of the alternatives. For the purpose of this study, the scale was designed as follows: (1) Strongly Disagree; (2) Disagree; (3) Neutral; (4) Agree; (5) Strongly Agree. A second Likert-type scale asked for the community's perception of the participant's recovery facilitation. Each participant was to ask a designated senior member of the community how the community would rate the participant at the present time. This scale was designed in the same way as the first Likert-type scale discussed above.

Reliability and Validity

The reliability of the 16PF was established by using test-retest reliability. The short-interval test-retest reliability for Form C ranged from .52-.78 across source traits. Short-interval test-retest reliability for each of the 16 factor scales follows (EPAT, 1986, p. 11):

Source Trait:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
<th>Q2</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>64</td>
<td>59</td>
<td>78</td>
<td>76</td>
<td>61</td>
<td>59</td>
<td>68</td>
<td>56</td>
<td>52</td>
<td>57</td>
<td>67</td>
<td>62</td>
<td>66</td>
<td>62</td>
<td>60</td>
<td>59</td>
</tr>
</tbody>
</table>

Cattell et al. (1988) discussed that although the single form scale reliabilities are not as high as one would normally like, the 16PF is measuring 16 different dimensions, therefore resulting in great variations between test items. For each source trait, 6 items on the test are used to determine how a subject scores within a source trait—the only exception is on Factor B where 8 test items are utilized.
In considering single form reliabilities, psychometrist reviewers have found the 16PF single forms to be useful for research purposes; there is some question as to the single form 16PF questionnaires in "making decisions on individuals" (Cattell et al., p. 41).

In terms of validity, direct concept validity of the 16PF was determined. Results from many different studies concluded that the basic factorial structure of the test is correct. Different empirical examinations showed the elementary personality dimensions the 16PF taps, are consistent with the original, underlying model of personality traits (IPAT, 1986). Joint factorizations of the 16PF with the Guilford-Zimmerman Questionnaires and the MMPI, show the 16PF to cover most of the same parameters as the other two tests; also, its factor concepts reach higher simple-structure hyperplane percentage counts than those of any other published resolutions (Cattell et al., 1988). As reported by Cattell and Bolton (1969), results from comparing the MMPI with the 16PF, show the two tests to be measuring the same 16 dimensions, although the MMPI examines somewhat more pathological manifestations.

Concept validities were established ranging from .45-.91 for Forms C and D, across source traits. Following is the statement of direct validities for the 16PF for each factor scale (Cattell et al., 1988, p. 36):

**Source Trait:**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
<th>Q₁</th>
<th>Q₂</th>
<th>Q₃</th>
<th>Q₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>87</td>
<td>91</td>
<td>63</td>
<td>82</td>
<td>90</td>
<td>54</td>
<td>90</td>
<td>45</td>
<td>65</td>
<td>85</td>
<td>74</td>
<td>68</td>
<td>82</td>
<td>70</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>
Procedures

Packets were constructed and given to each resident. The packets included a cover letter explaining the study and participants' rights, a personal questionnaire, a family information questionnaire, the 16PF, and the self-rated scale. The participants were asked to first read the consent form and if they were willing to participate, to sign and return it. The participants were then asked to complete the questionnaires; when finished, they were asked to place the questionnaires back into the envelope and return the envelope to a designated box that same evening. All questionnaires were returned within 2 hours.

Analysis

A t test was used to compare the raw score means of the total sample, with the raw score means of the norm sample. The 16 primary personality factors were used to determine differences between the two groups. These scales are: Cool vs. Warm, Concrete-thinking vs. Abstract-thinking, Affected by feelings vs. Emotionally stable, Submissive vs. Dominant, Sober vs. Enthusiastic, Expedient vs. Conscientious, Shy vs. Bold, Tough-minded vs. Tender-minded, Trusting vs. Suspicious, Practical vs. Imaginative, Forthright vs. Shrewd, Self-assured vs. Apprehensive, Conservative vs. Experimenting, Group-oriented vs. Self-sufficient, Undisciplined self-conflict vs. Following self-image, Relaxed vs. Tense.

Frequency distributions were determined for the total sample, and then compared to the frequency distributions set for the norm sample. The 16 primary personality factors were used to determine differences between the two groups. Frequency distributions for each of the factors were provided for the norm population. Because these results were
provided in the sten scores, sten scores were computed for the sample population. The term "sten" is derived from "standard ten." Sten scores are distributed over 10 equal interval standard score points, assuming normal distributions from 1 through 10. The sten scale takes the raw score mean of the population as the central value, therefore the mean for a sten distribution is 5.5 and the standard deviation is 2.0 sten scores. Sten scores of 4 through 7 are normally considered average, since they fall within one standard deviation of the population mean and represent two-thirds of all obtained scores. Generally, only when scores fall below 4 or above 7 should the score be thought of as "distinctively departing from the average" (Cattell et al., 1988, p. 63).

The general population male+ female norms were utilized when determining the raw score means and also the frequency distribution. The combined sex norm table was used for several reasons: (1) to avoid discrimination on the basis of sex; (2) the number of female participants was very low; (3) the variance between the male norms vs. the male+female norms and also the female norms vs. the male+female norms was not significant enough to justify separating the male norms from the female norms.

The data for the second problem statement were subjected to a Pearson r correlation using self-rated recovery facilitation scores correlated with the sample population norms on the 16PF.

Summary

This chapter described the populations from which the sample and norms were drawn, provided descriptions of each of the four instruments used in the study, and discussed the reliability and validity of the 16PF. The procedure for distribution of the
packets was explained; and the statistical methods incorporated for analysis were discussed.
CHAPTER 4

RESULTS AND DISCUSSION

This study has been a systemic attempt to compare the personality characteristics of one sample of residents of an addiction re-entry program. Further, this study has attempted to determine if personality characteristics and perception of recovery facilitation are correlated.

This chapter presents a review of the results obtained from the study.

The data from the sample population answers to the four questionnaires and the data from the norm population for the 16PF were entered into an IVAX account through the University of Arizona Mainframe computer. An existing computer program, SORITEC was used to analyze the data.

The Sample

All of the residents currently residing at a re-entry facility were asked to participate in the study. Out of the 32 people living at the re-entry facility, 31 volunteered to take part in the study by filling out the instruments. The sample group of 31 consisted of 23 males (75%) and 8 females (25%).

The group’s ages ranged from 18 years to 63 years, with a mean age of 34 years. The mean sample is relatively close to the norm group age correction of 30 years for the general population. Review of the birth order data revealed the sample group to consist mostly of last borns (45%) and first borns (35%).
Resident's history of prior treatment revealed that 22 of the residents had been in some type of treatment before this current re-entry program. The number of times a resident had been in prior treatments ranged from once to 9 times. Lengths of stay at prior treatment facilities ranged from 1 month to 13 months. The length of time the respondents had resided at their current re-entry facility ranged from less than 1 month to 2 years, 8 months.

The length of time residents had currently remained sober ranged from less than 1 month to 4 years, 4 months. The prior drugs of addiction for this sample included heroin, alcohol, marijuana/hashish, cocaine, L.S.D., and prescription drugs.

When questioned about prior medical evaluations, residents reported depression to be diagnosed more often than childhood hyperactivity, dyslexia, short-attention span syndrome, or schizophrenia. The category of "other" was marked by 6 of the respondents.

Respondents were asked to decide if they perceived any of the members of their family to have problems with alcoholism or drug addiction. Results indicated that only 4 participants of the total sample believed that no other member of their family had an addiction problem. The majority of the participants had family histories of addiction across genders. Only 5 of the participants reported addictions with the males only, while only 2 reported addictions with just the female family members.

Table 1 provides the frequency distributions for the total sample.
Table 1. Distribution by specific demographic variables

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Range</th>
<th>$\bar{X}$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td>23</td>
<td>75</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>8</td>
<td>25</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Age (yr)</strong></td>
<td>31</td>
<td>100</td>
<td>18-63</td>
<td>34.36</td>
</tr>
<tr>
<td><strong>Birth Order</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Born</td>
<td>11</td>
<td>35</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>6</td>
<td>19</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Last Born</td>
<td>14</td>
<td>45</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Prior Treatment</strong></td>
<td>22</td>
<td>71</td>
<td>1-9 times</td>
<td>1.80</td>
</tr>
<tr>
<td><strong>Length of Stay in Prior</strong></td>
<td>22</td>
<td>71</td>
<td>&gt; 1-32</td>
<td>2.34</td>
</tr>
<tr>
<td>Treatment (mo)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length of Time at</strong></td>
<td>29</td>
<td>94</td>
<td>&gt; 1-32</td>
<td>6.14</td>
</tr>
<tr>
<td><strong>Re-entry (mo)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length of Time</strong></td>
<td>29</td>
<td>94</td>
<td>&gt; 1-52</td>
<td>8.69</td>
</tr>
<tr>
<td><strong>Sober (mo)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drug of Choice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>20</td>
<td>65</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td>8</td>
<td>26</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cocaine</td>
<td>9</td>
<td>29</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Marijuana/Hashish</td>
<td>6</td>
<td>19</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Prescriptions</td>
<td>2</td>
<td>6</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>L.S.D.</td>
<td>2</td>
<td>6</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
Table 1.—Continued

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
<th>Range</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical Evaluation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>8</td>
<td>26</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dyslexia</td>
<td>6</td>
<td>19</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>7</td>
<td>23</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Short-attention Span</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syndrome</td>
<td>4</td>
<td>13</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>2</td>
<td>6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Multiple Personalities</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Family History of Substance Abuse</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History Male</td>
<td>25</td>
<td>81</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>History Father</td>
<td>19</td>
<td>61</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>History Female</td>
<td>22</td>
<td>71</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>History Mother</td>
<td>21</td>
<td>68</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Question 1

Question 1 asked whether there was a difference between the personality traits of the sample compared with those of a norm group.

A $t$-test (equation found in Appendix B) was used to determine whether the means of the sample population were significantly different than the norm population at the selected probability interval of .05. The probability interval of .05 was selected because it is stated be the most commonly used probability level (Gay, 1987 p. 384).

Using the degrees of freedom of 30 and the probability level of .05, the level of significance was determined to be equal to 2.04. Any $t$ score greater than, or equal to 2.04 shows a significant difference between the sample means and the norm means. The results of the $t$ test are shown in Table 2. When comparing the means for the sample population with that of the norm population, a significant difference was found on 8 of the 16 scales of the 16PF. With a 95% confidence interval ($p = .05$), the measures showing a significant difference include: Factor A, cool vs. warm ($t = 2.94$); Factor B, concrete thinking vs. abstract thinking ($t = 2.90$); Factor L, trusting vs. suspicious ($t = 2.90$); Factor N, forthright vs. shrewd ($t = 3.92$); Factor O, self-assured vs. apprehensive ($t = 2.46$); Factor Q2, group oriented vs. self-sufficient ($t = 5.28$); Factor Q3, undisciplined self-conflict vs. controlled ($t = 4.42$); and Factor Q4, relaxed vs. tense ($t = 4.94$).

Frequency distributions were used to determine how and where the distribution of scores were different across source traits. The raw scores for the sample population were converted to sten scores. The frequency of sten scores for the normal population were determined to follow a normal distribution curb, therefore plotting of the sample population's frequencies of sten scores, portrayed any differences between the two groups.
Table 2. T-test results comparing normative data from the 16 Personality Factor Questionnaire to similar data collected from the sample

<table>
<thead>
<tr>
<th>Factor</th>
<th>Norms (N = 5077)</th>
<th>Sample (N = 31)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>8.67</td>
<td>2.24</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>4.34</td>
<td>1.59</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>7.25</td>
<td>2.44</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>5.30</td>
<td>2.31</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>6.89</td>
<td>2.19</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>7.44</td>
<td>2.51</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>6.94</td>
<td>2.62</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>6.38</td>
<td>2.59</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>5.33</td>
<td>2.01</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>5.71</td>
<td>2.32</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>4.82</td>
<td>2.08</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>6.21</td>
<td>2.73</td>
<td></td>
</tr>
<tr>
<td>Q₁</td>
<td>6.67</td>
<td>2.34</td>
<td></td>
</tr>
<tr>
<td>Q₂</td>
<td>3.95</td>
<td>2.32</td>
<td></td>
</tr>
<tr>
<td>Q₃</td>
<td>7.75</td>
<td>2.16</td>
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</tr>
<tr>
<td>Q₄</td>
<td>5.75</td>
<td>2.46</td>
<td></td>
</tr>
</tbody>
</table>

Note: df for each analysis = 30

*indicates statistical significance.

Probability is as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>2.04</td>
</tr>
</tbody>
</table>
Appendix A displays graphs for each factor which illustrate the differences. These graphs were useful in portraying the extremes of the sample population toward various traits. Notable extremes were found on Factor A, toward the "cool" trait; Factor E, toward the "dominant" trait; Factor N, toward the "shrewd" trait; and Factor Q₃, toward the "undisciplined self-conflict" trait and Factor Q₄, toward the "tense" trait. Further discussion of low vs. high scores can be found Appendix F.

**Question 2**

Question 2 stated, are resident personality traits, as measured by the 16 Personality Factor Questionnaire, associated with their perception of the extent to which the re-entry program has facilitated in their recovery? To answer this question, the Pearson r (equation found in Appendix B) was used to determine if a correlation exists between each personality factor and the self-rated level of recover facilitation. A 5-point Likert type scale was used for the self-rated recovery facilitation scale (Appendix F). The five points on the scale were: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). Upon examination of the ratings by the total sample, respondents rated their recovery facilitation at either a 4, or a 5.

A second Likert-type scale was incorporated asking a senior member to rate the participant. The purpose of this second scale was to check for denial aspects in the participant's judgment; results were inconclusive, a difference in ratings occurred in only 1/4 of the subjects.

Using the scores from the participants' self-rated scales together with the combined scores for each personality factor, the Pearson r was computed. Using the degrees of freedom of 30, and the probability level of .05, the level of significance was determined
to be equal to .35. Results indicated at the .05 level of significance, no significant correlations were found between the personality factors and self-rated level of recovery facilitation. Results of the Pearson r can be found in Table 3.

Although no significant correlations were found at the .05 level of significance, results do suggest that a correlation may still exist between personality traits and the self-rated level of recovery facilitation.

**Summary**

This study was designed to answer two questions. This chapter has presented the results of the study. Included in this chapter is demographic information on the sample group, discussion about the t test, frequency distribution and Pearson r results.
Table 3. Pearson $r$ results correlating self-rated levels of recovery facilitation with sample data from the 16 Personality Factor Questionnaire

<table>
<thead>
<tr>
<th>Factor</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>.27</td>
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<td>Q\textsubscript{4}</td>
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Note: df for each analysis = 30. Probability is as follows:

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<tr>
<th>Level</th>
<th>Significance</th>
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<tbody>
<tr>
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<td>.35</td>
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CHAPTER 5

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Much research has gone into the study of personality characteristics and substance abuse. Controversy still surrounds this area. Some researchers have concluded that no evidence exists toward the stand that personality characteristics are associated with substance abuse. Other researchers (Sutker & Allain, 1988) believe in the existence of an "addictive personality," and that a definite association exists between personality, or certain characteristics, and substance abuse.

A review of the literature showed a great variance in the personality traits found to be associated with substance abuse. Those characteristics which have most often been associated with chemical addiction include: depression, disturbed personality, anxiety and tension (Nerviano & Gross, 1983; Tarter, 1988; Khantzian & Treece, 1985; Dembo & Shern, 1982; Vetter, 1985; Sutker & Allain, 1988; Nathan, 1988; Stabenau, 1984; Koenigsburg, Kaplan, Gilmore & Cooper, 1985; Rounsaville, Weissman, Kleber & Wilber, 1982).

Nathan (1988), in summarizing several research studies, found that the usefulness of personality in the differentiation of substance abusers from nonabusers remains unproven. Further research within this area was recommended. This study has been an attempt to follow through with this recommendation.
In a review of the literature, no studies were found that examined the personality characteristics of substance abusers in correlation with perception of recovery facilitation. This study has also attempted to examine this aspect of the substance abuser's recovery.

Summary

This study sought to answer the following questions: Do residents at a re-entry facility for substance abuse have personality traits that differ from a norm group, as measured by the 16 Personality Factor Questionnaire? Are resident personality traits, as measured by the 16 Personality Factor Questionnaire, associated with their perception of the extent to which the re-entry program has facilitated in their recovery?

To measure the constructs of personality and recovery facilitation, two instruments were used. First, the 16 Personality Factor Questionnaire (16PF) was used. The 16PF is a psychological test which measures sixteen personality traits. The 16 personality traits were: Cool vs. Warm; Concrete Thinking vs. Abstract Thinking; Affected by Feelings vs. Emotionally Stable; Submissive vs. Dominant; Sober vs. Enthusiastic; Expedient vs. Conscientious; Shy vs. Bold; Tough-minded vs. Tender-minded; Trusting vs. Suspicious; Practical vs. Imaginative; Forthright vs. Shrewd; Self-assured vs. Apprehensive; Conservative vs. Experimenting; Group-oriented vs. Self-sufficient; Undisciplined Self-conflict vs. Following Self-image; Relaxed vs. Tense. Second, a self-rated recovery facilitation scale was used. This 5-point Likert-type scale permitted the respondents to record their perceived level of recovery facilitation.

The instruments were given to the volunteers with specific instructions on their use and the procedures for returning the completed questionnaires. All volunteers filled out the instruments during the evening of February 22, 1991. All forms were returned
within 2 hours. The nature of the data allowed the use of statistical analysis in testing of the questions.

Conclusions

To determine the answer to the first research question, the data from the instruments was subjected to a t test and frequency distribution. Results from the t test and distribution of frequencies led to the following conclusions:

1. There exists a difference between substance abusers and the norm population on certain personality constructs.

2. The substance abusers were significantly more cool (represented by a low score), more shrewd (represented by a high score), more dominant (represented by a high score) and more undisciplined in self-conflict (represented by a low score) than the norm population.

3. Significant differences were also found on the constructs concrete thinking vs. abstract thinking; trusting vs. suspicious; self-assured vs. apprehensive; group oriented vs. self-sufficient; and relaxed vs. tense. The sample population scored more toward the constructs abstract thinking (higher score), suspicious (higher score), apprehensive (higher score), self-sufficient (higher score) and tense (higher score).

These results do show definite differences between substance abusers and a norm population. The results support prior studies with substance abusers which claim that certain personality traits are associated with substance abuse. This study replicated other studies using the 16PF in terms of finding the substance abusers to score higher on

To answer the second research question, data from the self-rated recovery facilitation scale was correlated with the data from the 16PF using a Pearson r correlation. Results from this test led to the conclusion that there was no correlation between personality traits and perceived recovery facilitation.

Implications

It appears that persons who have a history of chemical addiction, have a number of personality constructs which vary from the norm population. This variance does suggest that certain personality characteristics are associated with substance abuse. Being aware that these people in recovery have potential to display certain traits, counselors may be better able to work with these people. Possibly by devising programs which are designed toward working on self respect, cooperation, and dealing with frustration and aggression in more effective ways, counselors and program coordinators can work toward developing more effective types of programs resulting in reduced relapse rates. By developing a better understanding of substance use, clinicians, therapists, and educators may be able to make greater gains toward the prevention of substance abuse.

Limitations

Clearly, the generalizability of these results is limited. With the sample being restricted to one re-entry program, it would be unwise to assume that the same results would be found for another sample group. In addition, this sample group was from a re-entry program which is different from any existing treatment program, therefore, the
generalizability of the results is further limited. The results of the study are also limited as a result of volunteers making up the total sample.

This study was also limited because of the small sample size of the sample population; results cannot be generalized to a larger sample. Statistically, one might speculate that with a larger population, the frequency distributions would follow more closely with a normal distribution curb; the scores would not show the extremes as noted with the smaller sample population. The number of female participants limited the results to a male/female combined sample.

One can only speculate about the statistics describing the sample population. For example, the last borns were represented by 45% of the sample. When considering characteristics often associated with last borns, perhaps one can speculate the reasons these people had problems with addiction. Some descriptors associated with last borns include over protection--these are the last children to leave home, therefore it seems parents feel a need to be "better" parents than with the older children; parents want to make up for past mistakes. Often a last born child learns early that someone will come to their rescue when in need. Also, many last borns feel the need to keep up with older siblings. Although these descriptors represent just a few characteristics of last borns, one may speculate over protection, beliefs that someone will rescue them, and frustrations and pressures associated with expectations, may be precursors to the development of a substance abuse problem.

First borns also represented a large proportion to the sample (35%). When considering this occurrence, one may speculate about the characteristics associated with
being a first born within a family. One may consider such descriptors such as perfectionism and stresses involved in being a perfectionist. Another possibility could be that when the first child is born, he/she is an "only child," therefore, when a second child is born into the family, the attention the first born experienced as an only child, is now shared with another sibling. It can be especially difficult for a first born child, because the younger sibling requires a larger share of the attention. Such experiences can be emotionally difficult for some persons, which could conceivably contribute to a substance abuse problem.

One final sample statistic to note was the occurrence of prior treatment. Participants who noted prior treatment numbered 71% of the sample population. For the majority of the participants, one may conclude that other types of treatment programs were not successful in treating these people for their addiction. Relapse rates among these participants seemed to be high, therefore one may speculate that these programs were not addressing specific needs of the individuals. Of course, as noted, these are just speculations that only lead to more unanswered questions concerning substance abuse.

Recommendations for Further Study

In answering the original questions, this study has produced a number of additional unanswered issues. The issues that remain unanswered vary in depth and complexity; however, examination of the following questions would add information to the current body of knowledge.

1. Is perception of recovery a function of personality?
2. Does a re-entry resident's measure on certain personality constructs correlate with length of time spent at the re-entry facility?
3. Do certain preexisting personality characteristics contribute to the development of a subsequent substance abuse problem?

4. How do the personality traits of male re-entry residents compare with those of female re-entry residents?

5. How do re-entry residents categorized by prior drug of choice compare on personality traits?

6. How do re-entry resident's personality traits compare with those persons in a treatment facility?

7. How would the personality traits of a larger sample of re-entry residents compare with the smaller sample size of 31?

8. In a re-entry program, does a resident's "success" with sobriety correlate with certain personality traits?

These and many other questions have been raised by this current study.
APPENDIX A

FREQUENCY DISTRIBUTION
OF SAMPLE SCORES
ON THE 16PF
Figure A-1. Factor A

Figure A-2. Factor B
Figure A-3. Factor C

Figure A-4. Factor E
Figure A-5. Factor F

Figure A-6. Factor G
Figure A-7. Factor H

Figure A-8. Factor I
Figure A-9. Factor L

Figure A-10. Factor M
Figure A-11. Factor N

Figure A-12. Factor O
Figure A-13. Factor Q₁

Figure A-14. Factor Q₂
Figure A-15. Factor $Q_3$

Figure A-16. Factor $Q_4$
Equations used for computations

1 test

\[ t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 - SS_2}{N_1 + N_2 - 2}\right) \left(\frac{1}{N_1} + \frac{1}{N_2}\right)}} \]

Subscript\(_1\)=Norm
Subscript\(_2\)=Sample
X=16 factor means (A-Q4)
N=population
SS=Sum of Squares

* Assuming the Sum of Squares (SS) for each of the norm and sample group factors = (N-1)\(\delta^2\)

Pearson \(r\)

\[ r = \frac{\Sigma XY - \left(\frac{\Sigma X)(\Sigma Y)}{N}\right)}{\sqrt{\left(\Sigma X^2 - \frac{(\Sigma X)^2}{N}\right) \left(\Sigma Y^2 - \frac{(\Sigma Y)^2}{N}\right)}} \]

X=Factors A-Q4
Y=Self-rate
N=Sample size
APPENDIX C

CONSENT FORM
CONSENT FORM

My name is Susan Wills. As a Graduate Student in the Counseling and Guidance Department at the University of Arizona, I am conducting a study for a master's thesis on the personality traits of persons who have a history of chemical dependency. Your voluntary participation in the completion of these questionnaires is requested. If you decide to participate, please complete the questionnaires as best you can. Completion of these questionnaires will indicate your consent to be a willing participant in this study. All data received will be treated with anonymity and confidentiality; to insure this, please do not put your name on any of the included questionnaires. I am working on the completion of my Masters Degree, and would greatly appreciate your cooperation.

Thank you,

Susan Wills, Researcher

I have read the above statement and understand the purpose of the research being conducted. I realize that my participation is strictly voluntary, and that I am free to withdraw from the study at any time. I understand that this consent form will be filed in an area designated by the Human Subjects Committee with access restricted to the principal investigator or authorized representatives of the particular department. I also understand that I am free to share in the results upon completion of this study.

Signed:

Participant's Consent

Today's Date
APPENDIX D

PERSONAL INFORMATION QUESTIONNAIRE
PERSONAL INFORMATION

Male____

Female____

Date of Birth____________
month/day/year

Date of arrival at this Re-Entry facility_________
month/year

What is your sobriety date?_________
month/year

What was your drug of choice?_____________

Have you been in treatment before? yes____ no____
--If yes, how many times?_____________
--Before this program, what was your longest length of stay
   at a treatment facility?_____________

Age and sex of all brothers and sisters--including yourself. Place an "X" next to yourself and a "D" next to any who are deceased.

1st Born: Age____: Sex____
2nd Born: Age____: Sex____
3rd Born: Age____: Sex____
4th Born: Age____: Sex____
5th Born: Age____: Sex____
6th Born: Age____: Sex____
7th Born: Age____: Sex____
8th Born: Age____: Sex____
APPENDIX E

FAMILY INFORMATION QUESTIONNAIRE
FAMILY INFORMATION

Father's Occupation

Mother's Occupation

Medical Evaluation--Check any of the following if you have been diagnosed:

___ Childhood Hyperactivity
___ Depression
___ Dyslexia
___ Multiple Personalities
___ Short Attention Span Syndrome
___ Borderline Schizophrenia
___ Other

Do you perceive that any of the members of your family have a problem with alcoholism or drug addiction?
--Check if you believe this question relates to any of the following members of your family.

___ Father
___ Mother
___ Brother
___ Sister
___ Grandfather
___ Grandmother
___ Uncle
___ Aunt
APPENDIX F

SELF-RATED LIKERT SCALE
SELF-RATED RECOVERY FACILITATION SCALE

Please place an "x" on the scale below at the number that accurately represents your overall opinion at this time.

This Re-Entry program has facilitated my recovery.

1  2  3  4  5

<table>
<thead>
<tr>
<th>strongly disagree</th>
<th>neutral</th>
<th>agree</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

disagree

Perception Scale

Please place an "x" on the scale below at the number that accurately represents how the community would rate this person at this time.

As perceived by the community as a whole, this Re-Entry program has facilitated in this person's recovery.

1  2  3  4  5

<table>
<thead>
<tr>
<th>strongly disagree</th>
<th>neutral</th>
<th>agree</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

disagree
APPENDIX G

CHARACTERISTICS OF LOW SCORES VS. HIGH SCORES ON THE 16PF

Taken from the Administrator's Manual for the 16 Personality Factor Questionnaire, copyright © 1986 by the Institute for Personality and Ability Testing, Inc. Reproduced by permission.
FACTOR A

Low Score Direction

Cool, Reserved, Impersonal, Detached. Formal, Aloof

People who score low (sten of 1 to 3) on Factor A tend to be stiff, cool, skeptical, and aloof. They like things rather than people, working alone, and avoiding compromises of viewpoints. They are likely to be precise and "rigid" in their way of doing things and in their personal standards. In many occupations these are desirable traits. They may tend, at times, to be critical, obstructive, or hard.

High Score Direction

Warm, Outgoing, Kindly, Easygoing, Participating, Likes People

People who score high (sten of 8 to 10) on Factor A tend to be goodnatured, easygoing, emotionally expressive, ready to cooperate, attentive to people, soft-hearted, kindly, adaptable. They like occupations dealing with people and socially impressive situations, and they readily form active groups. They are generous in personal relations, less afraid of criticism, and better able to remember names of people.

FACTOR B

Concrete-thinking, Less Intelligent

The person scoring low on Factor B tends to be slow to learn and grasp, dull, and given to concrete and literal interpretation. This dullness may be simply a reflection of low intelligence, or it may represent poor functioning due to psychopathology.

Abstract-thinking, More Intelligent, Bright

The person who scores high on Factor B tends to be quick to grasp ideas, a fast learner, intelligent. There is some correlation with level of culture, and some with alertness. High scores contraindicate deterioration of mental functions in pathological conditions.

FACTOR C

Affected by Feelings, Emotionally Less Stable, Easily Annoyed

The person who scores low on Factor C tends to be low in frustration tolerance for unsatisfactory conditions, changeable and plastic, evading necessary reality demands, neurotically fatigued, fretful, easily annoyed and emotional, active in dissatisfaction, having neurotic symptoms (phobias, sleep disturbances, psychosomatic complaints, etc.). Low Factor C score is common to almost all forms of neurotic and some psychotic disorders.

Emotionally Stable, Mature, Faces Reality, Calm

The person who scores high on Factor C tends to be emotionally mature, stable, realistic about life, unruffled, possessing ego strength, better able to maintain solid group morale. This person may be making a resigned adjustment to unsolved emotional problems.
FACTOR E

Submissive, Humble, Mild, Easily Led, Accommodating

Dominant, Assertive, Aggressive, Stubborn, Competitive, Bossy

Individuals scoring low on Factor E tend to give way to others, to be docile, and to conform. They are often dependent, confessing, anxious for obsessional correctness. This passivity is part of many neurotic syndromes.

Individuals scoring high on Factor E are assertive, self-assured, and independent-minded. They tend to be austere, a law unto themselves, hostile or extrapunitive, authoritarian (managing others), and disregarding of authority.

FACTOR F

Sober, Restrained, Prudent, Taciturn, Serious

Enthusiastic, Spontaneous, Heedless, Expressive, Cheerful

Low scorers on Factor F tend to be restrained, reticent, and introspective. They are sometimes dour, pessimistic, unduly deliberate, and considered smug and primly correct by observers. They tend to be sober, dependable people.

High scorers on this trait tend to be cheerful, active, talkative, frank, expressive, effervescent, and carefree. They are frequently chosen as elected leaders. They may be impulsive and mercurial.

FACTOR G

Expedient, Disregards Rules, Self-indulgent

Conscientious, Conforming, Moralistic, Staid, Rule-bound

People who score low on Factor G tend to be unsteady in purpose. They are often casual and lacking in effort for group undertakings and cultural demands. Their freedom from group influence may lead to antisocial acts, but at times makes them more effective, while their refusal to be bound by rules causes them to have less somatic upset from stress.

People who score high on Factor G tend to be exacting in character, dominated by sense of duty, persevering, responsible, planful, "fill the unforgiving minute." They are usually conscientious and moralistic, and they prefer hard-working people to witty companions. The inner "categorical imperative" of this essential superego (in the psychoanalytic sense) should be distinguished from the superficially similar "social ideal self" of Q3 +.
FACTOR H

Shy, Threat-sensitive, Timid, Hesitant, Intimidated

Individuals who score low on this trait tend to be shy, withdrawing, cautious, retiring, "wallflowers." They usually have inferiority feelings and tend to be slow and impeded in speech and in expressing themselves. They dislike occupations with personal contacts, prefer one or two close friends to large groups, and are not given to keeping in contact with all that is going on around them.

Bold, Venturesome, Uninhibited, Can Take Stress

Individuals who score high on Factor H are sociable, bold, ready to try new things, spontaneous, and abundant in emotional response. Their "thick-skinnedness" enables them to face wear and tear in dealing with people and grueling emotional situations, without fatigue. However, they can be careless of detail, ignore danger signals, and consume much time talking. They tend to be "pushy" and actively interested in the opposite sex.

FACTOR I

Tough-minded, Self-reliant, No-nonsense, Rough, Realistic

People who score low on Factor I tend to be tough, realistic, "down to earth," independent, responsible, but skeptical of subjective, cultural elaborations. They are sometimes unmoved, hard, cynical, and smug. They tend to keep a group operating on a practical and realistic "no-nonsense" basis.

Tender-minded, Sensitive, Over-protected, Intuitive, Refined

People who score high on Factor I tend to be emotionally sensitive, day-dreaming, artistically fastidious, and fanciful. They are sometimes demanding of attention and help, impatient, dependent, temperamental, and not very realistic. They dislike crude people and rough occupations. In a group, they often tend to slow up group performance and to upset group morale by undue fussiness.

FACTOR L

Trusting, Accepting Conditions, Easy to Get on with

The person who scores low on Factor L tends to be free of jealous tendencies, adaptable, cheerful, uncompetitive, concerned about others, a good team worker. They are open and tolerant and usually willing to take a chance with people.

Suspicious, Hard to Fool, Distrustful, Skeptical

People who score high on Factor L tend to be mistrusting and doubtful. They are often involved in their own egos and are self-opinionated and interested in internal, mental life. Usually they are deliberate in their actions, unconcerned about other people, and poor team members.
FACTOR M


Low scorers on Factor M tend to be anxious to do the right things, attentive to practical matters, and subject to the dictation of what is obviously possible. They are concerned over detail, able to keep their heads in emergencies, but are sometimes unimaginative. In short, they are responsive to the outer, rather than the inner, world.

High scorers on Factor M tend to be unconventional, unconcerned over everyday matters, self-motivated, imaginatively creative, concerned with “essentials,” often absorbed in thought, and oblivious of particular people and physical realities. Their inner-directed interests sometimes lead to unrealistic situations accompanied by expressive outbursts. Their individuality can cause them to be rejected in group activities.

FACTOR N

*Forthright*, Unpretentious, Open, Genuine, Artless vs. *Shrewd*, Polished, Socially Aware, Diplomatic, Calculating

Individuals who score low on Factor N have a lot of natural warmth and a genuine liking for people. They are uncomplicated, sentimental, and unvarnished in their approach to people.

Individuals who score high on Factor N tend to be polished, experienced, and shrewd. Their approach to people and problems is usually perceptive, hard-headed, and efficient—an unsentimental approach to situations, an approach akin to cynicism.

FACTOR O


Persons with low scores on Factor O tend to be unruffled and to have unshakable nerve. They have a mature, unanxious confidence in themselves and their capacity to deal with things. They can, however, be secure to the point of being insensitive to the feedback of others.

Persons with high scores on Factor O have a strong sense of obligation and high expectations of themselves. They tend to worry and feel anxious and guilt-stricken over difficulties. Often they do not feel accepted in groups or free to participate. High Factor O score is very common in clinical groups of all types (see Handbook).
FACTOR Q₁

Conservative, Respecting Traditional Ideas

Low scorers on Factor Q₁ are confident in what they have been taught to believe, and accept the "tried and true," even when something else might be better. They are cautious and compromising in regard to new ideas. Thus, they tend to oppose and postpone change, are inclined to go along with tradition, are more conservative in religion and politics, and tend not to be interested in analytical "intellectual" thought.

Experimenting, Liberal, Critical, Open to Change

High scorers on Factor Q₁ tend to be interested in intellectual matters and to have doubts on fundamental issues. They are skeptical and inquiring regarding ideas, either old or new. Usually they are more well informed, less inclined to moralize, more inclined to experiment in life generally, and more tolerant of inconvenience and change.

FACTOR Q₂

Group-oriented, A "Joiner" and Sound Follower, Listens to Others

Individuals who score low on Factor Q₂ prefer to work and make decisions with other people and like and depend on social approval and admiration. They tend to go along with the group and may be lacking in individual resolution. They are not necessarily gregarious by choice; rather they might need group support.

Self-sufficient, Resourceful, Prefers Own Decisions

Individuals who score high on Factor Q₂ are temperamentally independent, accustomed to going their own way, making decisions and taking action on their own. They discount public opinion, but are not necessarily dominant in their relations with others (see Factor E); in fact, they could be hesitant to ask others for help. They do not dislike people, but simply do not need their agreement or support.

FACTOR Q₃

Undisciplined Self-conflict, Lax, Careless of Social Rules

People who score low on Factor Q₃ will not be bothered with will control and have little regard for social demands. They are impetuous and not overly considerate, careful, or painstaking. They may feel maladjusted, and many maladjustments (especially the affective, but not the paranoid) show Q₃⁻.

Following Self-image, Socially Precise, Compulsive

People who score high on Factor Q₃ tend to have strong control of their emotions and general behavior, are inclined to be socially aware and careful, and evidence what is commonly termed "self-respect" and high regard for social reputation. They sometimes tend, however, to be perfectionistic and obstinate. Effective leaders, and some paranoids, are high on Q₃.
FACTOR Q4

Relaxed, Tranquil, Composed, Has Low Drive, Unfrustrated

vs.

Tense, Frustrated, Overwrought, Has High Drive

Individuals who score low on Factor Q4 tend to be sedate, relaxed, composed, and satisfied (not frustrated). In some situations, their oversatisfaction can lead to laziness and low performance, in the sense that low motivation produces little trial and error.

Individuals who score high on Factor Q4 tend to be tense, restless, fretful, impatient, and hard driving. They are often fatigued, but unable to remain inactive. Their frustration represents an excess of stimulated, but undischarged, drive. Extremely high tension level may disrupt school and work performance.
APPENDIX H

LETTER FROM HUMAN SUBJECTS COMMITTEE
January 15, 1991

Susan E. Wills, B.A.
c/o Betty J. Newlon, Ed.D.
School of Family and Consumer Resources
Division of Educational and Professional Studies
Education, Room 218
The University of Arizona

RE: PERSONALITY CHARACTERISTICS OF CHEMICALLY DEPENDENT PERSONS IN A NON-TRADITIONAL, LONG-TERM RE-ENTRY PROGRAM

Dear Ms. Wills:

We have received documents concerning your above referenced project. Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.10 (b) (3)] exempt this type of research from review by our Committee.

Please be advised that approval of this project and the requirement of a subject's consent form is to be determined by your department.

Thank you for informing us of your work. If you have any questions concerning the above, please contact this office.

Sincerely yours,

William F. Denny, M.D.
Chairman
Human Subjects Committee

WFD:rs

Enclosure
APPENDIX I

LETTER FROM INSTITUTE FOR PERSONALITY

AND ABILITY TESTING
January 8, 1991

Dr. Richard Erickson
Cnslg & Guidance Dept
Educ Bldg Rm #218 Univ of Az
Tucson, Az 85721

Dear Dr. Erickson,

Your IPAT User Registration Form has been reviewed in accordance with our present criteria. Based upon your educational and experiential background, it has been determined that you are qualified to use any of IPAT’s materials except for the Clinical Analysis Questionnaire (CAQ) and the Law Enforcement and Development Report (LEADR). If you have submitted an order with your registration form, this order is currently being processed.

Sincerely,

Mark Riske
Staff Psychologist

MLR: kae
REFERENCES


