DEPENDENCY-PERSONALITY TRAITS IN SUBSTANCE DEPENDANTS

by

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Samevatting

Die doel van hierdie studie was om die korrelasie van persoonlikheidstrekke en afhanklikheid te evalueer sodoende te verstaan watter trekke meer betekenis het ten opsigte van afhanklikheid soos verduidelik deur die 16 Persoonlikheids Faktor Vraelys (16PF).

Die studie het verloop volgens die psigoanalitiese teorie van Sigmund Freud, wat die meeste probleme wat `n mens in die lewe ervaar toegeskryf het aan sekere tekortkominge, konflikte, trauma en ander ervarings as kind. Die orale stadium van psigoseksuele ontwikkeling had veral betrekking op die beskrywing van die probleem van substans afhanklikheid in hierdie studie.

Die data is met `n vooraf ooreenkoms vanaf `n alkohol- en dwelm afhanklikheids-rehabilitasiekliniek in Pretoria ingesamel. Protokolle van die 16 Persoonlikheids Faktor Vraelys (16PF) is beskikbaar gestel aan die navorser en die volgende primêre faktore is in die studie gebruik: Sosialiteit, intelligensie, emosionele stabiliteit, dominansie, entoesiasme, pligsgetrouheid, sosiale avontuurlikheid, emosionele sensitiwiteit en agterdogtigheid.

`n Nie-waarskynlikheidsontwerp met eienskappe van `n kwasi-eksperiment is hoofsaaklik vir die studie gebruik. Faktor analise het sekere korrelasies met ander faktore getoon en dit het ook geblyk dat sekere kombinasies met ander faktore `n rol in die ontstaan en volhou van alkohol afhanklikheid (verwys 5.5) kon speel.

Die hoof bevinding was dat sekere persoonlikheidsfaktore `n belangrike rol gespeel het in substans afhanklikheid en dat dit nie buite rekening gelaat kan word wanneer na die etiologie hiervan gekyk word nie.

Abstract

The aim of this study was to evaluate the correlation of personality traits and dependency in order to learn which traits have more meaning in terms of dependence as explained by the 16 Personality Factor Inventory (16PF).

The study proceeded according to the psychoanalytic theory of Sigmund Freud, who attributed most of life's problems to shortcomings, trauma, conflicts and other experiences in childhood. The oral psychosexual stage of developments was particularly significant in the description of the problem of substance dependence in this study.

The data was collected with prior agreement from an alcohol- and drug rehabilitation clinic in Pretoria. Protocols of the 16 Personality Factor inventory were made available to the researcher and the following primary factors were used in the study: Warmth, intelligence, ego strength, impulsivity, group conformity, boldness, emotional sensitivity and suspiciousness.

The study essentially used a non-probability design with features of a quasi experiment. Factor correlation revealed certain correlations with other factors and it seemed as if certain combinations with other factors could have played a role in the forming and upkeep of alcohol dependency (ref.5.5).

The main finding of the study was that certain personality factors played an important role in substance dependency and should therefore be included in the aetiology.

Chapter 1
Introduction

In this chapter, the reason for doing the particular study is shortly highlighted. By using the 16 Personality Factor Inventory (16PF), the effects of the following factors on dependence, will be briefly investigated: Warmth, intelligence, ego strength, dominance, impulsiveness, group cohesiveness, boldness, tender mindedness and suspiciousness. A statement of the problem, the objectives of the of the study and its rationale will also be indicated. The masculine pronoun has been used throughout the study. This stems from the desire to avoid awkward language and no discrimination, prejudice or bias was intended. Also, throughout this study the abbreviation 16PF was used where referral was made to the 16 Personality Factor Inventory,

1.1 Problem statement

Many reasons have already been given for substance dependency. Biological factors like genetics have been coupled with substance dependency. Just like biological factors, psychological and social factors have also been associated with substance dependency (Maisto & Galizio, 1985).

The focus of this study was about dependency, and more specifically, substance dependency. A measuring instrument, the 16PF was used to measure certain personality factors with the goal of measuring the degree to which these factors are influencing or contributing to dependency.

1.1.1 Alcohol: In history

The most common and most studied substance is ethanol. In the amphitheatre, at Delphi, an interdiction was hammered against the walls and ethanol had been discussed in ancient Egyptian papyrus. The code of Hamurabi (c. 1700 BC) warns against the misuse of alcohol. Still, alcohol did and today still does form a part of man's religion: from the Dionysian uses, the Catholic Mist to the Communion of Holies.

Alcohol was also deeply involved in the secular community activities as well as having been incorporated into many celebratory ceremonies. It was and is an integral part of man's most happy and more intimate moments. In short, alcohol is a part of our lives and us. Alcohol is viewed and discussed here as a prototype of chemical substances. It represents the best example of a better life by way of chemistry (Peyser, 1982).

After years of research into alcoholism and millions of words, we still do not have a clear and sufficient answer pertaining to substance dependency, and still find ourselves posing the same questions repeatedly. Questions such as, "Is there an addictive personality?" and "If there is something like an alcoholic, addictive or dependant personality, then what are its features?", frequently come to mind and unfortunately, there are no clear answers. Cox (1985) says that personality may be antecedents, concomitants or consequences of substance abuse.

Freed (1979) says that whether elements of an alcoholic personality profile do or do not exist, whether or not the evidence supports them and whether or not they are proven, if researchers and clinicians believe that there is such a profile, they will keep striving to find one. He continues to say that the concept of an alcoholic personality is just a framework or baseline, a clinical judgement and a working point of view, by which the clinician evaluates the patient, presently confronting him. It is this baseline or frame of reference that will be explored.

1.2 Objectives of the study

To validate the ideas that lead to this study, test protocols between the months of April and October, which the clinic's management graciously allowed access to were used. The goal was to learn if any relation or commonality among certain personality factors and the different protocols existed. This could then indicate how these factors correlate to each other and contribute to dependency if they correlated at all.

The following 16 primary factors were measured: Warmth, intelligence, ego strength, dominance, impulsiveness, group conformity, boldness, tender mindedness, suspiciousness, imagination, shrewdness, guilt proneness, rebelliousness, self-sufficiency, compulsiveness and free-floating anxiety. The following second order factors were measured: Extraversion, anxiety, cortertia, independence, discretion and control. Performance indexes: Leadership potential, creativity and achievement (academic). Career themes: Enterprising, artistic, investigative, social, conventional, realistic. Scores were given a value out of ten (stens).

Of these factors only the following were used for the purpose of this study: Warmth, intelligence, ego strength, dominance, impulsiveness, group cohesiveness, boldness, tender mindedness and suspiciousness.

A study of this nature would serve the purpose of contributing to the field of psychology and also other schools of thought by:

- Firstly, attempting to learn whether substance dependency and personality factors do correlate, making a person susceptible to substance dependence.
- Secondly, it would give an indication of which factors correlate with each other, revealing possible combinations that could cause problems in terms of coping in society.

The research thus was an attempt to broaden the ideas about substance dependency by using the 16PF and linking personality factors to dependency.

1.3 Research hypothesis

The hypothesis for this research was that certain personality traits, correlate with each other due to certain shortcomings and consequently have an effect on a person's ability to cope in society. Such people are likely to become reliant on substances like alcohol to satisfy their needs or shadow their inability to cope.

To test this hypothesis, a sample of 104 16PF protocols was exposed to analysis.

1.4 Rationale of the study

The idea to do research about *"Dependency-personality traits in substance dependency "* came through contact with a therapist working in a drug and alcohol rehabilitation clinic in Pretoria.

On entering the clinic, all patients complete the 16PF along with other questionnaires. Certain questions came to mind regarding personality factors and dependency, making the researcher wonder about a person's vulnerability to become dependent on substances.

This study is very significant as the like has never been done in South Africa using the 16PF (Personal commentary, R.du Toit, 26/02/2000, Human Science Research Council). The study can thus add to the knowledge about dependency and the factors causing or contributing to it. Whatever the findings, the occupation of Psychology will also benefit as it may contribute to creating a new approach in the treatment of the addict.

If it is found that certain personality factors score very high or low or correlate with each other, it might mean that certain traits make a person susceptible to a life of dependence or will succumb to it. This could tremendously assist the clinic or rehabilitation center in initiating a pro-active approach, a more economically viable proposition, as this method could reduce the number of dependants who relapse.

1.5 Operational definitions

Because this study had to do with addiction, its definition was of importance. According to Jaffe (in Bratter & Forrest 1985,p49-50) addiction can be defined as:

> "A behavioral pattern of compulsive drug use, characterized by overwhelming involvement with the use of a drug and the securing of its supply and a high tendency to relapse after withdrawal".

1.6 Chapter layout

With the problem statement, objectives, rationale and hypothesis of the study in view the layout of the rest of the study follows:

- Chapter 2 will focus on the theoretical background, will integrate this information with the findings of previous research and the theoretical orientation stated.
- Chapter 3 will focus on the methodology and statistical analysis.
- Chapter 4 will report the results.
- Chapter 5 will include the discussion and interpretation of results.
- Lastly the strengths, weaknesses, limitations, feasibility and recommendations will conclude the dissertation in Chapter 6.

Chapter 2.
Literature review

2.1 Introduction

As was mentioned in Chapter 1, many theories exist on substance dependency and many contributions have been made to improve man's knowledge of this phenomenon. Many individuals suffer under the curse of dependency and their families are suffering with them - if they have managed to hold on to them. Indeed much has been done to try and help dependants in need. Clinics have been established and hospitals deal with substance abuse related incidents daily. Support groups have also been formed, frequently by ex-dependants or rehabilitated patients.

All these solutions are post-care solutions. The aim of this study was to explore and possibly add to an extensive collection of academic transcripts that try to explain this phenomenon, ie to prevent rather than cure. In this chapter current as well as previous research on substance dependency and the personality will be viewed.

2.2 Aetiology of alcohol as an abused substance

2.2.1 Physiological studies

There have been many attempts to show that alcoholism develops on the foundation of some inherited or acquired physical disturbance

(Cotton, 1979; Goldman & Linnoila, 1986; Goodwin, Schulsinger, Moller, Hermansen, Winokur & Guze, 1974; Goodwin, 1978; Roe, 1944; Warburton, 1990). Research from the early 1900`s indicated that alcohol and alcoholism have grabbed the attention and interest of many authors. In 1937, Silkworth compared alcoholism to an allergic state, stating that an increasing sensitisation to alcohol after a certain period of drinking, which gradually leads to an allergy-like condition, was perceived in the clinical picture of alcoholism (Goodwin, 1978).

Other researchers have seen the primary causes of alcoholism in metabolic and nutritional deficiencies. One such hypothesis, and probably the most well known, is the theory of Williams in Goodwin (1978), which holds that a specific block leads to an insufficient production of certain enzymes which makes it impossible for the person to utilise certain necessary nutritive elements. The resulting metabolic pattern can then only be kept in balance by a continuous intake of alcohol.

Hoffer and Osmond (in Cotton, 1979) suggested that the basis of alcoholism is an absolute or relative deficiency in adrenocrome metabolism and predicted that substances, which help the synthesis of epinephrine, would be helpful in the treatment of alcoholism. Several authors have proposed endocrine malfunctioning. Goldfarb and Berman (in Cotton, 1979) suggested a connection between alcoholism and a pluri-glandular disorder, while Tintera and Lovell (in Cotton, 1979) postulated a constitutional or acquired state of hypoadrenocortcism in alcoholism. Smith (in Goldman &Linnoila, 1986) shared this view but stressed the importance of disturbed pituitary functions in 1950. Even Bleuler (in Goldman & Linnoila, 1986) held the view that although the majority of alcoholics do not show clinical evidence of endocrine dysfunctions there may exist connections between alcoholism and endocrinopathology.

In 1959 after extensive longitudinal studies, McCord presented some evidence against the nutritional and glandular theories of alcoholism (Warburton, 1990). Other theories emphasised the importance of head injuries (Henderson, Kinberg,; Kraepelin, Martensen-Larsen, in Warburton, 1990) while Lemere (in Warburton, 1990) suggested that alcohol itself causes brain damage, which then could be responsible for the characteristic loss of control over drinking. Charlin (in Warburton, 1990) postulated damage to the vegetative centers in the hypothalamus as a specific aetiology of the periodic forms of alcoholism.

More recent theorists differ in some respect. Denber in Bratter and Forrest (1985) said that drug abuse was an intricate psychological, social, biochemical and possibly, genetic problem. He said that the basic element of abuse was some psychological instability for which chemical substances might represent the so-called "therapeutic agent" needed for self-treatment.

(a) Genetic models

Various researchers reason that alcoholism has a genetic basis (Annoni, Weiner, Colombo, Czaja & Zern, 1990; Cloninger, & Begleiter, 1990; Cotton, 1979; Goldman & Linnoila,1986; Goodwin et al, 1974; Goodwin, 1978; McGue, 1991; Roe, 1944). One of the methods that can be utilised to estimate genetic-aetiological factors is through adoption studies. Various adoption studies indicate that children of alcoholic parents` s chances of becoming alcoholics themselves, are about four times higher than children of non-alcoholic parents (Anthenelli & Schuckit, 1992; Cloninger, Bohman & Sigvardsson, 1981; Cloninger, Sigvardsson, Gilligan, Von Knorring, Reich & Bohman, 1988; Goodwin, Schulsinger, Moller, Hermansen, Winokur & Guze, 1973; Goodwin et al, 1974).

A variety of twin studies indicate that genetic factors influence the development and upkeep of alcoholism (Anthenelli & Schuckit, 1992; Cadoret, Cain & Grove, 1980; Kaij, 1990; Kaplan, Sadock & Grebb, 1991; Kaprio, Koskenvuo, Langinvainio, Romanov, Sanra & Rose, 1987; Littrel, 1991; Louw, 1989).

(b) Biochemical models

Davis and Walsch (1970) as well as Littrell (1991) discussed findings indicating that some people secrete a substance similar to morphine, if they have taken in alcohol. It is reasoned therefore that this can lead to alcoholism.

(c) Tolerance

Plug, Meyer, Louw & Gouws, (1986) describes tolerance as an ability of the body to develop a resistance against certain drugs like alcohol. This has the effect that an ever-increasing dosage of the drug is necessary to have the same effect as the original small dosage. This reaction of the body to alcohol contributes to the development of a physical dependence on alcohol (Littrell, 1991; Tabakoff & Hoffman, 1992).

(d) Alcohol withdrawal

This is a syndrome that can be found with almost 80% of all alcoholics. The syndrome starts within minutes after alcohol intake has seized or been reduced in a person that had been drinking for some days or even longer. The intensity of the symptoms can vary and common signs are: Shaking of the hands, tongue and eyelids, tiredness, autonomic hyperactivity, anxiety, irritability and vomiting.

More serious symptoms are delirium tremens and alcohol- -hallucinocis (Kaplan, Sadock & Grebb, 1991; Littrell, 1991; Louw, 1989; Meyer & Salmon, 1988; Tabakoff & Hoffman, 1992). Alcohol withdrawal can play a role in the upkeep of alcoholism (Lewis, Dana & Blevins, 1994; Rotgers, Keller & Morgenster, 1996), as the alcoholic uses alcohol to prevent or keep away the effects of the syndrome.

(e) Physical dependence

Physical dependence in Bratter & Forrest (1985, p49-50) can be defined as:

> "An altered physiological state produced by the repeated administration of the drug, which necessitates the continued administration of the drug to prevent the appearance of a stereotyped syndrome, the withdrawal of absistance syndrome, characteristic for the particular drug"

Alcohol, like many other substances, causes physical dependency due to the chemical properties and subsequent interaction with the body. Without getting too deep into the neurobiology, which is not relevant for the purpose of this study, it can be mentioned that a change takes place in the gamma-amino-butirinene-acid (GABS) receptor-C1–channels, which has an effect on the development of physical dependency to alcohol (Littrell, 1991). In other words, the person needs to continue taking regular amounts of alcohol in order to avoid the unpleasant and painful physical symptoms, which accompany withdrawal (Kerfort & Butler, 1988).

2.2.2 Cultural causes

Cultural causes indicate a specific group or community's values, beliefs, customs as well as law concerning alcohol and how it influences the presence of alcohol in a particular culture.

Various researchers have indicated that cultural factors play a role in the development and upkeep of alcoholism (Carson, Butcher & Coleman, 1988; Davies, 1980; Johnson & Muffler, 1992; Kaplan, Sadock & Grebb, 1991; Kubicka, Kozeny & Roth, 1990; Leigh, 1985; Levin, 1986; Littrell, 1991; Louw, 1989; Louw, 1993).

2.2.3 Environmental factors

It has been reasoned that environmental factors play a role in the development of alcoholism (Alex, 1988; Bratter & Forrest, 1985; Leigh, 1985; Littrell, 1991; Louw, 1993; Lowinger, 1992). Even though factors extrinsic to the individual such as life events, economic and political situations, can have an influence on the development and upkeep of alcoholism, a person still has a choice. It is therefore not a tight argument stating that environmental factors are to blame.

Other aetiological models of alcoholism as identified by Leigh (1985), includes interpersonal-, intrapersonal-, environmental- and cultural factors.

2.2.4 Interpersonal factors

Interpersonal factors refer to the interaction that exists between two or more individuals and the possible influence of that interaction on the development and/ or upkeep of alcoholism. This interaction between individuals can imply both social and family factors.

2.2.5 Intrapersonal factors.

Intrapersonal factors indicate the role that factors inside the individual play in terms of development and maintenance of alcoholism. Intra-personal theorists also mention cultural, social and environmental factors, but emphasise the role of the individual's inner processing of these outside influences. The focus is thus more on the role that feelings, needs, cognitions and other intrapsychic processes play in the development and maintenance of alcoholism. Psychological dependence may fall under intrapersonal factors. This happens due to the person's experience of a continuous need for stimulation or pleasure, which is obtained from drug use (Kerfort & Butler, 1988).

2.2.6 Social influences

The difference between cultural and social factors lies in the fact that the focus in social influences is on the interaction between people. A good example of this is peer pressure. Various researchers have described how peer pressure can influence the behaviour of a person both positively and negatively (Lindström, 1992; Louw, Gerdes & Meyer, 1985; Washton, 1992; Wicks–Nelson & Israel, 1984).

Especially in adolescents and young adults, peer pressure can play a role in the development of alcohol use and later alcoholism (Leigh, 1985). An individual will yield to peer pressure, by drinking, to be accepted as part of the group. Bandura (1977) also accentuates that behaviour can be a learned in a social setting.

2.2.7 Factors within the family

Bratter and Forrest (1985) and Louw (1989) as well as Miller, Gold, Cocores & Pottash, (1988) reasons that the family systems theory can explain why alcoholism is maintained within the individual. Louw (1989) explains how the spouse of an alcoholic plans her day according to the assumption that her spouse will drink daily. She learns how to adapt to a pattern that has certain advantages. Her husband is now labelled "drinking husband", thus putting him in a specific role or giving him a specific label. She is thereby helping to make the problem worse and more chronic and becoming the co-dependent.

The family is an important part of the context of an alcoholic and to understand an alcoholic it is important to understand him within his context (Dulfano, 1987; Moos, Finney & Cronkite, 1990; Stanton, 1985). By using the cyclic approach to causality, the researchers describe how the alcoholic is influenced by his family and in turn, influences his family again.

2.3 Alcohol and alcoholism

Alcoholism is defined by the Encarta encyclopaedia (Microsoft Encarta 97 Encyclopaedia) as a chronic and usually progressive illness that includes unsuitable and excessive consumption of ethyl alcohol. This includes the consumption thereof in the form of familiar drinks or as an ingredient to another

substance. The perception exists that alcoholism arises from a combination of a wide range of physiological, psychological, social and genetic factors.

It is recognised that emotional and physical dependence on alcohol and frequent ingestion leads to brain damage or premature death. It is also supported in the Diagnostic and statistic manual of mental disorders (1994), as well as in Kaplan, Sadock and Grebb (1994) and Barlow and Durand (1995). Not one specific factor alone can cause the illness because it is a complex entity (Falk & Tang, 1982). The illness itself will take on a life of its own and will follow a set pattern, show certain signs, symptoms and specific results irrespective of the cause or if it is acute or chronic (Gitlow & Peyser, 1982).

Alcoholism develops over a long period of time when alcohol is used as a drug to alter a mood rather than using it as a drink or as an ingredient in food. The alcoholic will gradually develop a higher tolerance against alcohol (Bissel, 1997). The person later starts drinking against his best interests and alcohol becomes more important than personal relationships, work, reputation or physical health. The person loses control over his drinking and physical dependence comes into existence.

Alcohol has a direct poisonous effect on the body (Microsoft Encarta 97 Encyclopaedia) and disadvantages the physical health of the person in many instances. During treatment, the main problem attended to is alcoholism, but the underlying or primary problems related to alcoholism must also be addressed (Hartmann, 1995; Monti, Abrams, Kadden & Cooney, 1989). Attention is turned to physical withdrawal and the treatment also includes individual and group therapy. Becoming dependent on other drugs, especially sedatives, is a big threat for alcoholics.

In a study by Ludwig, Cain, Wilker, Taylor and Bendfeldt (1982), alcoholics reported a probability of relapse associated with the following feelings (percentage indicates how many alcoholics felt that way): Depressed (93%), tense (90%), worried (88%), bad (78%), stressed (77%), and like a failure (72%). The relapses were not reported as much when they were feeling as follows: Successful (35%), happy (30%), good (23%) and relaxed (18%).

Mendelson, Mella and Solomon (1982) talks of the reduction of drinking following the exposure to external stress and Nathan, Zare, Ferneau and Lowenstein (1982) indicate that drinking patterns of alcoholics stay relatively unaltered in an isolated situation, but that this state in turn, increases anxiety and depression. For those with a high tolerance to alcohol, one or two drinks a day are relaxing and serve as a means of socializing. When consumed in greater volumes, it has the same effect as a depressant and alters behaviour, reflexes, self- control and judgment (Adams, 1989).

2.4 The effects of alcoholism

According to Lindström (1992) and Louw (1993), alcoholism produces problems in at least three areas of a person's life. These are problems on the physiological, psychological and social levels of a person's life.

2.4.1 Physiological effects

Among the many physiological problems resulting from the excessive and continual use of alcohol, is damage to the liver. This is one of the most serious effects alcohol has on the organ. Initial alcohol use leads to the accumulation of

fats and proteins that leads to an enlarged liver. The alcoholic is at high risk of developing alcoholic hepatitis, or a state of hepatitic cirrhosis (Kaplan, Sadock & Grebb, 1994).

Gastro-intestinal problems, neurological illnesses, malnurturance, a variety of skin and sleeping problems, and sexual dysfunction can be linked directly to alcoholism and alcohol misuse. Many people sustain physical injury due to recklessness and accidents that are induced by alcohol intoxication (Miller et al, 1988).

2.4.2 Psychological effects

Alcohol, so to speak, takes over the alcoholic's life so that he is constantly thinking of it. He organizes his life in such a way that consumption of alcohol is possible, which in turn leads to a state of being fixated on alcohol. Most things in this individual's life centres on alcohol (Goodwin, 1978). A carelessness develops concerning his environment and he regularly experiences feelings of isolation and loneliness. Contact with other people is regularly shallow or. Apart from the anxiety and panic that a person may experience due to the chemical effect of the drug, the person is also anxious and panicky about the situation that he finds himself in. Indications are that financial trouble, marital disharmonies, family dysfunction and the break-up of families are important features in the background of alcohol abuse and are often the effect of anxiety and stress (Bratter & Forrest, 1985).

During periods of soberness, the individual experiences feelings of guilt, self-remorse and shame (Goodwin, 1978). As the alcoholic loses control, his feelings of low self-esteem increase (Bratter & Forrest, 1985) and others become very aggressive.

Research (Kerfort & Butler, 1988) suggests that many alcoholics have a poor self-image and frequently experience feelings of low self-esteem. This is most evident in those young people who do not discontinue the habit of social drinking after a period of experimentation.

The occurrence of suicide among alcoholics is between 20 to 60 times higher than non–alcoholics (Alex, 1988). He also mentions that alcoholics, committing suicide under the influence of alcohol, often make use of more fatal methods and reasons that it is especially women who commit suicide. Kaplan, Sadock and Grebb (1994) suspects that 15% of all alcoholics eventually commit suicide.

It seems that the continual and excessive misuse of alcohol can change the personality of the alcoholic. Antisocial personality traits often increase and the alcoholic often becomes manipulative, irresponsible and deceitful (Freed, 1979; Miller et al, 1988). He starts to seek more attention, becomes emotionally unstable, self-centered and immature. He takes less and less responsibility for his actions and increasingly makes use of blaming, projection and denial as defence mechanisms.

2.4.3 Social results

The effects of alcoholism very rarely affect the alcoholic himself. Frequently it affects his family and this can be viewed as the most important social influence. Alcoholics disrupt healthy family relations in various ways. According to Bratter and Forest (1985), meaningful communication in the family is lost. Family members become more aggressive and start blaming each other for the situation.

Healthy problem solving communication is frequently lackiing. Alex (1988), mentions that the married relationship of the alcoholic is seriously damaged. Anxiety and stress exist and the relationship is one without any trust. Partners fail to meet each others needs and sexual problems may develop. Feelings of isolation develop and both individuals have trouble experiencing feelings of intimacy in the marriage. The family becomes socially isolated because the spouse of the alcoholic and the children choose not to invite people over to spare themselves the shame.

Alex (1988) indicated that alcoholism could negatively influence the family as a functional system because the spouse of an alcoholic must frequently assume the role of both the father and the mother. Often a child will take over the role of the alcoholic parent. The authority of the parent subsystem is lost as the children cannot look up to the alcoholic parent any longer and see him as a figure of authority or a person to respect. Even the spouse of the alcoholic can later develop certain emotional problems as a result of all the stress and trauma related to the situation in their home. The spouses of alcoholics frequently develop mood disorders or psychosomatic disorders (Moos, Finney and Cronkite, 1990).

Children of alcoholics often have unnecessary feelings of guilt and feelings of insecurity, fear, anger and mistrust are more common in children of alcoholics than in children of non-alcoholics. They further indicate that children of alcoholics have more interpersonal problems and intrapersonal conflict as adults. Role confusion often occurs in these chiildren because they find it difficult to identify with the alcoholic parent. Schoolwork is also affected and academic performance is poorer than average in comparison with other children (Wicks-Nelson & Israel, 1984).

Some children turn to juvenile crime, behavioural problems occur, and according to Wicks-Nelson and Israel, (1984) children of alcoholic parents have trouble expressing their emotions. They further indicate that children of alcoholic parents's visual spatial observational skills are slower than children of non–alcoholic parents. Financial problems are often present, because of over-expenditure on alcoholic beverages (Alex,1988).

The alcoholic often has trouble at work and often fails to accept responsibility. They arrive late for work, are absent, drink during working hours or produce second-rate work. They are often in conflict with colleagues and make use of sick leave regularly.

Continual alcohol misuse can lead to clashes with the law and can also result in an estrangement from religion. In more serious cases, alcoholics lose their job and the support of a spouse as a result of a divorce. The children may reject their alcoholic parent and the individual finds himself in a desperate and substance dependent situation (Alex,1988).

2.5 The theory of substance abuse

As described earlier in this chapter, the drinking of alcoholic beverages for its pleasurable effects is not at all a new practice. Problems with drinking alcohol are very old, with incidents of alcoholism also having been recorded before the birth of Christ (Alex,1988). Various theories were formed on just what alcoholism is. In the 19th and early 20th centuries, the concept of alcoholism was seen as a disease and it was suggested that hospitals were established especially for the physical treatment of alcoholics. It was only in a 1908 and 1954 article (Alex, 1988) that it was attempted to relate alcoholism to psychological difficulties. In these it was advocated that alcohol problems are interrelated with sexual difficulties.

Much later psychiatrists utilised psychoanalytical theory in an attempt to understand the aetiology of alcoholism and the techniques of psychoanalysis to treat their alcoholic patients.

Psychoanalysts published case studies of their patients (Chassel, Knight, in Freed, 1991; Leeds & Morgenstern, 1996) and the psychoanalytical view became the dominant professional view to account for the aetiology of alcoholism.

Personality plays a vital role in the aetiology: alcoholism is said to be caused by pre-morbid personality disturbances and alcoholics must undergo fundamental changes in their character for successful treatment to occur (Alex, 1988). Alcoholics in Alcoholics Anonymous maintain that they must undergo a fundamental change in both their personality and lifestyle in order to hold their disease in remission.

The concept of the "alcoholic personality" was introduced during the 1940`s (Landis, Seliger & Rosenberg in Freed, 1991) and was presumed to be a unique constellation of personality characteristics that distinguished alcoholics from other individuals even before alcoholism has started. A variety of personality tests were administered to alcoholics in order to identify what these characteristics were, but the attempts to specify the nature of an alcoholic personality proved unsuccessful (Armstrong, Bowman & Jellinek, Seliger & Rosenberg, Sutherland, Schroeder & Tordella, Syne in Freed, 1991).

Many theories exist but for the purpose of this research, only personality theories are discussed. Others however include ideas such as: The tension reduction theory, interactionism, and social learning theory. These are known as the so-called traditional approaches. More recent theoretical models include the expectancy model, stress response dampening, self-awareness, and self-handicapping and opponent process theory. Each area has a unique focus and has important contributions to the field of drinking and alcoholism.

The traditional approaches, specifically psychoanalytical theory, which forms the basis for the research, will be discussed in more detail.

2.5.1 Dependency theories

Dependency according to psychoanalytical writers is viewed as one of several prominent personality characteristics stemming from fixation at the oral stage of psychosexual development. The major views on how the dependency of alcoholics manifest itself have been expressed by McCord and McCord (in Freed, 1991).

They view male alcoholics as having intense needs to be dependent on other people but equally strong needs to be independent of them. Their need to be dependent is inferred from alcoholics `s tendency to seek care and nurturing from other people, a need that most likely arose from the frustration of oral needs during early childhood. The need to be independent is understood from the male alcoholic `s masculine and aggressive personality characteristics. This is a role that is prescribed by many societies. Heavy drinking is then clearly a masculine activity, but while they are intoxicated and incapacitated by alcohol, male alcoholics can allow themselves to indulge their dependency needs without suffering the strictures of society for having done so. They thus can be sentimental and close to other people but at the same time can attribute these behaviours to alcohol rather than their own motives.

Blane (in Freed, 1991) has argued that the male alcoholic `s strong dependency needs can manifest themselves in several different ways:

1. Openly dependent alcoholics are openly dependent on other people and their primary style of interacting with people is to seek their care and protection.
2. Counter – dependent male alcoholics diligently avoid any conscious display of dependency, despite having intense unconscious needs to be dependent on people. Instead they display the exact opposite of their real needs: assertiveness, independence and masculinity.
3. Lastly, dependent – independent male alcoholics fluctuate between extreme dependence and independence, in differing circumstances.

According to this view, dependency manifests itself in uncovered or open behaviour that is in opposition to the persons underlying motives.

2.5.2 Tension reduction theory

Tension was a characteristic that was commonly specified in the attempts to identify alcoholic personalities. According to psychoanalysis, alcoholics have high levels of tension or anxiety that stem from their oral frustrations and dependency conflicts (Alex, 1988). By drinking they are attempting to reduce this tension.

The view that tension produced by dependency conflicts was the primary motivation for excessive alcohol consumption, was supported by cross - cultural studies (Warburton, 1990).

These studies found that the degree to which a society fostered dependency conflicts was correlated with the frequency of drunkenness in that society. The effect of alcohol on resolving conflict was tested on laboratory animals during the 1940s and 1950s (Conger, Masserman & Yum in Warburton, 1990). These experiments found that animals which were placed in approach – avoidance conflict situations and were administered alcohol, more readily approached the goal than before the administration of alcohol. It was presumed the alcohol alleviated their tension. These experiments were thus interpreted as providing empirical support for this theory of alcoholism. Alcohol reduces tension and organisms drink alcohol in order to reduce their tension.

As more experimental research on alcohol and alcoholism occurred, the quality of research drastically improved and the results of the research caused strong dissatisfaction with traditional explanations of alcoholism. One of the theories that was born out of this new method of assessing alcoholics was the power theory.

2.5.3 Power theory

Founder McClelland (in Warburton, 1990) summarized in a book, *The Drinking Man: A Theory of Human Motivation,* the major findings of the research. The group observed that heavy male drinkers were often independent, aggressive and masculine. They did not see these characteristics as reactions against unconscious, unacceptable needs to be nurtured and cared for. Instead they viewed this as a need for power.

Using the Thematic Apperception Test, they recorded that respondents reported fantasies about personalised power or self-aggrandising control over other people that was often sexual or aggressive in nature (Warburton, 1990). They found that if the consumption of alcohol increased their fantasies also showed an increase.

2.5.4 Theory of womanliness

Although McClelland `s theory was based on male subjects, he felt that the findings would be applicable to both male and female subjects. Wilsnack (in Warburton, 1990) wanted to determine whether or not McClelland `s findings were applicable to women; in other words, whether women have a need for power that alcohol allows them to satisfy. His method of assessment was similar to that of McClelland `s (in Warburton, 1990): using the Thematic Apperception Test and doing pre tests and pro tests. The results were quite different from that of their male counterparts.

Drinking decreased the frequency of women `s fantasies about engaging in traditionally masculine activities and increased the frequency of fantasies of engaging in traditionally feminine activities. He concluded that drinking causes women to feel more feminine.

He however found that alcoholic women have increasing doubts in their adequacy as women. Thus it seems women who develop problems with alcohol have strong unmet needs to feel feminine and they appear to be motivated to drink to acquire that feeling of womanliness that they feel when they are under the influence.

Although this and the previous theory are quite different from the traditional approaches, it provides an example among several new attempts to identify personality factors and life experiences underlying alcohol use and abuse.

The next theory forms the theoretical foundation of the research. It is the psychoanalytical theory of Sigmund Freud.

2.5.5 Psychoanalysis

The key figure in psychoanalysis was without a doubt the most well known name in psychology, Sigmund Freud. He lived to the age of 83, was born in 1865 and died in 1939.

In his early career, Freud was a neurologist and had an ingenious mind, which may have been the reason why he went on to explore why people are the way they are.

When he started theorising about psychology, he not only reached fame in this field so that his name became a pseudonym for psychology, but he also had some other remarkable achievements. Before he turned forty, as a neurologist, he invented the gold chloride method of staining nervous tissue, he was among the first to discover the use of cocaine as a local anaesthetic, he published a book on aphasia and coined the term 'Agnosia' (the inability to recognise and interpret the significance of sensory impressions). As if this was not enough he also became one of the worlds leading authorities on childhood paralysis (Champion & Power, 1992).

Bearing this in mind, it becomes clear that Victorian Europe was not quite ready for what he had to offer, often attracting criticism for his open discussions of infantile sexuality and always presents sexual motives as well as for his radical methods of treatment.

This was especially so from other physicians, and even today, many psychologists still criticise his therapy as lengthy and his work as being fixated on sexuality and that his findings were based on a relatively small patient population. However, year after year, undergraduates are fascinated with his theories, usually only in their first year of contact however, as after his initial period of discovery the reaction is one of dismay at having to study the theory of Sigmund Freud again for exam purposes. There are however, the learned few who later, after further studies and reading become intrigued by his theory which in actual fact was not about sexuality but rather control (Wittels, 1924). To understand the basic concepts underlying psychoanalysis, an outline of the following will be provided; the unconscious, the structural model, psychic energy, repression, developmental stages, transference and counter transference.

Some of the defences as outlined by Freud will be highlighted as well. These are not all the concepts of the theory of Freud, but significant in terms of this study.

(a) The Unconscious

As you will note in the heading, unconscious is spelled with a capital letter. It is believed that very often the importance and impact of the unconscious mind in our lives is underestimated and undermined. Further it is believed that Freud himself also thought along these lines as becomes clear in his description of the unconscious. Freud did not simply see the unconscious as an inactive storehouse of past memories, but rather as a system of wishes, fantasies, impulses and memories that actively influence our thoughts, actions, symptoms, dreams, failures, accidents and emotions (Champion & Power, 1992; Mayer & Sutton, 1996).

Freud began to develop his ideas about the unconscious mind during the time that he spent in Paris, while observing Jean-Martin Charcot`s work with hypnosis. He suggested that the unconscious was derived from inborn drives of which we could never become aware. In turn, it would repress material, which was of an unpleasant nature. The unconscious so to speak serves as a 'filter', protecting us against potentially disturbing material.

Freud did not only recognise the unconscious but distinguished it from the conscious and the pre-conscious (Burger, 1993; Kaplan, Sadock & Grebb, 1994; Maddi, 1996; Mayer & Sutton, 1996). This division is known as the *topographic model*. The conscious was described as containing those thoughts that the person is aware of at a specific moment.

This content changes constantly as new thoughts cross the mind and others pass out of awareness.

This *conscious* mind only deals with a fraction of the bits of information stored in the mind. There are also many, many, thoughts that you could bring into consciousness fairly easily when needed or when desired to. This 'body' of information can be seen as a library that you can access whenever you require the information. The important factor here is that this information is retrievable and comprises the *preconscious*.

In terms of who a person is and what he consists of, Freud reckoned that conscious and pre-conscious, although containing a staggering amount of material, was only the tip of the iceberg (Mayer & Sutton, 1996). Although the unconscious material is responsible for most of our behaviour throughout the day, this material cannot be brought into consciousness except under extreme situations.

(b) The structural model

This model simply refers to the structure of the personality according to Freud. With his topographic model he discovered that he was limited in terms of the ability to describe the structure of human personality.

This model further divides personality into the *id,* the *ego* and the *superego*. Freud conceived the personality as made up of parts, often not at peace with each other. At birth, he reasoned, there is but one personality structure, the *id*. This structure is based on the pleasure principle - immediate personal satisfaction and gratification.

Once the id obtains the sought-after gratification, it discharges the built - up energy, reducing the personality's internal tension and attaining a calm state. Freud says that this reflexive action (Mayer & Sutton, 1996) does not disappear when we become adults, but is still present and held in check by other parts of a healthy adult personality. The id has two ways of obtaining this gratification and returning personality to its calm state: reflex actions and primary process thinking (Mayer & Sutton, 1996). Reflex actions are inborn reflexes such as sneezing and coughing. Primary process thinking is what Freud was interested in and this study too. This other process is more complex and is explained by finding an object or experiencing an event that would satisfy the biological longing.

When you are hungry, you might imagine yourself a nice plate of tasty but fatty and "unhealthy" food, or when thirsty, you might imagine yourself a tall glass of soda or even an ice-cold glass of beer. This gives some dimension to the phenomena of physical dependency.

When an alcoholic is thirsty, he imagines himself a tall glass of an alcoholic substance, which to him has become the representation of something to drink, because something to drink takes away thirst. This can impact quite heavily on relapse and commitment to not relapsing.

The *ego* is supposed to come to the rescue because primary process thinking is not adaptive in the long run. Since the id is only in touch with the internal world, it has no other way to gratify its biological longings. It is a disparity between the functioning of the id and the realistic needs of the individual that brings the ego into existence. The egos` task is to negotiate more effective means of need gratification.

The development of the ego happens very early in life and according to Freud, the ego never takes on aims of its own, it remains id` s ' representative' to reality. He also describes the ego as a rider who sometimes guides a horse where it wants to go in order not to lose the horse (Mayer & Sutton, 1996). The ego is thus always a reactive rather than proactive system. The origin of behaviour is within the libidinal urges of the id, but the final shape behaviour takes in reality is credited to ego.

Whereas the id functions according to the principle of primary process thinking or wishful thinking, the ego operates according to the reality principle, postponing need for gratification until an appropriate object is located in reality.

Ego becomes the seat of reason and common sense, organising and planning personality` s actions to bring about the greatest amount of gratification, with the least expenditure of physical energy. According to Freud, without the ego, the battle for a stable personality can be lost.

There is another force acting on the ego. This force is called the *super ego*. It complicates dynamics by undermining ego `s reasonable and responsible efforts. The super ego can be described as the vessel of parental and social values, the higher-minded side of human nature. It reflects the moral codes, prohibitions, and ideals of society and it generates moral and/or ethical standards for our behaviour. Freud described two structures within this structure: the conscience and the ego ideal.

We experience shame or a feeling of guilt caused by the conscience. The ego ideal rewards us when we engage in activities that are socially acceptable.

(c) Defence mechanisms

How do we keep the unconscious thoughts and impulses out of our awareness? Themes best kept in the unconscious are those relating to hatred of one `s parents, aggression towards one `s spouse, incestuous thoughts and memories of traumatic childhood experiences to name but a few. By keeping this material in the unconscious, the ego is attempting to reduce or avoid anxiety. Anxiety is an unpleasant emotional experience similar but not identical to feelings of nervousness, worry, agitation, or panic (Mayer & Sutton, 1996). A term Freud coined *neurotic anxiety* refers to the vague feeling of anxiety when some unconscious thoughts are about to express themselves into consciousness. The way that the ego deals with this provocative material is to keep it unconscious through the use of defence mechanisms. Some of the primary defence mechanisms are the following:

- Repression is an active effort by the ego to push threatening material out of consciousness or to keep such material from ever reaching consciousness. Repressing a large number of powerful thoughts and impulses leaves our ego with little remaining energy with which to function.

- Sublimation is the channelling of threatening unconsciousness impulses into socially acceptable actions. According to Freud, this is the most successful defence. Unlike repression, the more we sublimate, the more productive we become.

- Displacement involves channelling our impulses to a non-threatening object.

- Denial is used when we simply refuse to believe that certain facts exist. It is

not the same as when we say that it is not true; with denial we truly believe that something is not true, despite all evidence to the contrary.

- Reaction formation is one of the most interesting defences described by Freud. The person attempts to hide from the urge by acting in a manner opposite to his unconscious desires.

- Intellectualisation is one way for the ego to handle threatening material. This means removing the emotional context from the idea. By examining the idea in a strictly intellectual, unemotional manner, we can bring some thoughts into consciousness or allow them to remain in consciousness without anxiety.

- Projection enables us to attribute unconscious impulses to other people instead of to ourselves. By doing this we free ourselves from the perception that we are the one who actually holds this thought.

Although the use of defences is to keep anxiety- provoking material out of our awareness, the use of too many, with the exception of sublimation, can result in tying up much of the ego `s energy and sometimes in losing touch with reality.

(d) Psychosexual stages of development

Freud is normally credited with the concept of developmental sexual stages. According to him the child passes through these stages, as he grows older. These stages follow on from each other and are referred to as the oral, anal, phallic, latent and genital phases. The main sources of pleasure in the oral, anal and phallic stages are the mouth, the anus and the genitals respectively.

Because the chief identifying characteristic of each stage concerns primary erogenous zones and sexual desires, and because each has an influence on the adult personality, they have been labelled the psychosexual stages of development. The importance of the stages lies in the concept of fixation. In his view, Freud saw the child as progressing through each of the stages and leaving behind a small amount of libido (psychic energy that the personality functions on) that has been utilised in resolving relevant crises during that stage. Most people leave behind just enough of this energy to still be able to operate later, in adult personality. It may happen though that a child experiences a traumatic experience of some kind or an excessive amount of gratification at one of the stages.

This results in the tying up or fixating of large amount of libido. Consequently the adult expresses characteristics reminiscent of the earlier stage at which the energy is fixated. Freud proposed that fixation could occur at different stages of development, which can either be apparent as personality traits or revealed at times of stress.

(i) The Oral stage

This is the first stage that a child goes through and lasts until about the 18^{th} month. In this stage, the primary erogenous zones are the mouth, lips and the tongue. Traumatic experiences during this stage may result in fixation of psychic energy and the development of oral personality characteristics. An adult who has fixated during the oral stage might continue to indulge oral needs by taking in too much food, that might be by overeating or over-indulging in alcohol or drinking.

It is, however not only by over-indulging in food that an infantile need for oral gratification is expressed, alternatively this person might derive gratification from symbolic forms of "nourishment", such as acquiring knowledge or possessions, chewing gum or pencils. Some people, who could probably be diagnosed with an oral personality within the Freudian system, can be those people who smoke, drink excessively or who constantly put their hand or some other objects to their mouth. Apart from this trait, Freud also attributed dependency as a character trait during the oral period. If the oral stage is not successfully completed or if the person feels threatened later in life, a feeling of dependency, perhaps in the form of an unwillingness or inability to carry or take adult responsibility, will emerge.

During the first few month of the oral stage, the baby derives oral gratification primarily through the instinctive reflexes of sucking and swallowing which stimulates the oral cavity. The parents must maintain a balance between over and under gratification by neither over feeding nor underfeeding the baby. As physical maturation sets in, when the baby gets teeth and starts biting and chewing, parents should encourage sufficient biting and chewing to satisfy the biological urges without over-indulging the child.

(ii) Anal Stage

This stage of psychosexual development starts around the 18th month and lasts until around 3 years. During this stage of life the erogenous zone becomes the anal region. It is during this stage that 'potty' training takes place and traumatic training can thus lead to a so - called anal personality.

The child takes pleasure from accumulating faeces in the bowel up to a point where he lets go and receives gratification. Freud described two types of characters during this stage, namely the anal -retentive and the anal *expulsive character*.

The *anal-retensive character* can develop when parents are strict in their methods and rigid in their expectations for cleanliness and the child consequently responds by holding back the faeces. In adulthood such characters may develop into behavioural- and affective with-holding and perfectionism.

On the other hand a child may respond to this strictness and insistence on cleanliness by embarrassing them with so-called 'accidents' throughout the toddler years.

Such a person in adulthood may be aggressive and lash out towards others either verbally or physically or he may live comfortably in dirt and disorder. This is characteristic of the *anal-expulsive* character.

(iii) Phallic stage

The stage following the anal stage is the phallic stage. This stage is between the ages of three to six years and the most erogenous zone becomes the penis or the clitoris. This, according to Freud, is the most important stage in all the developmental stages. It is during the last part of this stage that the child goes through the famous Oedipus complex, a phenomena where the child develops an attraction to the opposite - sex parent. There is also a particular amount of fear in this situation.

Boys develop a fear that their fathers will discover their thoughts and cut off his penis. This is known as *castration anxiety*. Girls, it is also said, develop a desire to have a penis coupled with feelings of inferiority and jealousy because of its absence. This phenomenon is called *penis envy*. During this stage, with the resolution of penis envy and castration anxiety, the child begins to identify with the same - sex parent and the development of the superego starts. The child adopts the values of the parent in the form of the superego.

(iv) Latency stage

As soon as the Oedipus complex is resolved the child enters the latency stage. Sexual drives begin to diminish and they start to have same sex relationships and identification with figures of popular culture such as film stars, athletes and pop singers.

This stage has also been referred to as the homosexual stage and lasts until the onset of puberty.

(v) Genital stage

Once the child reaches puberty, his sexual interest is re-awakened and his own body as source of pleasure gives way to an interest in other people for sexual gratification. This stage is called the genital stage of psychosexual development. If the libido has progressed to this stage without leaving large amounts behind in the different stages, normal heterosexual functioning is possible.

Classical psychoanalysis holds that the aetiology of alcoholism can be found in unresolved, unconscious conflicts that originated during early childhood. This is seen as one of the major themes of classical psychoanalysis. Although alcoholics are most commonly seen as having some form of fixation at the oral stage, they have also been seen as fixated at, or regressed to, any of the three pre-genital psychosexual stages of development, namely: oral, anal and phallic. Oral fixation of alcoholics is understood from several personality characteristics that have been observed among adult alcoholics. These characteristics are dependency, immaturity, a low tolerance for frustration and an inability to delay gratification. The alcoholic showing these characteristics is similar to a young child who most likely has experienced severe frustrations during the oral stage of development. These frustrations lead such a person to seek gratification throughout his life in an immature way.

Taking in alcohol, according to this view, is one way of achieving the pleasure that persons who are fixated in the oral stage are seeking. Imbibing the alcohol not only is orally stimulating, but almost always provides the person with an immediate feeling of psychological well-being. As in the case with alcoholics, taking in large quantities of alcohol is usually accompanied with various adverse consequences. The excessive drinking is an immature way of achieving oral gratification and control.

A second theme among psychoanalytical writers, although a less prominent thought, is that male alcoholics are characterised by homoeroticism. This is assumed often to be latent or not directly observable (Mayer & Sutton, 1996).

It is presumed to have originated when the male child, frustrated by his mother during the oral stage of psychosexual development, develops an emotional attachment for his father. The evidence that theorists offer for alcoholics being homoerotic is indistinct. It has been pointed out (Freed,1991) that the psychoanalysis of homosexuality is unclear and has variously been described as a difficulty to adjust to a stable heterosexual relationship, feminine identification and interests, a strong mother attachment, an adolescent - like seeking out of male companionship, passivity, overt homosexual experience, misogyny or a desire to form one` s closest interpersonal ties with men.

Many men do in fact have sexual difficulties, in spite of the lack of clarity of a definition of homoeroticism. Some of these also include problems with their sexual orientation. Others include those related to gender roles, sexual abuse and sexual dysfunction.

A third theme or interpretation of alcoholism is the following. Because of oral frustration during infancy, young children become enraged at their parents and since they cannot express their hostile impulses to their more powerful parents immediately, the impulses become self-directed. According to Menninger (in Mayer & Sutton, 1996), alcohol serves two functions: it allows alcoholics to satisfy both their oral cravings and self-destructive tendencies.

The theory that has just been discussed will be used as a point of reference throughout this work not only because it is the theoretical foundation of this study, but also in the opinion of the researcher, simply is the best way to describe alcohol abuse.

2.6 The 16PF in personality assessment

Personality assessment focuses on the concepts central to general personality theory, whether in a clinical, industrial or educational context. The 16PF is one of the most frequently used personality inventories (Van Eeden & Prinsloo, 1997), consistently ranked among the most recommended (Piotrowsky & Keller, 1988) and according to Cattell, Eber and Tatsuoka (1970) is based firmly on sound research.

The inventory is suitable for people no younger than 16 years of age and has been used successfully with persons older than 70 years of age (Shuerger, 1992).

Cattell developed the 16 PF in order to define and measure the components of human personality (Graham & Lilly, 1984). Cattell inter-correlated 171 items to end up with 36 clustered dimensions that he labelled as surface traits. Factor analyses of these ratings identified 16 factors that accounted for intercorrelations among variables, and these were called primary factors. The resulting scales were refined through subsequent factor analyses (Graham & Lilly, 1984). In this study only primary factors were utilised but second order factors have also been used in studies. One example of such research was a study on "Personality traits of a group of young adults from different family structures" (Du Toit & Nel, 1992) using only second order factors.

The factors of the 16PF have been widely researched cross-culturally. Tsujioka and Cattell (1965) represented results showing that similar primary first order factors were found in the United States, France, Germany, England, Japan and Italy.

Cattell and Warburton (1961) presented results showing second order stability across British and American subjects. Cattell and Nicholas (1972) derived an eight-factor higher order structure of the 16 PF using data from the United States, Germany, Venezuela, New Zealand and Brazil. Zak (1976) reproduced the primary factor structure for 15 factors in Israel. Cattell, Danko, Catell and Raymond (1984) found in Hawaii a primary structure similar to that found in the mainland United States. These studies all tend to indicate cross-cultural stability of the lower and higher structures of the 16PF.

Many other researchers tried to prove the contrary, that the results are not replicable (Bolton, 1978; Comrey, 1970; Edwards, 1967; Gynther & Gynther, 1976; Levonian, 1961; Nowakowska, 1974) and Golden (1978) found that European versus Japanese factor structures of subjects were found to be significantly different.

Even though Piotrowsky and Keller (1988) as well as Van Eeden and Prinsloo (1997) rank the inventory very high, criticism thereof and its applicability continues (Abrahams, 1999) and probably will in the future as new developments are made in the field of personality measurement.

2.7 Conclusion

Alcohol abuse (and other substances) is nothing new and has been causing individual-, social-, emotional-, familial- and financial distress for decades, because of its adverse physiological and psychological effects.

Many explanations also exist for alcoholism, but in spite of them, it is a continuing illness which leaves its` victims behind to live in what can be described as tragic and desperate circumstances. The psychoanalytic theory of Freud was the focus of the theoretical discussion and also forms the principle foundation for this study.

With the theoretical knowledge as a base in mind, the next chapter will focus on the methodology and research design.

Chapter 3
Methodology

3.1 Introduction

The question of why people get hooked on a certain substance, what the correlation between substance dependency and 'dependant' personality is and to test the theory that certain personality factors had a role to play in creating a 'dependant' character, was calling for research. Access was awarded to patient files at a drug and alcohol rehabilitation clinic and data was recorded. This data included protocols from a test called the 16 Personality Factor Inventory (16PF). This next section covers the 'who', 'where' and 'what' of this whole process.

3.2 Research design

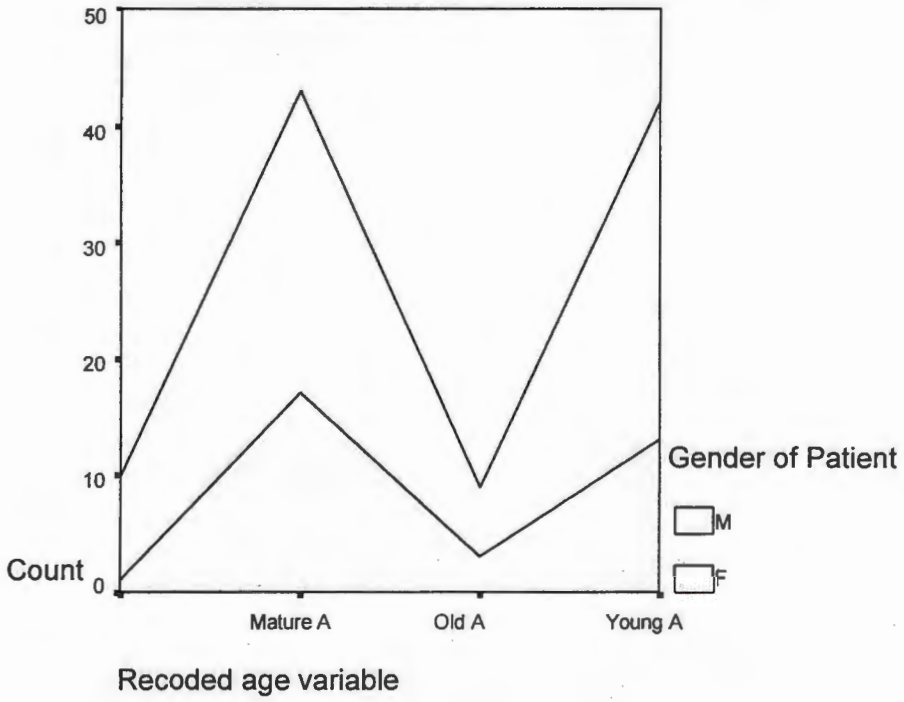
The study essentially used a non-probability research design with features of a quasi-experiment (Neuman, 1997). This research design approximates experimental-designs but lacks the random assignment of selected sample to experimental- and control conditions (Dane, 1990; Miller, 1979). The question was whether the independent variable was an indicator of whatever the real cause may be.

3.3 Participants

The sample consisted of 104 inpatients of a rehabilitation clinic for substance dependants in Pretoria. This convenient sample comprised all the patients at the time of interviews undertaken by clinic staff.

These participants consisted of both male (M: n=70) and female (F: n=34) patients ranging between the ages of 19 and 65 with most respondents being in their forties. A summary of gender and age is represented in figure 3.1 below. The abbreviation A was consequently used for adult e.g. Mature A

Figure 3.1 Gender and age groups of respondents

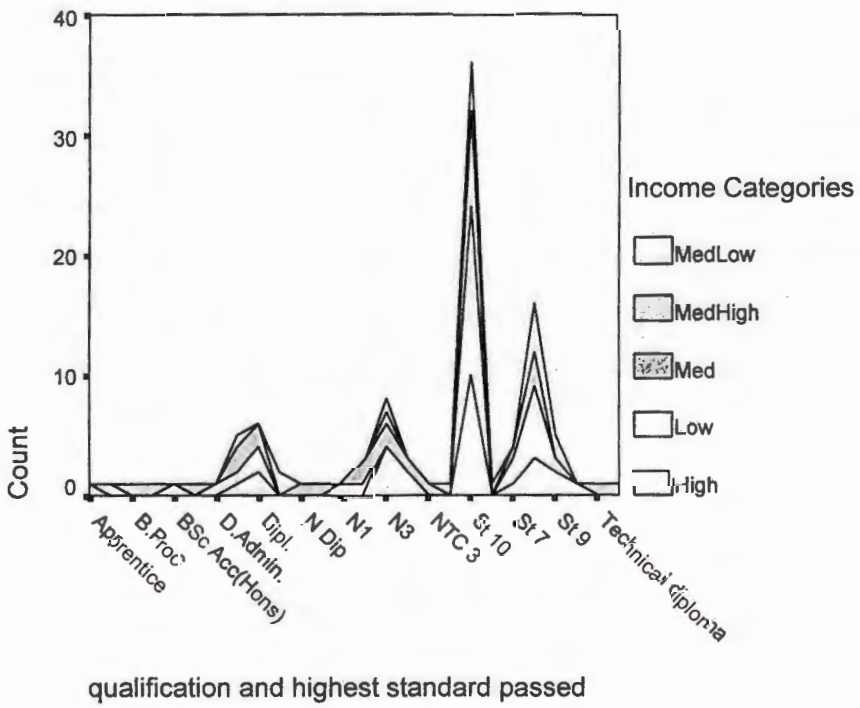


The monthly income of the respondents ranged between R702-00 and R12000-00 and the respondents were engaged in occupations ranging from apprentices to pensioners and from tradesmen to professional persons. Consequently the level of education of respondents was very divergent.

The graph (figure 3.2) below represents the qualifications and incomes of respondents. Income has been categorized according to the categories for taxable income for individuals and special trusts as identified by the South African Revenue Service (South African Revenue Service tax pocket guide: 2000-2001).

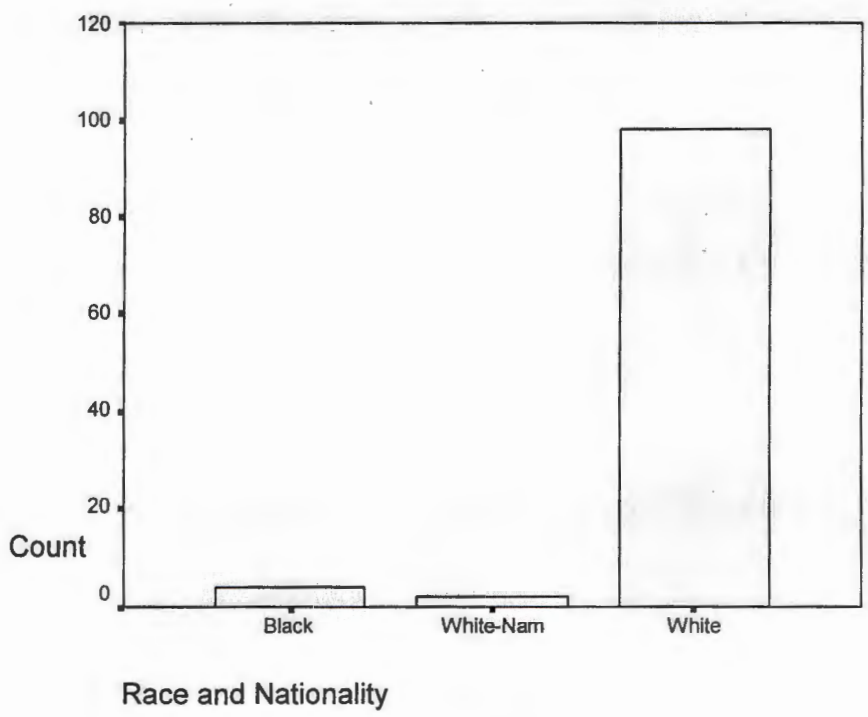
Categories have been renamed and have the following values: Low: R0-R35 000; MedLow (medium low): R35 001-R45 000; Med (medium): R45 001-R60 000; MedHigh (medium high): R60 001-R70 000; High: R70 001-R200 000. These figures refer to taxable income per annum (South African Revenue Service tax pocket guide: 2000-2001).

Figure 3.2 Qualifications and incomes of respondents



With regard to marital status, the majority of respondents (almost 60%) were married as compared to almost 23% who were divorced and 16% single.

Figure 3.3 Race and nationality



In terms of racial classification, there were 98 white South African patients, four black South Africans and two white Namibian (White-Nam) residents seeking treatment in the clinic as figure 3.3 above indicates.

When one looks at the distribution of home language, it is clear that the majority of patients are Afrikaans speaking. This may arise from the physical location of the clinic as it is situated in a predominantly Afrikaans speaking area. As table 3.1 indicates, 91 were Afrikaans speaking patients, almost 92% of the sample, while only 9 were English speaking and 2 patients speaking Xhosa and Tswana respectively.

Table 3.1 Home languages of respondents as recorded during admission

LANGUAGE	NUMBER OF RESPONDENTS
Afrikaans	91
English	9
Tswana	2
Xhosa	2
Total number of respondents (n=)	104

On entering the clinic, patients completed among other things the 16PF. After careful consideration, the executive committee of the clinic made these protocols available for the purpose of the research.

3.4 Measuring Instruments

The data for the research was gathered through the use of the 16PF. Taking effect in April 1999, the test was administered to each first-time patient entering the clinic.

The 16PF is a questionnaire designed to measure normal dimensions of personality (Karson & O`Dell, 1976). It was designed by Catell in 1949 under copyright of the Institute for Personality and Ability Testing (IPAT) and published for the first time in 1949. Since then the test has expanded into five different parallel versions, namely A, B, C, D and E.

Forms A and B each have 187 items and is meant for adults with a formal comprehension level of at least standard 10 (grade 12) or equal qualification. Forms C and D each consist of 105 items and are suitable for certain uses in industrial settings because of the simplified wording and fewer items. The E-Form consists of 128 items and the language and vocabulary is simplified to make it suitable for usage by adults with a formal educational level of between standard four (grade 6) and standard nine (grade 11) (Prinsloo, 1996). These forms came about through advances in reliability and validity, but nevertheless have retained the essential format of the original (Cattell, Ebber & Tatsouka, 1970).

The questionnaire consists of certain scales. It provides 16 basic scores or factors for adults. These factors are warmth, intelligence, ego strength, dominance, impulsiveness, group-cohesiveness, boldness, tender mindedness, suspiciousness, imagination, shrewdness, guilt proneness, rebelliousness, self-sufficiency, compulsiveness and free-floating anxiety (Catell, Ebber & Tatsouka, 1970). The following scales were used: Warmth, intelligence, ego strength, dominance, impulsiveness, group cohesiveness, boldness, tender mindedness and suspiciousness.

Each of these nine factors was used in terms of their scores for testing the hypothesis. Factors were valued when either low or high scores were recorded. A high score was defined as ranging from 8 to 10 and a low score as ranging from 0 to 3 (Catell, Ebber & Tatsouka, 1970).

Factors of the 16PF are arranged in order of contribution to the amount of variance or importance that they carry. As one progresses to the factors at the end, they carry less and less variance or information to the study of personality (Karson & O`Dell, 1976).

3.4.1 Validity of the scales

According to Cattell (Catell, Ebber & Tatsouka, 1970) validity can only be estimated from a very thorough and comprehensive factor analysis. He continues to say that the 16PF construction and validation has developed from a carefully planned converging series of factor analyses. The values for factors of Form A and Form B are represented in table 3.2 below (Catell, Ebber & Tatsouka, 1970).

Table 3.2 Analytic statement of direct validities for form A and form B for each of the nine factor scale

Form	A	B	C	E	F	G	H	I	L
A	79	35	70	63	83	67	92	70	49
B	78	44	66	64	79	69	87	75	63

Note: Values for Forms A and B (1967-68 edition) are based on an N of 958. Decimal points have been omitted.

3.4.2 The scales of the 16PF

(a) Factor A: Warmth

People high on factor A are probably easy-going, adaptable (in habits), warm-hearted, attentive to people, frank, emotional, expressive, trustful, impulsive, generous and co-operative. These people would be easy to have as a friend.

On the other hand, people with a low score in A are said to be obstructive, cantankerous, inflexible, rigid, cool, indifferent, close-mouthed, secretive, anxious, reserved, dry and impassive.

According to Cattell (Karson & O`Dell, 1976) not such a pleasant person to have as a friend. Someone high-scoring on Factor A may be considered emotionally labile, while someone low on this factor probably demonstrates little affect. Someone with a very high A can turn out to be very demanding in their interpersonal relations, since they frequently require much time and attention from others in order to gratify their own intense dependency needs. On the other hand, someone with a very low A, is a person who is extremely reserved and detached and might be facing far more serious adjustment problems than the A+ person. The latter applies only for either very high- or very low scores.

(b) Factor B: Intelligence

This factor was included in the 16 PF because of its importance in understanding many aspects of human functioning, although it was not technically a personality trait. The item is thus included not to add personality information as such, but to add to data on the range of source traits important in most predictions (Cattell, Eber & Tatsouka, 1970). The items for this factor are hard and not indicative of the person's real intellectual abilities. In the general population, only 2.3% of the people get 12 or more right out of the 13 items in Form A (Karson & O`Dell, 1976). Scale B then is frequently useful in making discriminations needed in the interpretation of the other personality factors, but a definitive conclusion would necessitate knowledge of the person's Intelligent Co-efficient (I.Q.). Such could be found from a good individual intelligence test, such as the Wechsler Adult Intelligence Scale (WAIS).

(c) Factor C: Ego Strength

The C factor measures ego strength or lack of neuroticism (Karson & O`Dell, 1976), and is also one of dynamic integration and maturity as opposed to uncontrolled, disorganized, general emotionalism (Cattell, Eber & Tatsouka, 1970). Someone low on C says that he lacks energy, has unreasonable fears, has trouble sleeping and shows a certain resentment of others, which is probably unjustified. They are also affected by feelings, are emotionally less stable, easily upset and inconsistent. He is readily annoyed by things and people, is dissatisfied with the world situation, his family, the restrictions of his life, and his own health, and he feels unable to cope in general. He shows generalised neurotic responses in the form of phobias, psychosomatic disturbances, sleep disturbances and hysterical and obsessional behaviour (Cattell, Eber & Tatsouka, 1970). A person with low ego strength may be expected to have difficulty in adjusting to life on many fronts.

Individuals scoring high on C more often than not, are leaders as opposed to those with a low score on C. Cattell (in Karson & O`Dell, 1957) notes that a person high on C may be considered emotionally stable, free of neurotic symptoms, not hypochondriacal, realistic about life, unworried, steadfast, self-controlled, calm, patient, persevering and thorough, loyal and dependable. One low on C is emotional, dissatisfied, showing a variety of neurotic symptoms, hypochondriacal, plaintive, evasive, immature, autistic, worrying, anxious, changeable, excitable, impatient, quitting, careless, morally undependable. He sums it up by saying that a high C person has the capacity to express available emotional energy along integrated channels as opposed to impulsive channels, thus indicating that the personality fabric is holding together well.

C is one of the best indicators of emotional stability among the first order factors and a low score here should serve as a warning signal to any clinician using the 16PF (Karson & O`Dell, 1970).

C scores may however also be used to attain other useful information. Most of the items on the scale are obvious and consequently easy to falsify. Therefore, should one find a low score on scale C, you may infer one of two things. Firstly the person may be 'faking bad', as in the "hello" half of the "hello-goodbye" effect, or the person is really in serious trouble, not being able to see the social implications of the items that he is answering. A person trying to look 'bad' with the goal of seeking treatment in mind should be expected to have very low scores on factor O (guilt proneness), and Q4 (free-floating anxiety). A person simply unable to tell the difference between socially acceptable and unacceptable items might well have a high score on the more obviously pathological scales such as L (suspiciousness), and a very low score on Q3 (ability to bind anxiety) (Karson & O`Dell, 1970).

In brief, a low score on C continuously warrants further examination of the patient, while a high score is seen as indicative of potential for improved adjustment. Among highly educated and sophisticated people, it is unusual to find a very low C even though they may be presenting themselves for treatment.

(d) Factor E: Dominance

From the ascendance-submission studies with Allport`s tests (Karson & O`Dell, 1970), it is known that dominance tends to be positively correlated to some extent with social status and is somewhat higher in established leaders than in followers.

The possibility exists that the pattern alters somewhat with age, and shows more signs of frustration later.

Items that appear on scale E describe someone who enjoys dominating and controlling others as well as criticizing them. This person likes being in command and does not mind forcing his ideas onto others. Cattell (1989) feels that someone high on E will be self-assertive, confident, boastful, conceited, aggressive, pugnacious, extra-punitive, vigorous, forceful, wilful, egotistical, rather solemn, or unhappy, adventurous, insensitive to social approval, unconventional and reserved. In contrast he feels that someone low on E will be submissive, conventional, frank, expressive, tactful, retiring, timid, cheerful, light-hearted, obedient, quiet, meek, compliant, retiring, modest, and unsure.

(e) Factor F: Impulsivity

The elements of factor F are in contrast to those of factor A. While scale A character concerns itself with how warm and outgoing a person is, a scale F type of personality in contrast is impulsive, unrestrained, and flighty and feels that he has a high number of friends. A person with F+ can thus be expected to have certain extraverted trends, but they are essentially self-centered in quality. Descriptive terms such as cheerfulness, joyousness, sociable, responsive, energetic, rapid in movement, humorous, witty, talkative, placid, content, resourceful, original, adaptable, trustful, sympathetic and open are associated with a person getting scores at the high end of F (Cattell, 1989). On the other hand, he associates depressed, pessimistic, rigid, unable to relax, obsessional, slow to accept a situation, unstable in mood level, retiring, subdued, bound by habit and narrow elements with a low F.

A low F score should be taken seriously, and explored further, especially if other scales on the 16 PF point to problems with aggression, anxiety and guilt. F tends to be higher in adolescents and a steep downward trend is found on this factor between the ages of 20 and 30. By 30 the person's personality should have stabilized (Karson & O`Dell, 1976). It can be said that F details the seriousness with which a person looks at life. The person with a somewhat low F tends to be reliable, dependable, prudent, and can do an important job.

(f) Factor G: Group conformity

Anyone with a high G score can be considered an extremely moral, conventional, rigid person. It would be rare to find very high scores among people who are not trying to distort their scores, unless they are professional moralists. However, it is worth checking a very low score on this scale as that may indicate more of a problem. Low score-people might give little thought to helping others settle arguments, they might thrive on disorder and sloppiness, and in general would show little concern for the standards of society (Karson & O`Dell, 1976).

An extremely low G score thus might indicate a serious lack of internal standards and therefore incline toward sociopathy. The seriousness of such trends would depend on whether or not acting-out behaviour occurs. G scale thus measures the degree to which a person has been conditioned to conform to the ideals of his group and how well he understands the rules of the social game which he must play. A low score does not imply that the person feels guilty about his lack of group conformity. This aspect must be assessed through the scale measuring guilt proneness.

(g) Factor H: Boldness

An element summing up the H-factor is risk-taking. Tendencies toward withdrawal should be made when low scores on both the A- and H- factors exist. The following describes a high H profile person according to Cattell (1989): Adventurous, likes meeting people, shows strong interests in the opposite sex, gregarious, genial, responsive, kindly, friendly, frank, impulsive, self-confident, and carefree. Alternatively a low H profile would indicate a person who is shy, timid, withdrawn, disinterested in the opposite sex, aloof, cold, self-contained, hard, hostile, secretive, inhibited, conscientious, recoils from life, lacks in confidence, careful and considerate. To summarize, a high H person would like to travel, take a lot of risks (most likely with planning), have many good friends, and be sociable and hedonistic. These people also tend to be more prone to high blood pressure and coronary infarctions. H minus person or a person scoring low on H will be the opposite of the high H person. There is also a good chance that they might have more pathology, timidity and schizoid shyness.

(h) Factor I: Emotional Sensitivity

The following are descriptive of a high I: Demanding, impatient, dependent, immature, kind, gentle, and aesthetically fastidious, introspective, imaginative attention-seeking and hypochondriacal. Cattell (1989) describes the low-scoring I person as emotionally mature, independently-minded, hard, lacking artistic feeling, unaffected by fancies, free from hypochondria, logical, self-sufficient, and responsible.

Factor I is not closely associated with pathology especially if it is the only deviant score on the profile. A distinction has been made between ' tender-minded' and tough-minded' using this factor.

(I) Factor L: Suspiciousness

Factor L is one of the most indicative factors of disturbance of all the 16 PF scales. Someone getting a high score on L insists on getting his point across, feels persecuted, cannot endure human frailties, is oppositional, likely to fight, antagonistic and quick to take offence. Cattell (1989) refers to a high score on L as 'protension', which is short for ' paranoid-trend'. The person with a high score on scale L is probably going to be difficult to get along with because he is usually resentful and hostile, a person who typically projects and displaces angry feelings. Reasons for this might be difficult interpersonal relationships during early childhood, which led to mistrust and resentment of other people, stemming from continually frustrated dependency needs. A high score on L is worth investigating further.

The opposite end of this scale must be regarded as a healthy sign, even if extreme. Someone with a low L might be considered a 'nice-guy' and even if his childish trust leads to disappointment, he usually gets over it.

Cattell (1989) does not feel that a high L automatically implies paranoia. Previous works hints that a high L could measure anxiety and rigidity, rather than paranoid suspicion as originally believed (Karson & Pool in Karson & O`Dell, 1976).

3.5 Procedure

A clinic in Pretoria treating substance dependence was identified and approached. To be able to make use of their data (test protocols), permission had to be obtained from the clinic's management (see appendix 1). The researcher submitted a requisition, asking permission to use some of the test protocols for the purpose of the present study. Approval was given as per attachment (appendix 2).

In November of 1999 data was recorded at the clinic. Al files between the months of April and October of 1999 were examined and only those with complete and valid test protocols were used for data recording. As already mentioned, data recorded comprised information from the test protocols as well as biographical facts. The researcher recorded the biographical data to describe the participant population and to enable him to make certain inferences about relationships or correlations between the variables and different personality factors, if relevant to the study. Data that was collected consisted of the 16PF protocols, results and certain socio-demographic information.

Existing data from flat files was submitted to an electronic medium using at first Microsoft Excel (ver.7) and subsequently the Statistical Package for Social Sciences (SPSS) data editor (ver.9). The integrity was checked by migrating between the flat files and the spreadsheets and also checking for wild codes.

On admission to the clinic, all patients complete the 16PF along with other questionnaires. Certain hypotheses came to mind regarding personality factors and dependency, making the researcher wonder if a person` s vulnerability to become dependent on substances, was influenced by the character features.

3.6 Analysis of results

Quantitative data analysis was used for this project using initially Microsoft Excel (ver.7) and subsequently SPSS to gain insight into the factor structure. A principal components analysis with Varimax Rotation was used. Subsequently, descriptive and inferential statistics were computed using SPSS (ver.9).

The data collected was a quantitative data survey and subjected to statistical analysis using SPSS. Descriptive and inferential statistics were applied. Inferential statistics used consisted of cross-break analyses (chi-square) and correlations. Regression analysis was also utilised.

3.7 Conclusion

In the preceding paragraphs the design, participants, measuring instruments and factors of the 16PF were discussed. The design was chosen to suit the type of data and to be able to do hypothesis testing with data analysis. The findings of the study are to follow.

Chapter 4

Results

4.1 Introduction

To meet the goals of the study, data obtained from the 16PF had to be subjected to statistical analysis. In the section that follows, a summary of the results of these statistical procedures will be presented clearly and concisely. Where possible, graphs and tables were utilized to make the discussion as presentable and logical as possible.

4.2 Dependent variable: Dependence

The dependent variable used for the present analysis is Factor E, which is Dominance. Factor E measures the amount of control people either submit to or exercise over others in their interpersonal relationships.

The aim of the analysis was not to indicate that factor E was indeed overly negative (E-), but investigative of the relation of other factors to this one, to which extent do they influence, or what effect they have on factor E.

The factor is spatially represented below in a partially adapted table from Karson & O`Dell (1976, p.43) for ease of reference.

Table 4.1 Factor E (Dominance)

Low Score		*High Score*
SUBMISSIVENESS	versus	DOMINANCE
E-		ASCENDANCE, E+
(Obedient, Mild, Easily Led, Docile, Accommodating)		***(Assertive, Aggressive, Competitive, Stubborn)***
Submissive	Vs.	Assertive
Dependent	Vs.	Independently-minded
Considerate, Diplomatic	Vs.	Stern, Hostile
Expressive	Vs.	Solemn
Conventional, Conforming	Vs.	Unconventional, Rebellious
Easily upset by Authority	Vs.	Headstrong
Humble	Vs.	Admiration Demanding

Adapted from Karson & O'Dell (1976, p. 43)

4.3 Descriptive statistics

From table 4.2 it is clear that the lowest score is held by ego strength (X=3.65), whilst the highest was held by boldness (X=6.06). Consecutively the three lowest scores were held by warmth, intelligence and ego-strength (see table 4.2). A high- or low score does not have the same meaning for each of the different factors. A combination of a high score on ego-strength and a low score on group conformity may be good indication for independence but might have different results in combination with other factors (refer to chapter 3, paragraph 3.4.2 for a summary of the scales).

The table below summarizes the descriptive statistics for the selected 9 factors.

Table 4.2 Descriptive statistics

Factor	Mean	Standard Deviation
Factor A:Warmth	4.89	2.34
Factor B:Intelligence	4.67	2.04
Factor C: Ego-strength	3.65	1.98
Factor E: Dominance	5.65	2.28
Factor F: Impulsivity	5.54	2.4
Factor G: Group Conformity	5.79	1.82
Factor H: Boldness	6.06	2.56
Factor I: Tendermindedness or emotional sensitivit	5.76	2.3
Factor L: Suspiciousness	5.36	2.14

4.4 Variance of the factors

A factor analysis using principle components analysis (pca) with varimax rotation was subsequently run for the 9 selected factors. Table 4.3 below represents the amount of variance explained by each factor. Evidently, the first 3 factors namely warmth, intelligence and ego-strength explained 57.019% of the variance in the model.

When these 3 factors contribute to 53.02% of variance while the remaining 6 factors contribute 46.98% of variance, it is clear that it is not merely co-incidental that the mean scores of the 6 factors were the lowest of all the 9 factors` mean scores (see table 4.2).

Table 4.3 Total Variance Explained

	Initial Eigenvalues		
Component	**Total**	**% of Varianc**	**Cumulative %**
Warmth	11.806	26.718	11.806
Intelligence	7.801	17.653	44.371
Ego Strength	5.589	12.648	57.019
Dominance	4.122	9.329	66.348
Boldness	3.978	9.002	75.35
Impulsivity	3.547	8.027	83.378
Group Conformity	3.102	7.021	90.399
Emotional sensitivit	2.638	5.969	96.367
Suspiciousness	1.605	3.633	100

4.5 Factor correlations

Subsequent to the factor reduction model, a correlation matrix of the 9 factors was computed. Table 4.4 below represents significant (*) correlations among the various factors and Figure 4.1 consequently presents a path diagram of the coefficients. The discussion (chapter 5) will focus mainly on the significance of the dependent variable and other factors as well as some of the other very high correlations.

Most importantly, this analysis indicated that dominance (factor E) correlated 0.411 to impulsivity and 0.436 to boldness. The relation between dominance and impulsivity is such that both are either high or low. See paragraph 5.5 for the meaning of such correlations.

Table 4.4 Correlations and significances of factors.

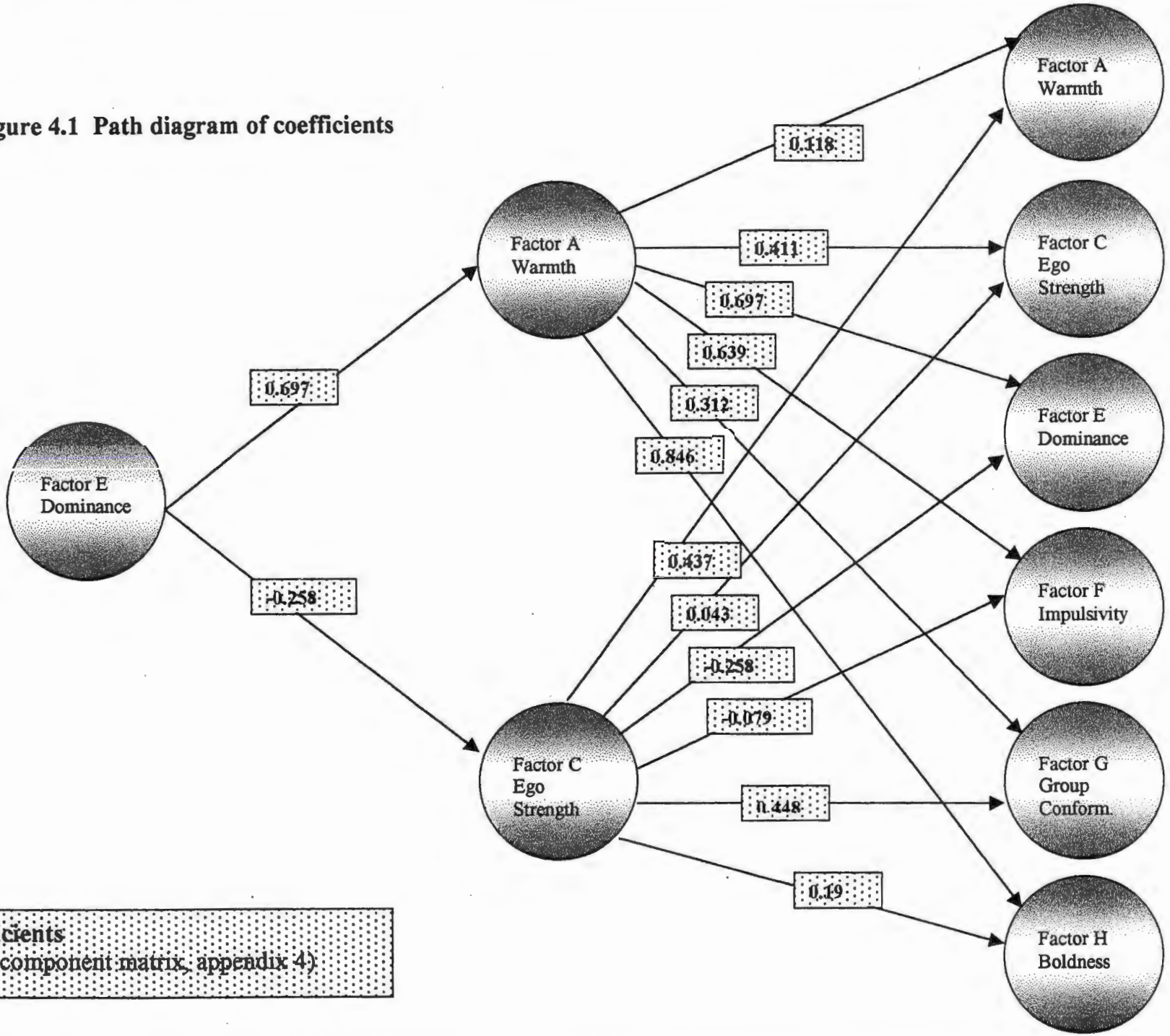
Correlations

		Factor A:Warmth	Factor B:Intelligence	Factor C: Ego-strength	Factor E: Dominance	Factor F: Impulsivity	Factor G: Group Conformity	Factor H: Boldness	Factor I: Tendermindedness or emotional sensitivity	Factor L: Suspiciousness
Factor A:Warmth	Pearson Correlation	1.000	-.089	-.123	.06	.197*	-.033	.137	.16	.147
	Sig. (2-tailed)	.	.370	.21	.50	.045	.74	.165	.09	.136
	N	104	104	104	104	104	104	104	104	104
Factor B:Intelligence	Pearson Correlation	-.089	1.000	.27 **	.07	-.003	.08	.060	-.009	-.113
	Sig. (2-tailed)	.370	.	.00	.46	.973	.38	.548	.93	.252
	N	104	104	104	104	104	104	104	104	104
Factor C: Ego-strength	Pearson Correlation	-.123	.275**	1.00	.04	-.085	.14	.308**	-.202*	-.250*
	Sig. (2-tailed)	.212	.005	.	.67	.391	.15	.001	.04	.010
	N	104	104	104	104	104	104	104	104	104
Factor E: Dominance	Pearson Correlation	.066	.072	.04	1.00	.411**	.07	.436**	-.202*	.028
	Sig. (2-tailed)	.506	.469	.67	.	.000	.47	.000	.04	.782
	N	104	104	104	104	104	104	104	104	104
Factor F: Impulsivity	Pearson Correlation	.197*	-.003	-.085	.41 **	1.00	-.060	.502**	-.059	.049
	Sig. (2-tailed)	.045	.973	.39	.00	.	.54	.000	.55	.619
	N	104	104	104	104	104	104	104	104	104
Factor G: Group Conformity	Pearson Correlation	-.033	.086	.14	.07	-.060	1.00	.257**	-.015	-.128
	Sig. (2-tailed)	.741	.384	.15	.47	.542	.	.008	.88	.196
	N	104	104	104	104	104	104	104	104	104
Factor H: Boldness	Pearson Correlation	.137	.060	.30 **	.43 **	.502**	.25 **	1.00	-.064	-.131
	Sig. (2-tailed)	.165	.548	.00	.00	.000	.00	.	.52	.184
	N	104	104	104	104	104	104	104	104	104
Factor I: Tendermindedness or emotional sensitivity	Pearson Correlation	.163	-.009	-.202*	-.202*	-.059	-.015	-.064	1.00	.047
	Sig. (2-tailed)	.098	.930	.04	.04	.551	.88	.521	.	.634
	N	104	104	104	104	104	104	104	104	104
Factor L: Suspiciousness	Pearson Correlation	.147	-.113	-.250*	.02	.049	-.128	-.131	.04	1.000
	Sig. (2-tailed)	.136	.252	.01	.78	.619	.19	.184	.63	.
	N	104	104	104	104	104	104	104	104	104

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

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

Figure 4.1 Path diagram of coefficients



oefficients
rom component matrix, appendix 4)

The correlation between dominance and emotional sensitivity (tender-mindedness) was -0.202. This correlation indeed is significant as it explains a decrease in emotional sensitivity when dominance increases. The correlation between ego-strength and suspiciousness was ρ= -0.250. A very strong positive correlation of 0.502 between boldness and impulsivity was found and the correlation between intelligence and ego strength (ρ= 0.27) was also positive. The last covariance to be discussed in chapter five is that between ego strength and boldness (ρ= 0.308).

4.6 Reliability analysis

A reliability analysis was run for the 9 selected factors. This analysis yielded a positive Standardized item alpha (α=0.3378). Consequently an intra-class correlation coefficient was also computed which yielded an average measure of 0.3705. A confidence interval for this analysis was computed at 95% with a lower boundary of 0.0225 and an upper boundary of 0.1142

4.7 Regressions

As pointed out in the introduction, the first 9 factors of the 16PF were used for the purpose of this study. In order to choose the regression model most suitable for the analysis, nine models were run with each model having a different one of the nine factors as the dependent variable. The following table distinctly indicates that all the other factors namely, warmth, independence, ego strength, impulsivity, group cohesiveness, boldness, tender mindedness (emotional sensitivity), and suspiciousness, explain 53,1% of the change in Factor E which is dominance.

The fourth model was most favourable not only in relation to the positive coefficient of determination value that the analysis revealed, but also because the dependence factor described distinct traits which of course is very relevant in this study.

Table 4.5 shows the r-square ($R^{2\blacklozenge}$) also referred to as the coefficient of determination, which is the square of the correlation coefficient, ANOVA value (F), and slopes of the regression line (B). The significance (Sig.) of each model is also reported.

Table 4.5 Model summary of the 9 chosen factors

Model	Dependent Variable	R^2	F	B	Sig.
1.	Warmth	0.319	1.234	2.678	0.231
2.	Independence	0.314	1.295	2.957	1.295
3.	Ego strength	0.547	5.067	4.158	0.000
4.	Dominance	0.531	4.661	3.334	0.000
5.	Impulsivity	0.625	7.609	3.328	0.000
6.	Group cohesiveness	0.351	1.928	5.416	0.073
7.	Boldness	0.70	13.150	-1.433	0.000
8.	Tender mindedness	0.341	1.56	6.685	0.147
9.	Suspiciousness	0.31	1.261	6.218	0.273

$^{\blacklozenge}$ The value of total R^2 is 1, which means that the change in one variable is completely determined (100%) by the change in another variable. The unexplained variation is expressed by the coefficient of alienation $\sqrt{1-R^2}$

As described above, the other 8 factors are responsible for 53.1% of the change in Factor E, as indicated by the coefficient of determination. Some of the other factors have higher R^2 values but they fail to represent the personality traits that describe dependence or that would be similar to the traits that one would expect in a dependent personality.

Subsequently an ANOVA (one way) was computed. The computation yielded an insignificant result (F=4.661, p=0,000). This is due possibly to other factors (e.g. socio-demographic factors) influencing dependence.

Following the computation above, the slope of the regression line was considered. For every 1-unit increase in dominance, there is a 3.334 increase.

Based on the R^2 value of the relationship between dominance and the other 8 factors, the probability plot below was computed (see figure 4.1). Distinctly all factors are on the regression line without any outliers. Secondly all variance inflation factors (VIF*) are lower than 2, which show that there was no multicollinearity (appendix).

Generally the regression models also shows that there was homogeneity of variance in the model. Thus homoskedasticity• was present and there was no need to use the weighted least squares model. Figure 4.1 below shows how all the points tend towards the regression line. These findings support indications that the model is significant.

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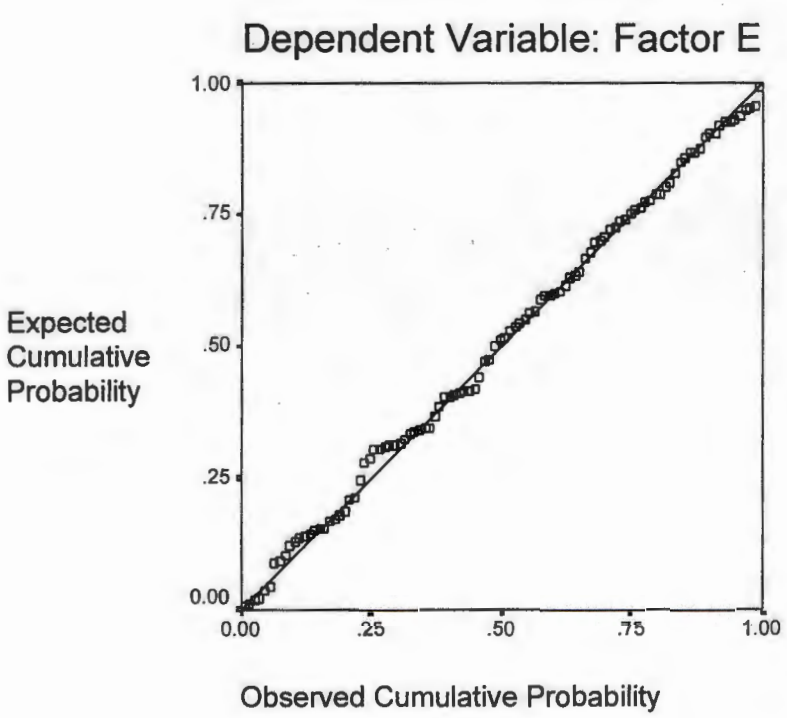
* VIF is a tolerance measure. As the size of VIF increases, so does multicollinearity and would render estimates unstable.

• Required for many statistical methods. Constant variance across time or among groups.

Figure 4.2 Probability plot of the relationship of dominance with the other eight factors.



4.8 Conclusion

Findings in this chapter indicated that certain factors of the 16PF co-varied but no multicollinearity could be shown. Regression analysis was computed, variance of factors reported and the results of a reliability analysis given.

Now that the results have been reported, the next chapter will focus on the interpretation of the results.

Chapter 5
Discussion

5.1 Introduction

This chapter will focus on the interpretation of results obtained in chapter 4. Where needed, reference was made to findings that were reported in chapter 4 and the reader would thus find it helpful to refer back to these tables and figures.

5.2 Factor E as dependent factor

Factor E measures the amount of control people either submit to or exercise over others in their interpersonal relationships. According to the researcher a substance dependent respondent may have a paradoxical score on this factor, scoring high when in fact, they would have scored low had they not been substance dependent. This view of paradoxical high scores is supported by Cattell (1989) when she says that aggressiveness and stubbornness may mask feelings of covert inferiority, attack being considered the best form of defence. It is believed that the role of the substance is that of control and the respondent's false sense of control leads him to score positively on this factor.

However, the assumption for this research is that if a person submits to other people, he most likely will submit to most of life's situations. Hence, a dependent minded person will not be dependant in interpersonal situations only and the tendency might be manifest in many different ways, one of which may be substance abuse.

5.3 Interpretation of descriptive statistics

As reported in table 4.2, factor A=4.89, factor B =4.67 and factor C =3.65, which was the lowest of all the factors. Factor H, boldness had the highest score with factor H=6.06 (see table 4.2). It is very significant that factor C is the lowest of all the mean scores, especially while ego-strength is essential to the healthy development of personality. The task of the ego, as outlined by Freud (chapter 2), is to negotiate more effective means of need gratification. He also described the ego as a proactive rather than a reactive system, but it seems as if, in the case of substance dependents, the ego fails to be proactive but rather operates reactively.

Instead of sensibly postponing the need for gratification, until an appropriate object is located in reality, the ego fails to delay the need and "allows" the person to have a drink, thereby instantly satisfying the need for gratification but resulting in loss of control. As was mentioned in Chapter 3, a person with low ego strength may be expected to have difficulty in adjusting to life on many fronts and to feel unable to cope with his own life.

Boldness had the highest mean score. These people probably like to travel, take a lot of risks, they have many good friends are sociable and enjoy almost anything that makes life worth living (chapter 3). Bearing in mind what a low ego strength score could indicate, it is surprising to see these two extremes next to each other. Once again, this could indeed be a counteractive defensive measure or reaction formation (chapter 2). The person would use this defence in conjunction with the substance to substitute the loss that he experiences. This loss may have caused the ego to not develop completely during earlier years.

Meredith (1968) conducted a study on a sample of 80 males and 83 females. During this study subjects were instructed to lie without restraint. These sets included projecting the most ideal self and the least ideal self. Result summaries were given in terms of means for each of the 16 factors in relation to a desirable and undesirable mean score. The desirable mean score for factor E was 5.6 and comparing this score with the mean of the current research (5.65) one finds a favourable picture. In terms of the 16PF this score falls within the average range.

5.4 Interpretation of variance

Because factors A, B and C contribute 53.02% of variance and they have the lowest scores on table 4.2, they have important meaning in terms of dependence. It could thus be said that warmth, intelligence and ego strength, stand in a certain relation to dependence. A person with low scores on warmth is described as someone who can be rigid, obstructive, inflexible, cool, indifferent, close-mouthed, secretive (Karson & O'Dell, 1976), critical in outlook, uncompromising (Cattell, 1989), and as having a history of dissatisfying interpersonal relationships (Krug, 1984). Although factor B is not a good indication of a person's intellectual capacity, a low score however still indicates a person apt to be less well organised, a person with poor judgement, a person who is a defeatist (Cattell, 1989). However Krug (1984) holds that it gives some indication of general ability since most of the items are not extraordinarily difficult. Factor C as described earlier is very significant as it has important implications on the person's ability to delay gratification or substitute an unacceptable object of gratification for a socially acceptable and ego syntonic one.

5.5 Interpretation of factor correlations

The correlation between dominance and impulsivity is positive at 0.411. As mentioned in the previous chapter, this means that the relation between these two factors is such that both will be either high or low. It is believed that if both these scores were to be high, a person would be represented who would be characterised as dominant, an extrovert and maybe even aggressive.

This picture would fit the description of a stereotypical "macho" male: rough and ready with the capacity to be downright rude. Karson & O`Dell (1976) reports that if low scores on both factor E and F are present in combination with a low factor A, the person is strongly denying the hostility inevitably felt and that one should try to find out why. Such a person may even be a high risk for depression and suicide. A positive correlation between Dominance and Impulsivity (0.29) has also been reported as being important by Catell (1989).

Dominance and Boldness correlate positively with a correlation coefficient of ρ=0.436. A positive score on both these factors may imply a person who has very much the same qualities of the formerly discussed combination, but this person may be more ruthless and dominant. Karson & O`Dell (1976), described that the E+ person was more ruthless in the pursuit of what he seeks while the H+ person would be more diplomatic about getting what he wants. Combine the dominant nature of the E+ person and the gregarious and bold characteristics of the H+ person and one is left with a picture of a tenacious, bulldog like person who simply takes what he wants.

The opposite once again creates the picture of a person that could be expected to be dependent and helpless, soft and meek. This also could be representative of the majority of the respondents when their defences are down or when they are longing for a drink.

The correlation between dominance and emotional sensitivity (tender-mindedness) was -0.202. This covariance indeed is significant as it explains a decrease in emotional sensitivity when dominance increases. A person having this combination of traits may be emotionally hard and harsh, headstrong and self-reliant and unsentimental. This correlation reminds one of the picture that Cattell (1989) referred to about high E-factor scores perhaps being a mask, a picture they present to cover up for feeling of inferiority and emotional fragility. This person may become emotionally anorexic as a result of being so self-reliant, hard and unsentimental. The other side of the relation is also true; when dominance decreases, emotional sensitivity increases and this may create the picture of someone who could indeed be very dependent on others and even substances. According to Karson & O`Dell (1976), such a person would need strongly directive therapy. This is especially significant in the current study as the latter personality may be representative of the sample ie. characters who are dependent on some sort of substance.

In the correlation between ego-strength and suspiciousness (ρ= -0.250) it seems that when ego-strength is low a person loses the ability to perceive and react to the world in a mature and responsible way, with subsequent irritability, inability to accept responsibility over errors, jealousy, tyranny and suspiciousness.

As Freud described, the person with an immature ego who is unable to direct his gratification onto a socially acceptable object, also seems unable to change these traits.

Looking at the very strong correlation of 0.502 between Boldness and Impulsivity, one is reminded of a very extrovert person. Karson & O`Dell (1976) adapts the picture of "Errol Flynn" who embodied all that a positive factor H implies; Risk taking, a willingness to accept any challenge, a love of adventure and a roving nature. The enthusiastic, happy-go-lucky and heedless factor F characteristics create a person that many people would like to be with. It is reasoned that this kind of lifestyle also takes its toll. When the figurative 'lights go down', this gregarious or out-going person is suddenly left alone, something that he is not used to and perhaps does not know how to handle. He may become depressed and be in conflict with himself as a result of some unresolved business in one of the stages Freud described.

He might have had very strict parents and was always trying to please them in order to get their love and acceptance. Consequently he may have been left fixated in the anal stage of development because of unsatisfactory resolution of his needs and furthermore regressed to the oral stage where resolution was more successful. This regression may be an expression of a wish for successful resolution of the stage where the person is fixated. The opposite is also significant. Traits that characterise a low score on both these factors are that of depression, pessimism, seclusive, retiring, anxiousness, unstable in mood, restrained, rule-bound, shy and with having restricted interests.

However it is not certain whether the positive correlation between these two factors could be causative or as a result of alcohol dependency. These questions can be investigated in further research.

The positive correlation between intelligence and ego-strength (ρ= 0.27) may also be indicative of long-term alcohol abuse in combination with a low score of the ego-strength factor. This positive relationship indicates that a person scoring high on both these factors would be someone who would have the vision, stamina, will-power and possesses the level of maturity and general capacity to perform tasks successfully. Low scores on these however, would indicate someone who does not have the general mental ability or has lost the ability for insight and good judgement, and worrisome, easily gives up and does not have the ability or the desire to concentrate on certain tasks. It is believed that this factor correlation would at best represent the sample on the low count of the continuum, as this is the classic picture one gets when thinking of a dependent person.

It is to be noted that this is not at all representative of all the respondents. It is believed that, although these decisions take place at an unconscious level, this could be true in most of the cases as a person with good judgement and high intellectual ability should be able to recognise unsuitable objects of gratification. Karson & O`Dell (1976) states that factor C is one of the best estimators of emotional stability among the first order factors and that the clinician should take a low score as a warning to investigate further.

The last correlation to be discussed is that between ego-strength and boldness (ρ= 0.308). These two factors vary together to form (with factors L+, O+, Q3- and Q4+) the second order factor anxiety (Cattell, 1989; Karson & O`Dell, 1976). This

correlation has many of the previous combination's traits. With both scores high on this combination a person may come across knowing exactly what he wants, what he wants to do and how to do it, being in control, calm, creating a good impression that will last and above all, appear to be totally genuine. A person scoring low on both these factors may also need guided psychotherapy, as they seem emotionally unstable and react poorly to stress. This might consequently lead to turning to alcohol to gratify the need they have because of unsuccessful resolution of the oral stage.

The low scoring individual on factor C is typically overwhelmed by the daily challenges of life and Krug (1984) pointed to a connection between factor H and activity of the autonomic nervous system. He found that high scoring individuals tended to be more parasympathetic-dominant, while low scoring individuals tended to be more sympathetic-dominant. This suggested an analogy between scores on this factor and the degree of psychological "insulation" the individual possessed. High scoring individuals tend to be like a well-insulated building, to be able to withstand external pressures passively without expending much energy in doing so. On the other hand, low scoring individuals, have little insulation. External stresses reach them more easily and in order to maintain homeostasis, they must expend more energy. This expenditure of energy can take its toll; the person may become tired, depressed and unfulfilled. It is believed that a strong, well-developed ego, equips the individual with adequate insulation to be able to withstand the pressures of life.

5.6 Conclusion

If simplified, these factors that correlated, indicated certain tendencies. People either make excessive use of defences in order to appear to be someone that they want to be, or they portray the personality that they feel safe with being, while really denying their need for emotional gratification. These people may appear to be very outgoing, secure, extrovert and stubborn. On the other end of the continuum we find the person who appears to be an almost pathetic figure: someone who does not seem able to do anything, make his own decisions, know right from wrong and have the energy to get out there and succeed.

It is important to take note that these are extremes used as such to describe the difference between the two tendencies. This seems to be the case in all the factors except for the correlation between ego strength and intelligence where the person either has or does not have the intellectual ability to make certain choices. The other implication is that it is not known if this result in analysis was due to the neurological deterioration due to the substance-dependency or quite simply just the general overall ability of the personality.

In spite of this uncertainty, results indicated without any doubt, that because of the correlation of some of these factors, the person might have been prone to substance-dependency. Dependence is supported by the 9 factors as depicted by the characteristics of factor E, as is explained by the R^2 value. In the next chapter, the focus will be on an evaluation of the study, shortcomings, strengths and recommendations for future research involving this subject.

Chapter 6
Conclusion

6.1 Introduction

In this study the first 9 factors of the 16PF were evaluated in terms of Dominance (factor E). This was done in order to prove their meaning and relevance in terms of dependence, as depicted by factor E, with the aim to shed some light on the so-called 'dependent personality' and factors that might make one susceptible to this characteristic.

An evaluation of the study will follow in terms of its weaknesses and strengths with relevance to further study in this field.

6.2 Evaluation

The initial hypothesis of the study was that substance dependency and personality factors do correlate and thereby cause a person to be susceptible to alcohol dependency. It was concluded that this was in fact the case. This was done by identifying significant (the first 9) factors from the 16PF and running various statistical procedures and analyses. Of these 9 factors, one was identified to be important in terms of it`s personality traits being descriptive of dependency and its relation to the other 8 factors. It was found that dependency is favourably described by this factor and that the other 8 factors significantly influence this factor.

Concerning evaluation of the measuring instrument the 16PF, the researcher is confident that information and results of the inventory are reliable and valid. It will be said that the 16PF was effective in providing information for the purpose of this study. Well-documented research exists on specifically this instrument and most of the correlations between some of the factors were supported by previous research.

6.3 Limitations of this study

In this study, only factors from the 16PF were implemented thus some shortcomings may be the influence or effect of other unknown factors on personality and dependence. Among others these might be socio-economical and physical factors such as serious or chronic illnesses, amputations or neurological damage or impairment that could have influenced personality.

As this was a secondary analysis, it means that respondents were not interviewed. It also means that questions that were thought of as being relevant could not be asked. The interview might have added personal information that could clarify further which factors play a bigger or lesser role in the development of dependence.

It is uncertain whether or not some of the test results were indicative of certain patterns or that these test results were as a result of these very patterns. An example of this is the Intelligence factor's relation to Ego disturbance.

It cannot be said with certainty that low scores on these factors refer to certain characteristics as it is not known whether years of substance abuse have actually caused organic deterioration or not. The results may in fact then be due to these impairments and not indicative of certain patterns.

6.4 Strengths of this study

This research gives the therapist an idea what to focus on during the initial interview. The study is also important because it could help in compiling a list of relevant questions to be asked of alcohol-dependent people at intake interviews. Reference is made here to the correlation between certain factors that may be indicative of the dependent pattern of personality and fixations because of unsuccessful resolution of stages of development. This will help speed up therapy and patients will be on the road to recovery more quickly, finally resolving the stage of fixation which is mainly believed to be the oral stage of psychosexual development.

The fact that the influence of other factors is unknown is not necessarily a weakness of this study- it can also be a strength because it opens up ideas for research to follow. The research revealed facts we did not know, and it also revealed the probable existence of other predisposing factors. It thus offers the opportunity to do some further research in the same field.

As this was a fairly big sample, findings can be accepted with more ease than would have been the case with a small sample.

Furthermore the regression model has been checked using the statistical program EQS 5.7 and the researcher was satisfied that the model was a good fit.

6.5 Recommendations

Further exploration could delve into the role of socio-economic factors on the personality as well as the role of physical and organic factors on personality and change of personality. A retest could be done a few months after discharge from the clinic on successful patients to see if scores would change drastically after cessation of substance dependency. This study could also be done on other (harder) drugs to observe the effects thereof on personality.

Strong supportive therapy and in some cases, initially, strong guided therapy could be incorporated into the already existing group and individual therapy to help the respondents to resolve issues pertaining to the oral an/ or other psychosexual stages. The enormous responsibility facing parents is to have the ability to recognise and ascertain the childs` needs at any stage of their development and then effectively administer that necessary care, support and guidance. Many parents will not themselves have received this during their own childhood and will therefore be unable to nurture successfully. Parental-skill training could be incorporated into the therapy or recovery programme and in this setting thorough assessment of personality traits could reveal certain deficits and address those in the three-week therapy program.

The treatment program involves behaviour therapy where the person is taught to recognise alternative objects of gratification. Following this behaviour modification, if the patient's needs or ego conflicts have also been successfully resolved during therapy, a parent or future parent would hopefully have broken the cyclical dependency and neglect pattern. Further research that results in assistance for the already dynamically damaged family of the substance-dependent would be of optimum benefit to society as a whole.

6.6 Feasibility of this study

Because secondary data was used for the study, a repeat of the same study would be possible. The data was very accessible and one merely had to take the time to sit and record the content.

Use of the measuring instrument the 16PF, was familiar to the researcher prior to recording of data and other research used for interpretation purposes or support of findings, was reasonably available. As this was a standardized test instrument, no reliability or validity had to be proved which made research considerably shorter.

Taking the above into account, it would be possible to duplicate this research to other settings provided the respondents are not diagnosed with personality disorders.

If no secondary data were available, capturing of data would still be relatively easy as this test instrument allows for groups to take the test. Administering the test is

time-consuming but scoring can be done electronically which makes capturing of data still much more economic in terms of time than most other methods.

6.7 Conclusion

This research was valuable and it gave us some insight into certain personality profiles and the influence and function of these personality factors on the general coping styles of a person. Although other factors may also contribute to dependency, it became clear that personality factors should not be left out of the aetiology of substance dependency.

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APPENDICES

Appendix 1

Letter to Staanvas clinic asking permission to use their test protocols

P.O. Box 13395
Hatfield, Pretoria
0028
(012) 3631848
jpe_1999@yahoo.com
October 28 1999

Staanvas Clinic
Haarhoff street
Queenswood

The Director

RE: USE OF 16PF TEST PROTOCOLS

I am a master's degree student in clinical psychology at the University of North West in Mmabatho. As partial fulfilment of my degree, I am expected to successfully complete and submit a thesis. I am aware that patients in the clinic are assessed upon admission, using among other instruments, the 16PF.

I hereby request for the clinic to kindly consider making these 16PF protocols available for the purpose of my research. The proposed study aims to investigate the possibility of

a so-called dependant personality and/ or general dependant personality traits under substance abusers of - dependents (not dependent personality disorder).

The research will rely on data obtained from 16 PF protocols, not personal data of respondents. Should personal data be used in the research (e.g. description of sample group), it will be treated in the strictest confidentiality.

I have already been in contact with the Human Science Research Council concerning the study. I was informed that this kind of study, using the 16PF, has not previously been done in South Africa and that this kind of study would be most welcome.

It would be very gracious of you to allow me to use your data. I thank you for your support regarding this matter.

Yours sincerely

Johan Erasmus

Appendix 2

Letter from Staanvas clinic granting permission for use of their test protocols

STAANVAS SENTRUM

Behandelingsentrum vir Alkohol- en Dwelmafhanklikheid
Onder volmag van die S K D B van die Ned Geref Kerk van Noord-Tvl

Haarhoffstraat-Oos 1229
Môregloed
0186

Fondsinsamelingsno: 02 200083 004 5 WO: 1 02 0006

26033 Arcadia 0007 ☎ / 📠 (012) 333-7702 E-pos: staanvas@mweb.co.za

23 November 1999

Mnr J. Erasmus

INSAKE : DATA VERSAMELING : PROTOKOL

Hiermee verleen die Uitvoerende Komitee skriftelik toestemming dat u data mag versamel vir u protokol.

Ds. J.N.F. v.d. Westhuizen
Nms. UITVOERENDE KOMITEE

Appendix 3

Table indicating variance inflation factors (VIF)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3.334	1.324		2.518	.013	.706	5.962					
	Factor A:Warmth	6.370E-03	.089	-.007	-.071	.943	-.184	.171	.066	-.007	-.006	.898	1.113
	Factor B:Intelligence	9.112E-02	.102	.082	.894	.374	-.111	.293	.072	.091	.078	.909	1.100
	Factor C: Ego-strength	-.108	.119	-.094	-.905	.368	-.344	.128	.042	-.092	-.079	.707	1.415
	Factor F: Impulsivity	.206	.103	.217	1.990	.049	.001	.411	.411	.200	.173	.635	1.575
	Factor G: Group Conformity	7.609E-03	.116	.006	.065	.948	-.224	.239	.071	.007	.006	.877	1.141
	Factor H: Boldness	.308	.104	.347	2.965	.004	.102	.514	.436	.291	.258	.553	1.809
	Factor I: Tendermindedness or emotional sensitivity	-.185	.090	-.187	-2.065	.042	-.363	-.007	-.202	-.207	-.180	.923	1.083
	Factor L: Suspiciousnes	6.246E-02	.097	.059	.644	.521	-.130	.255	.028	.066	.056	.908	1.101

a. Dependent Variable: Factor E: Dominance

Appendix 4

Component Matrix

	Factor A	Factor B	Factor C
Factor A: Warmth	0.118	0.558	0.437
Factor B:Intelligence	0.237	-0.433	0.163
Factor C: Ego-strength	0.411	-0.629	0.04305
Factor E: Dominance	0.697	0.253	-0.258
Factor F: Impulsivity	0.639	0.511	-0.07934
Factor G: Group Conformity	0.312	-0.309	0.448
Factor H: Boldness	0.846	0.08644	0.19
Factor I: Tender mindedness	-0.291	0.246	0.746
Factor L: Suspiciousness	-0.211	0.537	-0.189