CLINICAL AND SOCIAL ASPECTS OF HEROIN ADDICTS ENROLLED IN AN AMBULATORY METHADONE PROGRAM

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CONTENTS

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CHAPTER 1: INTRODUCTION

1.0 GENERAL OUTLINES

Since the emergence of the heroin epidemic in Western societies for the past two decades there has been a constant revision of scientific theory and treatment practice. The current heroin epidemic inherited its theory and practice from a long tradition of clinical experience with alcoholism and morphine addiction. These clinical approaches presupposed a certain general population with constant personality and social characteristics. Clinically it was common to talk of an "addictive personality" and social profiles of a population that was older, male, and socially integrated (Craig, 1979). The first break with this image began in the late 1950s in the United States where several studies documented the emergence of a new addicted type that seemed to reverse the existing clinical profile of an addict (Chein, 1964; Cloward and Ohlin, 1960). In the slum areas of American cities, a youthful addict emerged who had a prior career of delinquent behavior and familial social disorganization whose drug preference was heroin. In the following decade heroin use continued to spread in American youth outside of the slums, stimulated by the high prevalence of heroin use in the youthful Vietnam soldiers as well as by incipient members of an emerging youthful "drug culture" (Ingraham, 1974; Robins, 1973). By the late 1960s heroin use had spread to the United Kingdom and by the early 1970s it became incident in the youth populations of other western European countries including the Netherlands (V. Eepen, 1978).

Illegal heroin was introduced on a large scale in the Netherlands in 1971-72 resulting in a rapid growth of addiction in the mid-seventies. Methadone, which produces analgesic effects similar to those of morphine, was developed by German chemists during World War II (Platt, 1986). Shortly after World War II, methadone was introduced in the U.S. and Europe both as an analgesic and as a heroin substitute for treatment purposes (Platt, 1986). In 1965 Dole and Nyswander introduced methadone on a large scale as a therapeutic tool for heroin addiction. In Europe, its therapeutic use was introduced and discussed by Trimbos in a clinical lecture at

Erasmus University (Trimbos, 1971) in which he underlined the importance of socio-cultural determinants of addiction.

Methadone programs were established for the first time in 1972-73. Since the 1970's methadone has been widely used throughout the world in the treatment of heroin addicts. The program, known as Methadone Maintenance, required the patient to receive relatively brief periods of treatment within the normal context of his daily life in an outpatient setting. Studies (Cooper, 1983; McLellan, 1983) have suggested that methadone maintenance is significantly less effective with younger, more criminal patients. If a patient has developed greater criminal activity, has few employable skills, no working history and/or has little family support, it will be particularly difficult for methadone maintenance to be effective.

Political interest in the addictions has grown considerably since the 1960's. One of the reasons undoubtedly is the criminal side effect of the problem. The relationship between addiction and criminal behaviour has been widely analysed. For example, in their review of the literature of the period 1960-1985 on this subject, Speckart and Anglin concluded that (1) pre- and post-addiction studies show increases in property crime contiguous with the onset of addiction; (2) first arrest generally precedes narcotics addiction; (3) pre and during-treatment studies, as well as during and posttreatment studies, show relative decreases in property crimes during methadone maintenance; and (4) property crime increases monotonically with level or intensity of narcotic use throughout the addiction career when analysed in aggregate form. Although a substantial number of addicts are criminally involved prior to addiction, addiction is a criminogenic agent in contemporary American society and narcotic use levels are the most direct and plausible explanation for the high aggregate levels of property crime exhibited by research subjects when addicted (Speckart and Anglin, 1984).

The picture of the criminogenic role of narcotics which thus emerges in contemporary American society is one of an "amplifier" or "catalyst" acting in the direction of increased criminality. It is true that, for some addicts, addiction is simply an extension of a general criminal history which has been characterized by serious crime. However, the coexistence of addict criminals and criminal addicts does not alter the fact that heroin addiction can be shown to dramatically increase property crime levels, and that a high proportion of addicts' preaddic-

tion criminality consists of minor and drug offenses, while postaddiction criminality is characterized much more by property crime (Johnson et al., 1985). In general, the conceptual framework which appears to hold for the majority of heroin addicts is that addiction represents an extension or addition to a history of deviance, not of criminality per se, and that in contemporary American society addiction frequently acts as a catalytic or transformative causal agent toward firmer, more chronic and more serious criminal patterns. Moreover, the medium through which such a catalytic effect is apparently operative involves primarily income-generating crime, and considerably less often violent or minor crimes (although there is some evidence, as discussed previously, that violent crimes resulting in significant income generation are being resorted to more often by addicts). The notion of narcotics use as a catalyst or amplifier which aggravates deviance into criminality suggests a notion of causality which operates, not as a necessary and sufficient cause, but as a contributory cause. That is, the presence of crime before addiction strongly suggests that narcotics use is generally not an "initiator" of crime but rather is a "multiplier" of crime. In addition, James, Cosho and Warson (1979) have found that the contribution of women to drug-related crimes was steadily growing.

In recent years there has been a renewed interest in the psychopathology of drug addicts (Jaffe, 1984; van Limbeek, Schalken, Geerlings, Wouters, Groot, Sijlbing, and Beelen, 1986). This interest revives a tradition of research involving psychological testing that stretches back at least until the 1920's (Sutker and Archer, 1983). Over the years, a great amount of the work has attempted to provide a profile and/or explanation of the pathogenic "addictive personality" (Craig, 1979a, 1979b). However, there has been a growing sense among addiction researchers that the issue of psychopathology and addiction could not be addressed by simplistic models and static trait comparisons. Psychopathology had a relative position to other variables and had to be assessed in terms of its comparison with typologies of addicts themselves as well as with etiology and treatment/criminal justice experience (Craig, 1979).

With the emergence of a new youthful heroin addict the revision of both scientific theory and clinical practice became necessary. The profile of the addict had to be broadened to include the youthful heroin user. Much greater emphasis was placed on sociological models such as deviance and social control (Duster, 1970; Becker, 1964). In the Netherlands this trend in

research was represented by several important studies of the careers, lifestyles and typologies of Dutch heroin addicts conducted by the Criminology Institute of the University of Groningen (Jansen and Swierstra, 1982). In the medical field the classical addiction treatment model of psychiatry which involved long periods of hospitalization was seen as unsuitable and ambulatory "social" approaches were recommended (Geerlings, 1970; Trimbos, 1971). Implicit in these practical recommendations was an acceptance of a theory that placed more emphasis on psychosocial processes than biological ones.

The trend away from simplistic clinical models towards more variated theories has continued. As with all processes of evolution, more differentiation can be observed in the field of addictions. Jaffe (1984) has recently called for a more integrated model that would synthesize sociological theories of deviance with theories of psychopathology. He feels that the emergence of the youthful addict rightfully placed critical attention on the older psychopathological theories of the "addictive personality", but may have led to an overreaction in the sociological direction. Much in line with Trimbos' early ideas, Jaffe sees that a better understanding of psychopathology and addiction is necessary. This view was further supported by Platt, who has revised his classic text on heroin addiction to include the most recent work that operationalizes psychopathology as "general disturbance" and places more integrated attention to its role in specific treatment subpopulations such as methadone maintenance clients (Platt, 1986). In order to address this common nucleus, in this study we will develop a comparative description of an outpatient methadone population using personality measurements (MMPI, NPV) and social background variables.

1.1 THEORIES OF ADDICTION

There are literarily scores of theories that try to explain the phenomenon of heroin addiction. It is now generally accepted that heroin addiction is the result of a complex interaction of biological, psychological and sociological factors. Nevertheless, for the purpose of understanding the personality and social dynamics of an outpatient methadone population, several theories are especially relevant as background. These include the metabolic deficiency theory developed by Dole and Nywswander, the sociological theory of symbolic interaction formulated by Lindesmith, the psychosocial theory of Ausubel and the family theory of Stanton.

The most thorough review of these theories has been conducted by Platt (1986: p. 100) in the second edition of his book Heroin Addiction. Platt devotes much attention to the importance of theory observing "that theories of heroin addiction have been invoked at many different levels of scientific explanation - from the molecular to the molar. In addition, there are often several different theoretical formulations at any one level." Much of the following review is based on Platt's standard which provides the main focus.

1.1.1 METABOLIC DEFICIENCY THEORY

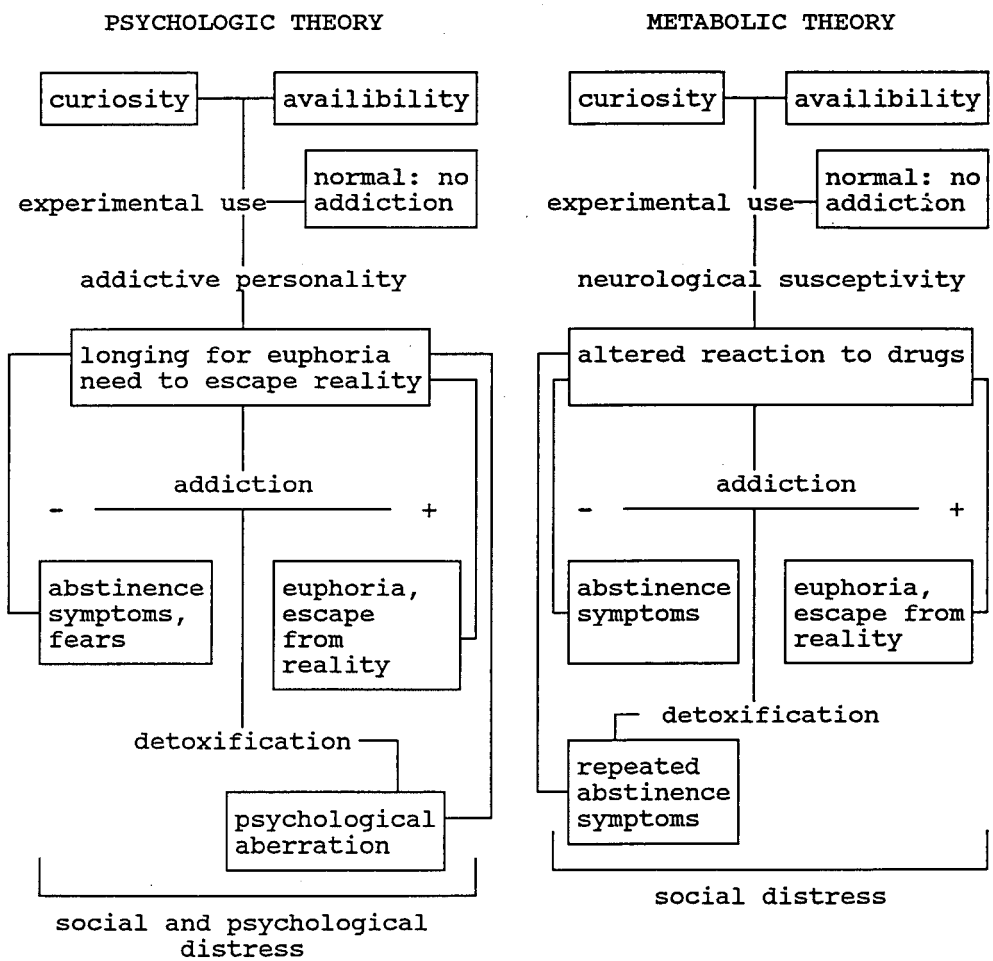
Dole and Nywswander have developed a now classical theory of heroin addiction based on the biological mechanism of metabolic deficiency. In early experiments in New York among chronic heroin addicts they observed that the majority of their patients who were administered stabilization doses of methadone showed a remarkable improvement of social functioning despite previous criminal records. Based upon this experiment, Dole and Nywswander argued that their methadone patients could function because methadone had corrected an unspecified metabolic deficiency. This metabolic deficiency countered psychological theories that addiction was based on the euphoric effects of heroin that provided a convenient reality escape. Cause and effect became confused in these traditional theories. The observed psychopathological consequences of addiction have more to do with the illegality of the heroin then any specific psychological trait. Dole and Nywswander propose that the real basis of narcotic addiction is an unspecified

metabolic deficiency. Initial experimentation with drugs is not based on individual psychopathology but arises from normal curiosity. Methadone, in alternatively correcting this metabolic deficiency, allows the addict to lead a normally productive life by eliminating his other drug-seeking behaviour.

However, after several long-term evaluations the initial optimism was tempered and the role of methadone somewhat relativized (Dole and Nyswander, 1976; Dole and Joseph, 1978).
Dole (1988) postulates - after analysis of the chemical results of methadone maintenance during the past 25 years - that the high relapse rate of addicts after detoxification from heroin use is due to persistent derangement of the endogenous ligand-narcotic receptor system and that methadone in an adequate daily dose compensates this defect. He states that the majority of heroin users experience a variety of symptoms after methadone maintenance is stopped. Methadone treatment would therefore be corrective but not curative for severely addicted persons. However, methadone maintenance would provide a safe and effective way to normalize the function of otherwise intractable narcotic addicts. The broad outline of a metabolic theory of narcotic addiction would be coming into view.

Already in 1971 Trimbos suggested that these findings had to be examined critically. Dole and Nyswander denied (premorbid) sociopathic behavior as a cause of addiction. As stated before, they consider asocial behavior as a consequence of addiction. The psychological theories consider emotional problems and a desire to escape reality as leading to addiction. On the other hand, the metabolic theory states that the use of drugs can be seen as a consequence of normal (adolescent) curiosity (see Fig. 1.1).

FIGURE 1.1
Psychological and Metabolic Theory Models



Source: Trimbos, 1971, p. 4

1.1.2 SOCIOLOGICAL THEORIES

Lindesmith (1947) has developed a sociological theory of drug addiction, based on interviews with 60-70 opiate addicts. In his view opiates do not offer an escape to life as addicts take them to feel normal. Some individuals receive opiates for a prolonged period of time in the course of medical treatment but do not become psychologically dependent on them (even when they are physically addicted) and do not continue drug use when the opiates are discontinued. Lindesmith feels that knowledge of withdrawal symptoms and the continued use of the drug for the consciously understood motive of avoiding these symptoms differentiates those who are (or will become) addicted to drugs from those who will not, even after a prolonged period of administration. Addiction begins when a person suffering from withdrawal symptoms realizes that the drug will relieve these symptoms and that all cases of drug addiction begin when the drug is used for the conscious purpose of alleviating withdrawal symptoms.

Lindesmith believes that if morphine is withdrawn slowly without the patient developing a craving for it, addiction will not occur. He additionally includes in this complex the tendency to increase the drug dosage, to feel an uncontrollable craving and desire for the drug, to obtain it at any cost and to be unhappy without it. If the person experiences withdrawal without resorting to drug use, he will not become addicted. According to this theory, once a person takes the drug for the purpose of relieving withdrawal symptoms, he will be addicted. Addiction serves no purpose other than preventing the occurrence of withdrawal symptoms.

According to this theory, euphoria is not an important variable in the addiction process, as it is quickly lost with the continued administration of the drug. Furthermore, medical patients who receive opiates do not experience euphoria and some still become addicted. Therefore, euphoria may account for initial drug use in some cases but in no case can it explain the continued use of drugs. Relapse will occur when the addict realizes the effect the drug had on dissipating unpleasant physical or mental states. When not taking the drug, the addict misses not being able to control his feelings and feels like a passive victim of his environment and emotions. He again takes the drug and relapses.

In surveying the general theory of addiction, Kaplan has pointed to the special role of craving and symbols in the process. He states:

> "Both Erlenmeyer and Lindesmith underlined the magic that lied underneath the craving. Like other forms of magical practice, addiction involves the strong play of symbols which defined to the adept the meaning of strong impulses and elaborated, complex sequences of activity. Lindesmith, like his other Chicago colleagues, became singularly impressed with this play of symbols in human life and developed a particular scientific approach to study it. Called "symbolic interaction", the approach emphasized that much of human behavior is determined by natural processes which are given meaning and reinforcement by primary groups, in face-to-face interaction. Symbols are the mechanisms for regulating these processes and compose the basic content of the self. Thus, to Lindesmith addiction was a gradual process of becoming cognitively involved with a specific symbolic order. Throughout his career, he emphasized (as with other magical practices) the essential significance of initiation and its ceremonies. He saw the existence of the law as essential in defining the symbolic order, noting that almost every addict becomes initiated to his addiction to opiates hiding from authority and under the auspices of criminal organizations." (Kaplan, 1985, p. 6; see also McAuliffe and Gordon, 1974).

1.1.3 PSYCHOSOCIAL THEORIES

Ausubel (1961), a multiple causal theorist, does not feel that an addict continues using drugs for the purpose of avoiding withdrawal symptoms. There is a 75% relapse rate in drug addiction and if withdrawal symptoms were severe enough to have kept addicts on drugs, there is no reason for a former addict (with full knowledge of these symptoms) to resume his use of drugs and again expose himself to withdrawal symptoms. Ausubel indicates multiple causes of addiction which are not the same for every addict. There are internal (hereditary susceptibility) and external (environmental) factors that contribute to a person becoming addicted. Availability of narcotics is the most important external factor because, no matter how susceptible an individual

is to drug addiction, he can not become addicted if drugs are not available. Availability alone, however, is insufficient to explain addiction as only a small percentage of those who have drugs readily available become addicted.

Ausubel classified various types of addiction according to the internal and external factors involved. Maturational deficiency produces the most serious form of addiction with the poorest prognosis. This form of addiction affects individuals who do not undergo adult personality maturation (i.e. development of long-term drives and motivational traits characteristic of mature individuals) as a result of poor parent-child relationships (in which the parent is very over- or underdominant). These people are typically passive, dependent, irresponsible, lacking in perseverance and self-discipline and preoccupied with achieving immediate, pleasurable self-gratification. The drug-induced euphoria provides such people with immediate pleasure and dulls self-critical facilities enabling them to feel content with their inadequate adjustment.

Reactive addiction occurs in slum areas affecting minority individuals with normally developed personalities. Reactive drug addicts are likely to be delinquent prior to their addiction; they come from economically deprived homes and use drugs to conform to peer standards and/or to express rebelliousness. Drugs provide an outlet for rebelliousness and defiance of conventional norms. Reactive addiction is facilitated by the availability of drugs and acceptance of drugs in the subculture found in this environment. This type of drug use diminishes as adolescent identification with deviant norms declines (Ausubel, 1961).

1.1.4 FAMILY THEORY

Stanton and his colleagues have attempted to clarify heroin addiction, and drug abuse in general within a context reflecting familial and interpersonal issues. Stanton (1978; 1979; 1980) sees addiction as a symptom arising within an interpersonal context and bearing meaning for both the symptomatic individual and those within his system. Viewing drug abuse as a family phenomenon leads to a number of contributing factors. Stanton identifies: a) Traumatic loss: The stress of immigrant families reflects partly the difficulties of coping with the new environment and in part the loss of the family left behind. The individuation process of the

child in adolescence might terrify - as a result - immigrant parents. Similarly, non-immigrant families of drug abusers were faced with more early deaths or tragic losses than expected, leading to the possibility that high rates of suicides, deaths and self-destruction among addicts reflects the role of addicts to (almost) die as part of the family attempt to work through the trauma of the loss. b) Fear of separation: Addict families show a strong fear of separation leading to dependency on the part of the addicts. c) Addict-family context: A close family tie occurs compared to non-addicted peers. d) Family structure: The addict becomes "stuck" at adolescence as a result of the intense involvement of one parent, usually of the opposite sex and the distant, punitive or absent presence on the part of the other parent. This "typical" addict family structure results in repetitive failure to succesfully individualize.

Platt (1986: p. 125) reviews a number of factors indicated by Stanton (1978, 1980) which tend to differentiate the drug abuser's family from other families in which a pattern of overinvolvement by one parent and distance/absence by the other occurs. Platt writes:

> "(a) high frequencies of chemical dependency across generations, particularly for males, and other addictive-like behaviors, such as gambling, (b) primitive and direct expression of conflict, (c) the quality of parental behaviour being "conspicuously unschizophrenic", (d) the presence of a peer group to retreat to following family conflict, thus reinforcing an illusion of independence, (e) greater presence of "symbiotic" maternal behaviours, (f) a greater frequency of untimely deaths and/or death themes, (g) a "pseudo-individuation" from the family, and (h) the greater incidence among offspring of immigrants, suggesting the importance of parent-child cultural disparity."

Family therapy, although relatively recent, is becoming a recognized treatment modality (Stanton, 1979).

1.2 RESEARCH QUESTION, OVERVIEW AND HISTORY OF THE STUDY

The metabolic deficiency theory does not take into account any predisposing psychological or social elements of the addict's history and focuses mainly on the present biological situation

of the addict and thus denies environmental influences. By doing so, a cultural impact on the phenomenon is in se rejected. On the other hand, the sociological theories of addiction deny the impact of a biological predisposition or even a biological sensitivity to the process of addiction. Psychosocial theories try to combine the internal and external causes leading to addiction while family theories put the emphasis on the inter-personal process of living within a family. It is therefore of theoretical and practical to conduct a clinical assessment of a sample of heroin addicts, comparing them to a group of methadone users in a different socio-cultural context. It is also of interest, given these theoretical issues, to conduct an indepth analysis within a given sample in order to specify and assess the relevant biopsychosocial determinants of psychopathology and, in turn, to discriminate psychopathological and "normal" drug addicts in relationship to the dynamics of early drug career experiences.

The purpose of this study is to explore the clincal and social aspects of a sample of Rotterdam methadone clients in order to provide a better understanding of which theoretical constructs are functionally significant. The study is designed to make some between and within sample comparisons in order to investigate variations in psychopathology across different sociocultural contexts and conditions. The underlying hypothesis is that psychopathology is not a socioculturally "free" phenomenon in all cases, especially when and where social rejection of drug-taking behaviour occurs. Social aspects according to our hypothesis, will play an important role in the emergence and maintenance of psychopathology in heroin addicts.

The analytic design of this study is, to treat psychopathology as measured by standardized clinical psychological instruments as a dependent variable that is determined by both sociocultural contextual variations and social career developmental factors which function as independent variables. The study begins by reviewing and systematically comparing some classical, clinically standard and internationally widely used clinical psychological instruments. This analysis provides some insight into the validity of these instruments for assessing a (Dutch) heroin addicts population. In preceding chapters, between and within group comparitive analysis are conducted in order to assess the influence of various orders of social variables. The Dutch sample is systematically compared with an American sample with cognizance of the inherent limitations that make cross-cultural comparisons difficult, but nonetheless necessary. A

succeeding chapter involves an in-depth assessment within the Dutch sample for the purpose of specifying certain parsimonious models of the influence of each career experience on later psychopathological functioning. A concluding chapter summarizes the results of the study and suggests some questions for future research and policy discussion.

The historical background of the study involves the evolution of methadone programs in the city of Rotterdam. This process has been accompanied with an on-going effort to research the programs for both evaluation and more fundamental scientific purposes. The study stands in this tradition and seeks to provide an analytic framework to assess, describe and explain the psychological and social functioning of the city's methadone clients. In this regard, the study has not been designed or presented as the "definitive" word on the city's methadone experience, but rather with the more modest aim of making a contribution to the understanding of methadone clients in Rotterdam that will also have a specific impact on more general and internationally theoretical questions that have faced the field of addictions since the post-World War II period.

In 1969 the GGD (Municipal Health Department) Rotterdam developed the first program for drug abusers. In 1972 the first central outpatient methadone program was established shortly after the introduction of cheap heroin in the Netherlands. In 1974 there was a total case load of 240. The methadone was distributed in the GGD building and the patients received medical, social and psychological guidance from the C.A.D. (Consultation Bureau for Alcohol and Drugs), a state-financed agency (Van Eepen, 1978). In 1976 the caseload was distributed over three agencies and the GGD program was reduced to 100 patients. As the number of methadone patients was steadily growing, diversification and specialization of offices took place. The GGD program remained basically a "low threshold" methadone maintenance program, requiring only a few basic demands from the clients such as no violence, coming regularly, no selling of the methadone and occasional urine analyses. The number of patients, however, decreased steadily to an average of 80 at the end of 1982. At that time another financing structure came into operation and all methadone patients were referred to the Consultation Bureau for Alcohol and Drugs.

During the period of the data collection of this study (1977-1981), most of the patients were on maintenance although there always existed a regular turnover. Most of the patients received their methadone three times a week and had periodical contacts with the staff. Urine testing was carried out regularly. It was clear that additional use of heroin occurred frequently. The aim of the methadone program was reduction and abstinence, but the practice was fluctuating maintenance doses. The population of the program can be described as "hard core" and non-motivated toward abstinence.

A later study has been carried out to evaluate the methadone programmes in Rotterdam between June 1982 and June 1984. New admissions to the programs are for 70% former clients asking for readmission. About one-third of the clients revolves between two or more methadone programs. On the basis of the outcome of this study it becomes clear that the mixed methadone reduction and methadone maintenance programs where highly identical to the real maintenance programs. In this view it can be seen that the GGD program did basically function as a maintenance program.

Methadone to all programs was provided by the Municipal Pharmacy. However a minimum of methadone patients received treatment by general practitioners (Bernaert, 1985). This later study was restricted to the use of methadone and did not further evaluate the psychosocial functioning of the city's methadone clients. It may be assumed that the results of the study presented in this volume are still valid with, perhaps, the intensification of the psychopathological profiles brought about by the increase of a polydrug pattern of use and cocaine in the population (Intraval, 1989).

CHAPTER 2: CLINICAL ASSESSMENT OF METHADONE CLIENTS: SAMPLE, MEASUREMENT AND TEST RESULTS

2.1 THE SUBJECTS

The research sample consists of 80 persons who had been in treatment for an uninterrupted period of at least 4 months between 1978 and 1981 and who had an addiction history of at least one year. However, most of the patients had a longer history of addiction. As described in the Introduction, a clinical assessment of our poulation and measures of general disturbance will be provided and the MMPI will be used to give a cross-cultural comparison while reviewing psychopathology of Dutch and American methadone clients. A model discriminating the psychopathological from the normal clients in the Rotterdam methadone sample, deepening the understanding of the psychosocial dynamics will be applied in order to specify the determinants of psychopathology in this group. The sex distribution in the research sample was 67 males and 13 females. The age range varied from 17-48: all except one were Caucasians and Dutch nationals. The mean age was 25.9 (standard deviation = 5.2). Their intelligence (measured with Raven's (1960) Standard Progressive Matrices) was a little higher than average.

Along with the personality measurements an inventory of social and life historical questions was administered. The questionnaire (see Appendix 1) included demographic, social background and drug history variables. Sex, age, marital situation, psychiatric diseases, traumatic experiences and family background were also measured, as were education, professional status, unemployment and earnings. An important part of the questionnaire dealt with the history and evolution of addiction, including treatment, criminal activities, police contacts and convictions.

A short overview of the client chacteristics can now be presented. A fuller description is available in Appendix 2. Over half the sample (52.5%) were single. The family background showed a considerable number of broken and incomplete families (almost 50%). Most of the subjects were unemployed and received some form of welfare (91%). The socioeconomic status of

the respondents, as measured by their father's occupation on a 7-point scale, is above moderate. Most people (60%) left home before 18 years of age and had a criminal background. Heroin use started early (84% before 20 years of age) and almost 85% injected. Besides heroin, all subjects used cannabis and alcohol. In addition, a majority also took stimulants (over 80%), hallucinogens (65%) or hypnotics (almost 50%). They were all polydrug-users. The majority of the subjects had been in treatment several times. The relapse rate was high. Only 20% of the subjects had been clean through treatment, although never longer than for one year.

2.2 MEASURES OF PSYCHOPATHOLOGY AND FUNCTION

Besides the independent or predictor variables described above, two inventories were used as dependent or criteria variables. A description of both inventories will be given.

2.2.1 THE MMPI

The standard MMPI handbooks are the 1960 and 1979 editions of Dahlstrom and Welsh (1960; 1979) and Gilberstadt and Duker (1965). Much of the instrument description presented below can be found in far more detail in these handbooks which have been written as guides for use both in clinical practice and research.

The MMPI is a paper and pencil test consisting of 566 items describing feelings, thoughts and beliefs that are answered as either true or false. The MMPI is composed of ten clinical scales (hypochondriasis, depression, hysteria, psychopathic deviance, masculinity-femininity, paranoia, psychasthenia, schizophrenia, hypomania, and social introversion) and four validity scales (frequency, lie, cannot say and correction), each scale yielding a separate score. The raw scale scores are converted to standardized scores which are referred to as T-scores. A T-score has a mean of 50, a standard deviation of 10 and can range from 20 to 120. A T-score between 30 and 70 is within normal limits, while any score below 30 or above 70 is indicative of a pathological disturbance.

The "cannot say" scale is the number of items left unanswered. The raw score on this scale is not converted to a T-score and this scale was not used in the data analysis. The "lie" scale consists of items which describe minor faults that people usually freely admit to. A high score indicates that the person has concealed some things about himself while a low score indicates a socially responsive person who readily admits to faults. The frequency scale consists of 64 items which are rarely answered in the scored direction. High scores on the frequency scale indicate that the person was either unable to read or understand the test, seriously confused and disorganized, tried to make himself appear seriously disturbed or answered the items in a random or irrelevant manner. Low scores indicate that the test items were understood and the directions were followed. The correction scale measures the test-taking attitudes of the subject. A high score indicates that the person is defensive and hesitant to admit to psychological problems or weaknesses. Moderate elevations indicate adaptiveness and ego strength, while low scores indicate that the person is selfcritical and willing to admit to symptoms and failings.

The hypochondriasis scale is composed of items describing physical complaints and bodily functions. High scores indicate undue concern for health and bodily functions. A low score indicates an ambitious responsible person who is not overly concerned with physical complaints. The depression scale was developed to identify patients who exhibited depression. High scores indicate depression, worry and pessimism, while low scores are associated with cheerfulness, spontaneity and the absence of depression. High hysteria scale scores indicate immaturity, repression and susceptibility to suggestion. Low hysteria scale scores indicate a constricted, guarded and socially nonparticipating personality. The psychopathic deviance scale was based on patients who had a disregard for social values, did not profit from experience and had difficulty maintaining interpersonal relationships. High psychopathic deviance scale scores indicate a person who is impulsive, resentful and lacking in deep emotional responses. Low scores on this scale indicate a person who is conforming, unassuming and overly accepting of authority. The masculinity-femininity scale measures a person's tendency toward the attitudes and interests of the opposite sex. For males, a high score on this scale indicates sensitivity

and femininity of interests while a low score indicates an adventurous person who prefers action to contemplation.

High scores on the paranoia scale indicate a person who is suspicious and overly sensitive and who uses projection as a defense. People with low scores on this scale are also suspicious and this suspiciousness is usually accompanied by a lack of concern with social contacts. The psychasthenia scale was based on a group of patients suffering from phobias, obsessions and compulsions. High scores on the psychasthenia scale are associated with anxiety, rigidity, tension, fears and excessive doubt. Low scores indicate a well-organized, persistent individual who is able to effectively use his resources. High schizophrenia scale scores indicate social withdrawal, unusual thought processes and nonconformity. Low scores on this scale indicate a conventional, compliant person who is seen as friendly and adaptable. High scores on the hypomania scale indicate a high energy level, restlessness, and hyperactivity while low scores indicate a low energy level, noncompetitiveness and a lack of self-confidence. High scores on the social introversion scale indicate a shy, sensitive person who is assertive and outgoing in his relationships with others. The few studies done on the MMPI in Holland can now be discussed.

Burger (1962), in what he himself called "a small experiment", related 51 psychiatric patients' MMPI-scores to their psychiatrist's ratings. The psychiatrists were asked on which two clinical MMPI-scales they guessed their patients had reached their highest scores. The number of correct ratings differed significantly and in a positive direction from chance, and Burger concludes that "this result is a stimulus for further experimentation with the translation" (Burger, 1962, p. 90). However, in the same year, Kouwer (1962) severely criticizes Burger's "small experiment" and wonders whether it would not be admirable if a research report were less "sloppy", both theoretically and technically.

In 1963 Nuttin and Beuten present their "authorized Dutch version of the Minnesota Multiphasic Personality Inventory" (Nuttin and Beuten, 1963). In a discussion of the translated MMPI, Wilde (1965) is the first author to criticize the Dutch MMPI.

> "Lacking an adequate sample, the authors might have done better to tabulate the raw results groupwise. The viewing of males and females separately appears to be

unnecessary at closer inspection of the norm tables, as on most scales there is no significant sex difference. There is no mention of half- and test/retest-reliabilities. There is no description of item analyses and intercorrelation of the scales; the influence of age and intelligence is not demonstrated. The obtained norms are presented as T-standard scores in spite of the far-reaching discrepancy of the raw scores. The most serious failure, however, is the lack of any indication of the validity of the MMPI in Dutch-speaking areas, which is the decisive factor in determining the value of such tests. Indeed, some of the failings are mentioned by the authors themselves, but we wonder if they should not have waited with their official publication until they could have presented more differentiated psychometric data" (Wilde, 1965, p. 254).

Burger (1967) is the one to defend the usefulness of the Dutch MMPI again. This time he related five MMPI-indices of severity of psychopathology to adjustment ratings (the Graffel-scale) by occupational therapy staff. Especially the Peterson Signs, Tamkin's P-scale and the F-scale were significantly related to the Graffel-scale, and Burger ends by saying that "these scales are considered as fairly adequate measures of severity of psychopathology" (Burger, 1967, p. 60).

Two subsequent articles by Diekstra (1971a and 1971b) state that "the Dutch MMPI should not be used for assessment of personality traits or psychopathology" (Diekstra, 1971b, p. 123), since much of the total MMPI testvariance is attributable to the response set or style of the subjects. Besides the well-known "acquiescence" and "social desirability", Diekstra specifically mentions what he called an "uncertainty response tendency (cannot say)".

In a study among TBR-subjects (persons who are put at the disposal of the government for compulsory treatment) Diepstraten and Boon van Ostade (1973) showed that "the information of the MMPI seemed to be very reliable, but for the description of the personality not much more so than the information of a shorter questionnaire like the ABV" (Amsterdam Biographic Inventory) (Diepstraten and Boon van Ostade, 1973, p. 327). For several reasons (such as the complexity in wording of numerous items, the item overlap between the MMPI clinical scales, the normalization and the lack of sufficient reliability and validity research) Luteijn and

Kingma (1979) constructed a shortened Dutch MMPI. This shortened MMPI consists of 83 items, divided over five scales, with satisfactory psychometric qualities (internally consistent, low scale-intercorrelations and low correlations between the five scales and biographic variables) and with little loss of information compared to the original Dutch MMPI.

In 1980 Luteijn answers one of the questions he and Kingma had posed the year before: In what way is administering the MMPI useful in addition to other personality inventories? In a study among two different groups of subjects, Luteijn (1980) examined the relationship between both the original and the shortened version of the Dutch MMPI, the NPV (Dutch Personality Inventory), and the ABV (Amsterdam Biographic Inventory). Luteijn recommends that "for practical purposes... a combination of the shortened MMPI and the NVP should be used" (1980, p. 215).

Seven years later, Lambert and again Luteijn (1987) compared the original Dutch MMPI and the shortened MMPI, by that time called the NVM, Nederlandse Verkorte MMPI (Dutch Shortened MMPI). Among psychiatric inpatients it appeared that both the MMPI and the NVM are "moderate to poor predictors of clinical variables, such as reason for admission, diagnosis, and symptom categories... In clinical use the NVM is preferable to the MMPI because of the more favorable psychometric qualities and the economy of administration" (Lambert and Luteijn, 1987, p. 81).

Meanwhile, the original MMPI was reviewed by the Nederlands Instituut voor Psychologen (Dutch Institute for Psychologists) in their publication Documentatie van Tests en Testresearch in Nederland (Documentation of Tests and Testresearch in the Netherlands). The normalization of the original, long version of the Dutch MMPI, its reliability and validity are both considered to be insufficient (Visser, Vliet-Mulder, Evers and Ter Laak, 1982). After this, one may wonder why the original Dutch MMPI was administered in this research anyway. The answer is a quite pragmatic one: although the psychometrical and validity aspects of the MMPI might be insufficient in the Dutch setting, in the United States the MMPI is one of the personality inventories most used in general and specifically among drug-using populations. Therefore, by including the MMPI in this research it becomes possible to make some tentative comparisons of personality or psychopathology between Dutch and American heroin addicts.

The experience in addiction research using the MMPI has been summarized by Platt (1986). Many investigations have been undertaken to discover whether heroin addicts posses specific personality characteristics as measured by the MMPI. However, the empirical literature does not point in a single direction. Using the MMPI, heroin addicts have been found to lie on almost any point on the diagnostic spectrum, including neurotic, psychotic, psychopathic, or sociopathic disorders. Platt's conclusion (cited in part, above) is that there is no common pattern of personality traits among heroin addicts and therefore no "addiction-prone" personality.

An earlier review of the MMPI literature conducted by Craig (1979b: 620) also came to the same conclusion, i.e., ".... that there is absolutely no evidence for the existence of an 'addicti-on-prone' personality." Nevertheless, Craig notes that certain regularities can be found throughout the literature suggesting that narcotic addicts have an MMPI associated with a 4-9 or a 9-4 profile spike characterized by an impulsive acting out. However, the further theoretical development of this regularity has been hampered by numerous methodological difficulties in the design of empirical investigations. There have been relatively few studies that have attempted to cross-validate the MMPI results by relating them to other personality measures in the same sample. This often leads to the fallacy of "global personality types" due to relying on a single measurement rather than the preferable procedure of multiple assessments of personality (Craig, 1979a and 1979b). Yet another common methodological difficulty is the inappropriate use (or complete absence) of control groups. For example, Gendreau and Gendreau (1970, 1971, and 1973) in controlled MMPI investigations of Canadian heroin addicts showed that many of the personality differences between addicts and non-addicts may actually be artifacts resulting in part from the failure of investigators to match addict groups appropriately with equivalent controls.

There have been no substantial publications on research using the MMPI in investigations of Dutch drug addicts. Despite questions and similar to the American situation, the instrument continues to be clinically used and a shortened Dutch version of the MMPI (83 items) has been developed (Luteijn and Kingma, 1979). The current opinion in the Netherlands is that the norms, reliability and validity of the MMPI are insufficient (Visser, Vliet-Mulder, Evers and Ter Laak, 1982). However, for certain practical purposes in the Dutch context, the MMPI can still

be considered useful in combination with other personality instruments such as the Dutch Personality Questionnaire (NPV). The NPV is derived from the California Personality Inventory (Gough, 1964). Given these limitations it was seen as nonetheless practical to use the MMPI in combination with the NPV.

2.2.2 THE NPV (DUTCH PERSONALITY INVENTORY)

The NPV consists of 132 items (plus one instruction item), initially selected from the California Psychological Inventory and, after translation, adapted to the Dutch situation.

The purpose of constructing the NPV was stated by Luteijn as follows: to construct "a wide-spectrum personality questionnaire to be used in differring practical fields and having reasonable test-technical qualities" (Luteijn, 1974).

Following several revisions the NPV was made up of seven subscales, based on a combination of factor analysis and a criterion-oriented approach:

The "Inadequatie" (Inadequacy) Scale (IN), measuring "vague fears, vague physical complaints, feelings of depression and insufficiency", also described as neuroticism (21 items).

The "Sociale Inadequatie" (Social Inadequacy) Scale (SI), measuring the "avoiding of or feeling unhappy about social contacts", also described as "neurotic shyness or social fear" (15 items).

The "Rigiditeit" (Rigidity) Scale (RG), measuring "the degree of trying to plan events, based on rigid habits and principles" (25 items).

The "Verongelijktheid" (Indignation) Scale (VE), measuring "criticism and suspicion of other people", also described as hostility (19 items).

The "Zelfgenoegzaamheid" (Complacency) Scale (ZE), measuring "self-satisfaction, and desinterest for other people's problems", also described as egoism (16 items).

The "Dominantie" (Domination) Scale (DO), measuring "self-confidence, taking initiatives and willing to be in charge" (17 items).

The "Zelfwaardering" (Self-affirmation) Scale (ZW), measuring "a positive attitude with regard to work, being adaptable and well-adjusted", also described as self-esteem (19 items).

Given the limited number of items on the seven NPV subscales (varying from 15 to 25 items) the internal consistency of the NPV subscales is quite satisfactory; the median value for the seven subscales of coefficient-alpha ranges from .70 up to .86 (Luteijn, Starren and Van Dijk, 1985, p. 9).

Even though the test-retest stability is rather high for several NPV subscales, Luteijn et al. (1985) advise to retest subjects after timelapses of about two years and to make use of reliability intervals when generalizing NPV-scores over short timelapses.

On examining the structure of the NPV across various groups of subjects Van de Velde, Luteijn and Valkenburg (1980) found strong evidence indicating that: a) the factors were invariant in the different groups of subjects, b) the factor structure was independent of age and sex, c) the factors corresponded very well with the existing NPV subscales. Van de Velde et al. therefore conclude that "the use of the same scales in different practical settings is justified" (1980, p. 251).

In the remainder of the chapter the results of the analysis on the NPV and the MMPI will be given. For the NPV the raw scores have been normalized both for the tables "general group" and "psychiatric patients" and the underlying NPV dimensions were explored. The MMPI-scores were interpreted both on the classical 70 T-score and the 60 T-score levels (Dingemans and Frohn de Winter, 1983). The interrelationships among the MMPI basic scales are described and the underlying MMPI-dimensions presented. Measures of general disturbances have been constructed and the relationships between MMPI and NPV-scales as well as between measures of general disturbance and demographic variables are presented. It has been outlined that the interrelationships among the measures of general disturbance were not very strong. Finally, the MMPI clinical scales and the NPV scales were studied by means of factor analysis. A summary of the findings and a discussion is given at the end of the chapter.

For ease of presentation, all tables representing the full scope of analysis have been placed in Appendix 3. Only the broad lines relevant to the succeding chapters will be discussed in the main body of the text. While the twelve tables presented in Appendix 3 could be the

subject of a far more extensive discussion then presented below, such an exercise would go beyond the scope of the present study. However, the tables have been seen as useful for presentation insofar as they represent the first systematic comparative analysis of the MMPI and NPV in a Dutch drug using population.

2.3 NPV SCORES

Before normalizing the scores of the methadone clients on the NPV scales, they were compared to the raw NPV scores as reported by Van Limbeek et al (1986; see Table NPV 2). Besides the NPV scores of a group of drug users and a group of "normal" persons, Van Limbeek et al. also give the scores of a group of psychiatric patients and a number of alcoholic clients, which are not shown in the table. Partly due to the fact that Van Limbeek et al. (1986) did not translate the raw scores into normalized categories, the interpretation and comparison of the data are not quite uniform. The overall impression, however, is that drug users score higher on the NPV scales Inadequacy and Indignation, whereas they score lower on the Self-affirmation scale than the control group of "normal" persons (Van Limbeek et al., 1986, p. 466). The raw scores of the Rotterdam methadone clients do not appear to differ significantly from those of the drug users studied by Van Limbeek et al. Compared to the "normals", the smallest relative difference for drug users is less than 1%, for whereas the maximum relative difference is almost 20%).

Following the suggestion of Luteijn, Starren and Van Dijk (1985, p. 24), the raw scores of the Rotterdam methadone clients have been normalized on the tables for both the "general" group and the group of "psychiatric patients". From Table NPV 3 it will be clear that the choice of the standard table strongly influences the respondents' classification. When the general population group is taken as the norm, on three out of the seven NPV scales (i.e. IN, VE, and ZW) more than half of the methadone users are classified in the categories "high" or "very high". Thus, more than two thirds of the clients (68.8%) appear to have a high to very high IN-score, indicating "that they are feeling tense, depressive and unstable. [This is accompanied

by] feelings of uncertainty, somberness and hopelessness" (Luteijn et al., 1985, p. 25). It is further remarkable that more than half of the drug users (55.1%) score low to very low on the ZW-scale, indicative of persons who are especially characterized by "pessimism, somberness and lack of vitality" (Luteijn et al., 1985, p. 25).

Using the psychiatric patients as standard leads to a more normal distribution of the methadone clients. Only on the VE-scale still more than half of them has a high to very high score (in comparison both with the norm group psychiatric patients as with the general norm group), indicating that they are "very distrustful toward others, if not hostile. They will tend to show this by commenting directly, by being intolerant and impatient" (Luteijn et. al., 1985, p. 25). The use of psychiatric norms leads to much more normal distributions. The use of the general norms goes in the extreme direction (extreme high, extreme low). This makes sense because the psychiatric norms have been constructed in an outpatient population.

As in other studies (e.g. Luteijn, 1974; Van de Velde et al., 1980; Van Limbeek et al., 1986), this research found strong correlations between a number of NPV scales (see Table NPV 1). Following Luteijn (1974) and Van de Velde, Luteijn and Valkenburg (1980) we did a factor analysis on the seven NPV scales. The result of this factor analysis is strongly influenced by the choice of the standard table. Table NPV 4a shows the results of the factor analysis (principal-component analysis with varimax rotation), taking the general group as standard. The three factors together (eigen value > 1) account for two thirds of the total variance, somewhat more than the factors found by Luteijn (1974) and Van de Velde et al. (1980), which "accounted for over 60% of the variance" (Luteijn et al., 1985, p. 15). Furthermore, the factors agree fairly well with each other. There is one factor especially dominated by the NPV scales Inadequacy and Self-affirmation, which was called by Luteijn et al. (1985, p. 16): "general fear (neuroticism) versus emotional stability". A second factor in the research done by Luteijn (1974) and Van de Velde et al. (1980) is especially determined by the scales Rigidity, Indignation, and Complacency. This factor was called (Luteijn et al., 1985, p. 16): "dogmaticism versus friendliness". In the present study a factor structure was found in which the Rigidity scale is absent. The last factor is again more comparable: high factor values for the scales Social Inadequacy

and Dominance (plus in this study the Rigidity scale). This third factor was called by Luteijn et al. "extroversion versus introversion" (1985, p. 16; see Table NPV 4a. This supports the hypothesis that the NPV has a stable factor structure across populations using the general norms.

If on the other hand the group of psychiatric patients is taken as standard table, the factor analysis results in two factors (eigen value > 1). The total variance explained by these two factors amounts to 56.9%. Although this is less than the total variance accounted for by the three factors of Table NPV 4a (66.7%), it is more than the total variance explained by the first two factors from the foregoing analysis (52.1%). Table NPV 4b gives the results of the factor analysis for the different standard tables. Taking the general group as the standard, we see that the first factor is especially determined by the NPV scales Inadequacy and Self-affirmation, whereas taking the psychiatric patients as the standard adds the Social Inadequacy scale to the two scales mentioned. Similarly, in this case for the second factor the Rigidity scale is added to the Indignation and Complacency scales. The second factor thus compares very well with the "dogmaticism versus friendliness" factor of Luteijn (1974) and Van de Velde et al. (1980). The previously found third NPV factor ("extroversion versus introversion") is not discovered in using the psychiatric patients as the norm table. This is also expressed in the mean load of the Dominance scale (determining this third factor in using the general group as the standard) on both factors.

2.4 MMPI SCORES

None of the MMPI-scale scores reaches the values that are considered to be indicative for psychopathology (i.e. an elevated T-score above 70). However, this should not be a complete surprise; Dingemans and Frohn-De Winter (1983, p. 81) have noted that the American MMPI-norms lead to T-scores that are, on the average, about 10 points higher than T-scores based on the Dutch norms. Dingemans and Frohn-De Winter state that, "taking the view of a T-score above 70 as being "critical", the American norms lead to many "false positive" and the Dutch

norms lead to many "false negative" diagnoses" (1983, p. 83). Therefore, it may be justified to consider T-scores above 60 as elevated and as an indication of psychopathology.

Taking this viewpoint, the Rotterdam heroin using sample (N = 80) has elevated T-scores on MMPI-scales:

- 4 (Pd - Psychopathic deviate; mean=63.9, S.D.=12.3)
- 1 (Hs - Hypochondriasis; mean=62.5. S.D.=13.4)
- 3 (Hy - Hysteria; mean=61.6, S.D.=12.8)

(see Table MMPI 0)

On viewing males and females separately there emerges no sex difference; neither is the multivariate F-ratio significant ($p = .17$), nor is one of the unvariate F-ratios significant ($.14 < p < .98$). There is, however, a sex difference in MMPI-scale ordering. For the male Rotterdam heroin users (N = 67), MMPI-scores may be called elevated for scales 4 (Pd), 1 (Hs), and 3 (Hy). For the female Rotterdam heroin users (N = 13), MMPI-scores may be called elevated for scales 1 (Hs), 3 (Hy), and 6 (Pa).

Out of 45 possible correlations among the ten MMPI basic scales, 36 are significant at the .05 level (see Table MMPI 1). These significant correlations vary from .22 to .67; the average of the significant correlations is as high as .46. There seems to be some contamination of items in all the scales, given this relatively high number of intercorrelations.

In contrast to the NPV, there is only one norm table for the Dutch-speaking community. Normalization is based on the deviation of a respondent's score from the normed group, corrected for the standard deviation. Eventually a normalized score is achieved, where a score of 50 compares with the average score in the normed group and each 10-point deviation is equal to a difference of plus or minus one standard deviation from this average score. "A T-score of 70 or more (...) is essentially considered as a score not within normal limits" (Nuttin and Beuten, 1969, p. 24).

Table MMPI 2 gives the distribution of the Rotterdam methadone clients over the ten clinical scales of the MMPI. It should be noted that the respondents' classification as very low,

low, average, high, or very high more or less compares with the NPV-categories. The respondents with a very low or very high MMPI-score are at least plus or minus two standard deviations away from the normed group's average (comparable to the very low or very high NPV-scores, made up by the first 5 and the 95th to the 100st percentiles, respectively). Similarly, for the low/high MMPI-scale scores there is a difference from the normed group's average of at least plus or minus one standard deviation (comparable to the low/high NPV-scale scores, determined by the 5th to the 20st and the 80st to the 95th percentile, respectively). Finally, the average MMPI-scale score lies within one standard deviation from the normed group's average (comparable to a below average, average, or above average NPV-scale score, the 20st to 80st percentiles) (See Table MMPI 2)

When the "classic" interpretation of the MMPI-scale scores is followed, Table MMPI 2 shows that more than 25% of the Rotterdam drug users score outside the normal limits (a "very high" classification, T > 70) on the clinical scales Hypochondriasis and Psychopathic Deviance. With a less rigid interpretation (T > 60) as indicated by Dingemans and Frohn-De Winter (1983) and others, Table MMPI 2 shows that more than half of the respondents score high or very high on the scales Hypochondriasis, Hysteria, and Psychopathic Deviance. More than a third of the respondents still has a high to very high classification on the basic scales Depression, Paranoia, Schizophrenia, and Hypomania.

When the scores of the methadone patients on the ten clinical scales are compared (see Table MMPI 3), it appears that almost two thirds (65%) of the respondents have a very high score (T > 70) on at least one of the ten MMPI-scales. With a less rigid interpretation, considering the classification "high" as falling outside normal limits, the number of patients having a T-score of > 60 on at least one of the scales increases to 87.5%. On an average of 1.8 MMPI-scales, methadone clients score 70 or higher (s.d. = 2.1). Using the 60 or higher criterion, they reach that level on an average of 4.15 (s.d. = 2.8) scales.

What is said above indicates that there is a certain correlation among the ten basic scales of the MMPI. Of the 45 possible correlations between the scales (10x9/2) there are 36 significant

correlations on the $p<.05$ level or lower. The degree of significance varies from $r=0.22$ to $r=0.67$ (the average significant correlation is $r=.046$). In connection with these intercorrelations a factor analysis (principal-components analysis with varimax-rotation) was done on the MMPI, as before with the NPV (see Table MMPI 4). Three factors have an eigen value of more than 1; together they account for almost three quarters (72.2%) of the total variance. The first factor is especially determined by the scales Hysteria, Psychopathic Deviance, Hypomania, and to a lesser extent by Psychasthenia. The basic scales Masculinity/Femininity, Paranoia and to a lesser extent Hypochondriasis and Schizophrenia load on the second factor. The third and final factor is dominated by Social Introversion and Depression.

2.5 MEASURES OF GENERAL DISTURBANCE

Out of 70 possible relationships between the MMPI basic scales and the NPV-subscales, 18 are significant at the .01 level, while of the 52 remaining possible relationships 13 are significant at the .05 level (see Table NPV&MMPI 1). The 18 correlations significant at the .01 level vary from (-).27 to (-).70, with an average of .45. Likewise, the 13 correlations significant at the .05 level vary from .19 to .25 with an average of .22. Combining the correlations significant at the .01 or .05 level gives an average of .35 for all significant correlations.

Especially the NPV-subscales IN (Inadequacy) and ZW (Self-affirmation) are related to the MMPI basic scales: NPV-Inadequacy (described as "feeling tense and depressed") is significantly correlated to all the MMPI basic scales, except for MMPI-scale 9, Hypomania. NPV-Self-affirmation (described as "adaptable and having a positive attitude with regard to working") is significantly correlated to all the MMPI basic scales, except for MMPI-scales 6, Paranoia, and 9, Hypomania. Moreover, MMPI basic scale 9, Hypomania, is least related to the NPV-subscales of all ten MMPI basic scales; for MMPI-scale 9 only the correlation with NPV-subscale Dominance (described as "self-confidence and willingness to lead") is significant at the .05 level.

As already noticed before, there is some correlation between both the seven NPV-subscales as well as between the ten MMPI basic scales. Moreover, since the individual items of the MMPI load on more than one of the basic scales, the subjects' scores on the MMPI basic scales are somewhat contaminated. The MMPI Hysteria scale, for example, consists of 60 items, while "pure" hysteria should be measured by 19 items only. Besides that, what does an (elevated) Hysteria score exactly mean? What do we learn from the absolute Hysteria score as such? What is the implication for possible treatment?

With these questions in mind it was decided to transform the scores on the ten MMPI basic scales into a measure of general disturbance. The use of measures of general disturbance has been recommended by Platt after extensively reviewing the evidence for a specific personality and psychopathology in heroin addicts. Platt (1986: p. 164) writes:

> "The most reasonable conclusion to draw based on available data, particularly the evidence presented in the studies reviewed in this chapter, would seem to be that although addicts generally exhibit pathologic traits, there is as low probability that a common pattern of personality traits is present in all addicts. Thus any attempt to specify an addictive type or addictive personality in terms other than a general level of disturbance will probably prove unproductive."

Three different measures of general disturbance based on the MMPI were computed:

1. The subject's K-corrected T-scores on the ten MMPI basic scales were totalled and the sum divided by 10, resulting in what is called the **average MMPI-score** (AVMMPI).
2. The subject's K-corrected T-scores above 70 on the ten MMPI basic scales were added, resulting in what is called the **elevated (70) MMPI-score** (ELMMPI70).
3. The subject's K-corrected T-scores above 60 on the ten MMPI basic scales were added, resulting in what is called the **elevated (60) MMPI-score** (ELMMPI60).

Although the criticism about scale contamination due to overlapping items does not apply to the NPV-subscales, there is still a remarkable intercorrelation between the NPV-subscales. For this

reason it was decided to transform the scores on the seven NPV-subscales into three measures of general disturbance as well:

1. The subject's normed scores on the seven NPV-subscales were totalled and the figure divided by 7, resulting in what is called the **average NPV-score** (AVNPV).
2. The subject's normed scores on the seven NPV-subscales as high as 6 or 7 were added, resulting in what is called the **elevated (6-7) NPV-score** (ELNPV6-7).
3. The subject's normed scores on the seven NPV-subscales as high as 7 were added, resulting in what is called the **elevated (7) NPV-score** (ELNPV7)

In considering the measures of general disturbance based on the ten MMPI basic scales and the seven NPV-subscales, it becomes clear that the relationships between the MMPI-based measures on the one hand and the NPV-based measures on the other are not very strong, although most of them are significant at least at the .10 level (see Table NPV&MMPI 2). The correlations between the MMPI- and NPV-based measures of general disturbance range from .13 to .36, the average correlation amounting to a moderate .26. The relationship between the measures of general disturbance and specific demographic variables has been studied by means of series of multivariate analysis of variance. The demographic variables in question were sex, age (dichotomotized in below or above the median; trichotomized in below moderate, moderate and above moderate), intelligence (dichotomized and trichotomized) and socioeconomic status (dichotomized).

The results of the multivariate analysis of variance are shown in Table NPV&MMPI 3. Only intelligence - dichotomized - showed a significant relationship with the AVMMPI and a strong significant relationship with the elevated MMPI 60-scores. Age - dichotomized - showed a significant relationship with the elevated NPV6-7 and also to a lesser but still significant extent on the 0.01 level with AVNPV and elevated NPV T-scores. No other demographic variables reached a significant level.

Finally, the ten clinical scales of the MMPI and the seven NPV-subscales were studied by means of a factor analysis (principal-components analysis with varimax rotation). This was done in two ways: first with regard to the NPV the 'general' group was taken as norm table, after which an identical analysis was performed using the psychiatric patients as the standard. The results of both factor analyses are remarkably analoguous. Whichever norm table is used, four factors are found with an eigen value of more than 1, while the "explained" variance in both cases is almost equal (67.5% and 68.6% respectively) (See Table NPV&MMPI 4).

The first factor (also accounting for more than half of the "explained" variance) is in both cases dominated by six of the clinical MMPI-scales: Schizophrenia, Hypomania, Paranoia, Psychasthenia, Masculinity/Femininity and Hypochondriasis. The second and third factors are not identical in the two factor analyses. Using the NPV 'general' group as norm table, we find that the second factor is determined by the scales Social Introversion (MMPI), Social Inadequacy (NPV) and Depression (MMPI), whereas using the psychiatric patients as norm table adds the NPV-scales Inadequacy, Dominance, and Self-affirmation. In contrast, the third factor has a larger number of scales with factor loads >50 when the general norm table is used than when the psychiatric patients are taken as the standard. In this last instance, the third factor concerns the MMPI-scales Hysteria, Psychopathic Deviate and Depression, while there is also a contribution from the MMPI-scale Hypochondriasis and the NPV-scales Inadequacy and Self-affirmation. The fourth and last factor, finally, is again identical in both analyses and "explains" some 6% of the total variance. This concerns the NPV-scales Indignation, Rigidity, and Complacency.

2.6 DISCUSSION

In this chapter the results of multiple analyses of the clinical test variables have been presented. Following the suggestion of Luteijn the raw scores of the Rotterdam methadone clients were normalized on the tables for both the general group and the group of psychiatric patients. The underlying NPV-MMPI dimensions were explored and a factor analysis has been done.

The choice of the standard table strongly influences the respondents' classification using the NPV. The use of the psychiatric patient norms leads to a more normal distribution. The comparison of the raw NPV-scores of this research sample with a similar sample in which te data collection took place 3 or 4 years later shows a certain reliability of the NPV. It would be interesting to check this in a follow-up study. The factor analysis on the seven NPV scales supports the idea that the NPV has a stable factor structure across different populations when using the general norms. By using the psychiatric norms, more variance is explained by the factors and the factor structure is more coherent. The total variance explained here is, however, lower compared to the findings when using the general norms.

Depending on the "70 cut off" or "60 cut off" MMPI measure- elevations are found in 65% c.q. 87.5% of all cases on at least one MMPI scale. On an average of 1.8 MMPI scales, methadone clients scored 70 or higher (s.d.=2.1). Using the 60 or higher criterion, they reach that level on an average of 4.15 (s.d.=2.8) scales. After factor-analysis of the MMPI, three factors were found. One factor is not coherent (Factor II). Factor I could be best described as adjustment versus social abberation and Factor III as happiness versus social withdrawal.

In line of Platt's (1986; p. 164) statement, a "measure of general disturbance" was introduced both for the MMPI and the NPV. A minimal standard by using both MMPI and NPV seems to be to use the IN and ZW subscales of the NPV. These subscales discriminate all MMPI clinical scales except Paranoia and Hypomania. The correlations between the MMPI and NPV-based measures of general disturbance are not strong, so both measures seem to indicate different dimensions. A factor analysis of the MMPI and NPV-scales showed analoguous results with almost equal explained variance. Four factors were found with an eigen value of more than 1.

CHAPTER 3: PSYCHOPATHOLOGY IN DUTCH AND AMERICAN METHADONE CLIENTS: A CROSS-CULTURAL COMPARISON USING THE MMPI

3.0 INTRODUCTION

In this chapter, data are presented concerning the clinical diagnosis of a sample of Dutch heroin addicts by use of the Dutch-language version of the MMPI. Additionally, the role of the socio-cultural factors in addiction is explored through systematical comparison between the Dutch sample and a American sample of drug addicts. Important differences, however, can be found in the social definition of the drug problem. While heroin addiction is socially unacceptable in both societies, the emphasis in Dutch society has been to "normalize" heroin addiction and attempt to minimize the social harm of addiction, while the American emphasis has been upon a repression of heroin addiction to protect society while providing treatment alternatives aiming at the abstinence from drugs (Engelsman, 1989). These two otherwise similar societies provide very different systems of treatment and control of heroin addiction. They therefore make an interesting "natural experiment" for controlled comparison.

The guiding hypothesis of this chapter is that the clinical stereotyping of the older addict personality trait theories can be partially corrected by adding socio-cultural interpretations to purely psychopathological ones, i.e., variations in diagnostic profiles of heroin addicts will be affected by the differences in the definition of the disease as determined by the social context of unacceptable behavior. Specifically, it can be hypothesized that Dutch heroin addicts would display less extreme psychopathology, while American addicts would present more psychopathology.

Methodologically and conceptually it is difficult to conduct studies that compare and contrast standardized diagnostic instruments in samples of addicts in different socio-cultural contexts, thus permitting meaningful cross-cultural comparisons to be made. Often the norms for using the instruments are not equally developed in different languages and cultures and, the meaning of similar variables may be quite different as well. However, on the positive side, a

major potential contribution of such studies is that naturally differing sets of conditions may exist in the countries being compared, thus allowing for "naturalistic experiments".

In designing the naturalistic experiment presented in this chapter, an American sample was selected whose published characteristics seemed rather homogeneous with the Rotterdam sample. The American sample selected has been analyzed extensively by Penk and his colleagues (Penk, Woodward, Robinowitz, and Hess, 1978; Penk, 1981). This sample consisted of American male veterans admitted to the Veteran Administration hospital for heroin addiction in the years 1972 to 1976. All subjects were methadone treatment patients. Penk had designed his study for similar analytic purposes as the Rotterdam investigation, i.e., to explore the effects of socio-cultural (ethnic) differences on the outcomes of standardized personality measurements, such as the MMPI. In Penk's work, black and white American heroin addicts were systematically compared and contrasted on psychopathological dimensions. The question of the external validity of the Penk sample can arise but given the draft selection process in the American military at the time there is a high probability that the Penk sample can be generalized to the American addict population. In terms of age, socio-economic status, compulsive heroin use and intelligence the Penk samples are similar to other American samples of male addicts. One confounding factor could well be the war trauma that many of Penk's sample probably experienced in Vietnam. Post-traumatic stress disorder as a result of the Vietnam war has been documented in general veteran samples (Laufer, Brett and Gallops, 1985). Another possible confounding factor could be the different treatment experiences between American and Dutch addicts. It is quite possible that the American veteran sample did not have the same multiple exposure to treatment as the Dutch sample has had. Given these limitations, it is still worthwhile to try to benefit from this natural experimental situation, by trying to reduce the potential for error variance by holding constant possible confounding variables.

Thus, in terms of comparability with the Rotterdam sample, only the white American sub-sample was used. In both the American and Rotterdam samples the "ethnic" factor was excluded by contrasting a data base of only the white Rotterdam and American heroin addicts. The white American addicts resembled the Rotterdam on a number of key characteristics. The American sample had a mean age of 28.2 years, their socio-economic status was above moderate, they had

used heroin compulsively for about 3.4 years, and, finally, their intelligence was somewhat higher than normal.

There are a variety of standardized and objective instruments for diagnosing clients who are having drug addiction problems. However, for research purposes there are far fewer options for those interested in analyzing cross-cultural and social differences. The Minnesota Multiphasic Personality Inventory (MMPI) provides an acceptable, though not ideal, objective measurement instrument for exploring the complex relationships composing the "multiple diagnosis". There is a long tradition of use of the MMPI in research on personality and psychopathology of heroin addicts. It has been used in numerous settings and has a large literature of subgroup differences. The experience of the MMPI is indeed international and there are versions translated and standardized in many languages. This allows objective cross-cultural and social comparisons that would be impossible for newer and less widely used instruments.

Because the Rotterdam sample consisted of both men and women it was necessary to control for sex as well as age and socio-economic status. No significant differences on the ten MMPI clinical scales between the Rotterdam subgroups were found using a multivariate analysis of variance procedure (significance of the multivariate F-ratio's is for sex .30; for age .40; and for socio-economic status .44). Therefore, in general, the Rotterdam sample seems comparable to the American sample.

3.1 DATA ANALYSIS

Analysis was conducted on three levels. First, because of the unavailability of the American data files, statistical analysis was limited to comparison of published data sources. T-tests were conducted on the K-corrected raw scores of the MMPI clinical scales for both the American and Rotterdam samples.

Second, a nomothetic analysis proceeded by comparing the published plots of the American K-corrected T-scores with the plots of the K-corrected T-scores of the Rotterdam sample. The

analysis proceeded by systematically contrasting high scores on one scale at a time to produce a composite profile curve for each sample. However, the limitation of this analysis is that the single reliance on such a nomothetic procedure leads to difficulties stemming from the persistent problem of personality heterogeneity in groups formed by contrasting high scores on single scales. It is recognized that subjects who score high on a given scale may be very heterogeneous in regard to other scales (see Dahlstrom, Welsh and Dahlstrom, 1979).

Therefore, a third level of analysis was added: An idiographic analysis. This third analysis focusses on the relative elevation in each subject's profile. To accomplish this a configurational analysis of the code types and their distributions in the comparison samples was performed. The construction of the code types was conducted following the procedures and rules of Gilberstadt-Duker Profile Prototypes (Gilberstadt and Duker, 1965; Dahlstrom et al, 1979: 78-80). The Gilberstadt and Duker procedure was selected, in part, to make the configurations between the Dutch and American samples directly comparable with Penk (1981) who also used these procedures to construct his tables.

3.2 RESULTS

Statistical Analysis: Table 3.1 presents the means and standard deviations of the K-corrected raw scores for the American and Rotterdam samples using two calculation procedures: Computations based on the different assumptions of common and unequal variances between the samples.

Table 3.1. T-test for the difference between means of the clinical MMPI scales in the American and Rotterdam samples.

MMPI clinical scales:	Morival mean	Morival s.d.	Penk et al mean	Penk et al s.d.	t1	t2	df
Hypochondriasis	19.4	5.9	18.9	6.3	0.52	0.57	140
Depression	23.3	6.9	27.6	6.4	4.35α	4.17α	125
Hysteria	27.8	6.3	25.9	5.8	2.04β	2.09β	122
Psychopathic Deviate	30.3	5.0	31.1	4.6	1.01	1.30	121
Masculinity/ Femininity	26.2	4.8	26.4	4.6	0.32	0.43	127
Paranoia	13.1	4.7	13.4	4.7	0.49	0.67	130
Psychastenia	31.6	6.8	34.0	8.1	2.07β	1.94τ	152
Schizophrenia	37.2	10.3	36.7	11.3	0.32	0.20	142
Hypomania	25.5	4.6	25.5	5.3	0.09	0.12	148
Social Introversion	30.1	8.7	32.3	10.7	1.44	1.05	157

(α : $p < .01$ --- β : $p < .05$ --- τ : $p < .10$).

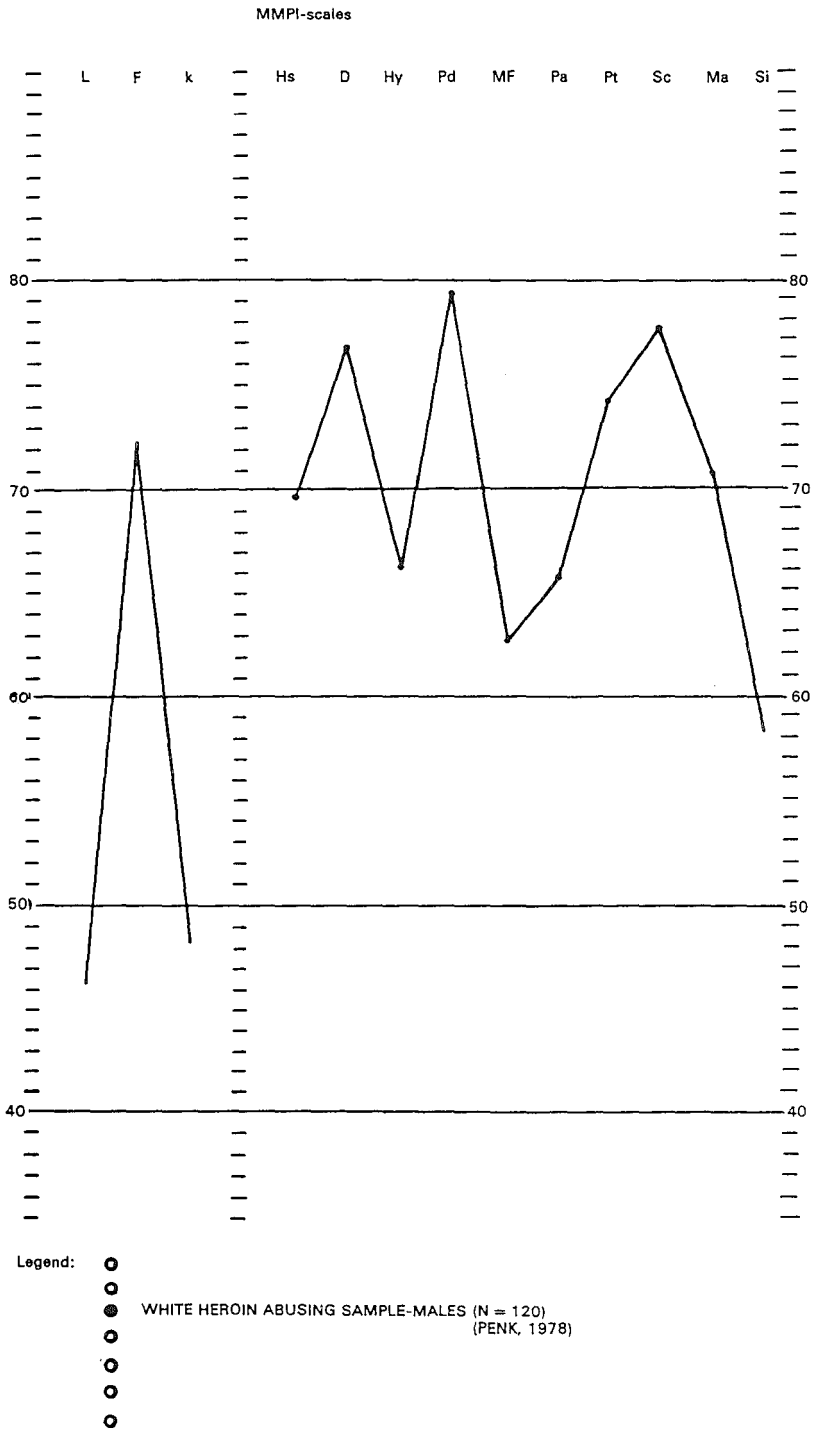
The results were relatively consistent across the two procedures. Significant differences were found between the American and Rotterdam sample for Depression, with the Americans scoring higher (mean=27.6, sd=6.4 versus mean=23.3, sd=6.9; $p<.01$). A second significant difference was found on the Hysteria scale, with the Rotterdam sample scoring higher than the American sample (mean=27.8, sd=6.3 versus mean=25.9, sd=5.8; $p<.05$). On the Psychastenia scale there was found a weaker difference between the samples, with the American sample scoring higher (mean=34.0, sd=8.1 versus mean=31.6, sd=6.8; $p<.10$).

In summary, the statistical analyses on the K-corrected raw scores showed that there are no significant differences between the samples on seven of the ten scales. The American sample scored higher on Depression and Psychastenia, but the Rotterdam sample scored higher on Hysteria.

Nomothetic Analysis: Interpretation of MMPI profiles requires cautiousness (see chapter 2). Dingemans and Frohn-de Winter (1983) noted that the average Dutch norms result in T-scores ten points lower than American scores. They argue that taking the score of seventy points as critical, the American norms lead to many false positive diagnoses while the Dutch norms lead to many false negative diagnoses. This provides some additional support for using the MMPI and calibrating the "critical" value for diagnosing psychopathological elevation at sixty points. Dingemans and Frohn-de Winter's (1983: 81) suggestion has been followed leading to an interpretation that T-scores above 60 be considered as elevated.

The Rotterdam sample has been found to be elevated on three MMPI scales: 4 (Pd - Psychopathic Deviate); 1 (Hs - Hypochondriasis) and 3 (Hy - Hysteria). As stated above, controlling for sex, age and socio-economic status led to no significant sub-group differences. The composite profiles of the Rotterdam sample and the American sample are plotted in Figure 3.1.

Figure 3.1


MMPI-scales
L
F
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Pd
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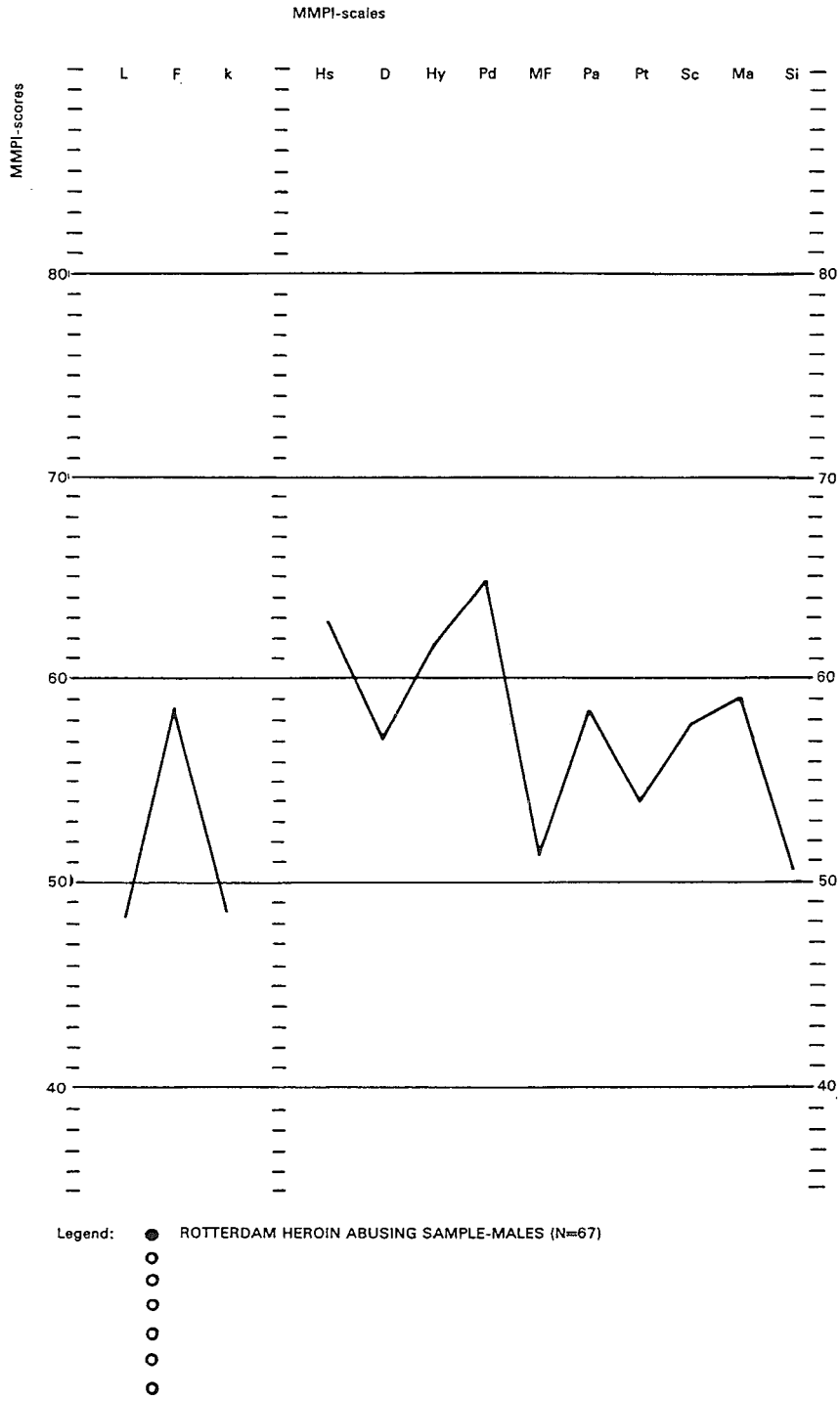
Legend:
WHITE HEROIN ABUSING SAMPLE-MALES (N = 120)
(PENK, 1978)

Figure 3.1.


MMPI-scales
MMPI-scores
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Legend:
ROTTERDAM HEROIN ABUSING SAMPLE-MALES (N=67)

Consistent with Dingemans and Frohn-de Winter's (1983) suggestion, the elevations in the T-scores in the American sample are at or even above the ten point differential when compared to the Dutch sample. The composite profiles show a striking similarity in that both samples have peaks on scale 4, Psychopathic Deviate. On scale 4, the American sample reaches a T-score of 79 while the Dutch sample reaches an elevation of T=65.

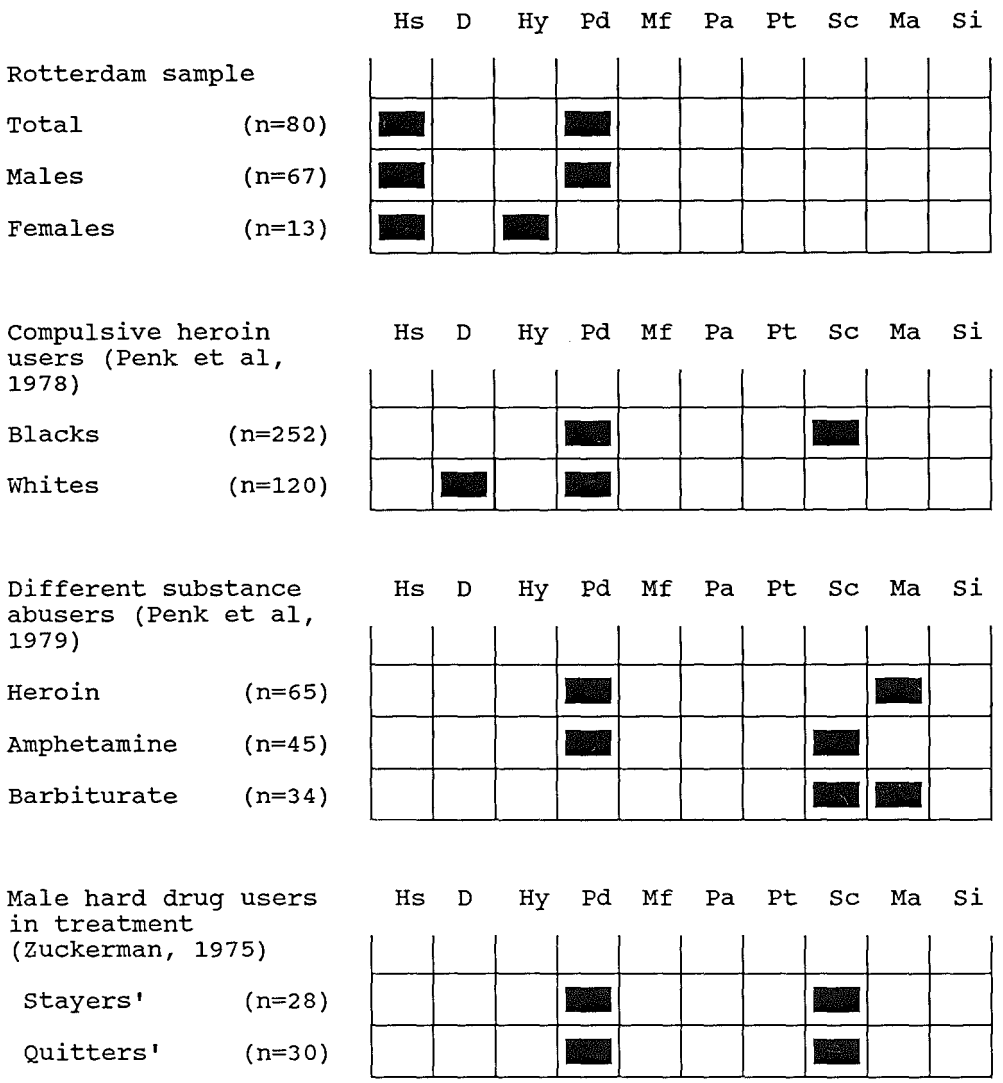
Divergence between the two samples occurs when considering the "secondary" elevations. The Rotterdam sample is elevated on scale 1, Hypochondriasis, while, for the American sample, scale 1 is on the borderline of elevation with scale 2, Depression, scale 7, Psychastenia, scale 8, Schizophrenia and scale 9, Hypomania all reaching higher levels. The divergence is also apparent in comparing the samples on scale 3, Hysteria where it is the second highest elevation in the Dutch sample and among the lowest in the American sample.

The overall conclusion that can be drawn in comparing these samples is that the American sample seems more disturbed than the Rotterdam sample. Although American clinical procedures recommend that the "critical" value of the K-corrected T-scores be set at 70, this norm would have resulted in no elevations in the Rotterdam sample. Furthermore, according to the general principles governing psychologists it is standard "not to interpret an obtained score with reference to a set of norms that is inappropriate for the individual tested or for the purposes of the testing" (American Psychological Association, 1974: 70). Thus, interpretations of the Rotterdam profile was based on elevations defined as those scores above 60, since Dutch psychological practice seems to indicate these norms (Dingemans and Frohn-de Winter, 1983). Despite these conservative controls, however, the number of elevations in the American sample are greater (i.e., five elevated scales for the American sample versus three elevated scales for the Rotterdam sample) as well as the variations in magnitude differentials between scales. That is, the Dutch sample varies between the fifty and sixty-five point range while the American sample moves from the high fifty level to almost eighty points. The Dutch composite profile curve is somewhat "smoother" than its American counterpart.

To extend the scope of the composite analysis, comparisons have been made between subsamples of the Rotterdam group and other American samples. The results of these compar-

isons are summarized in Table 3.2, which displays the "two-point high-scale" MMPI-codes (i.e., two highest elevations) in the Rotterdam sample and in three separate American studies (Penk, Woodward, Robinowitz, and Hess, 1978; Penk, Fudge, Robinowitz, and Neman, 1979; and Zuckerman, Sola, Masterson, and Angelone, 1975) subdivided by various groups. The American studies generally show a similar pattern of elevations on Psychopathic Deviate and Schizophrenia.

Table 3.2 Two-point high-scale' MMPI-codes.



Exceptions to this pattern are found in the 1979 Penk et al. study. In contrast to the amphetamine abuser-group, the barbiturate abusers in the study were not elevated on Psychopathic Deviance, but were on Hypomania in addition to Schizophrenia. Another such anomaly in the study was found in the heroin abuser group. This group was elevated on Hypomania and not on Schizophrenia. The Dutch sample conforms to the results presented above with Psychopathic Deviance and Hypochondriasis being elevated. The exception to the general Dutch composite profile are the female clients who are not elevated on Psychopathic Deviate, but rather on Hysteria.

Despite the anomaly, the general pattern in these comparative composite profile analyses is similar. Psychopathic Deviate seems to be a common characteristic of psychopathology across addict samples in the two different cultural contexts. However, specific socio-cultural contexts may be associated with particular psychopathological configurations. The nomothetic analysis supports the view that American addicts appear to have higher elevations, and therefore greater levels of disturbance in the areas of Schizophrenia and Hypomania while their Dutch counterparts seem to have higher elevations and therefore greater levels of disturbance in the area of Hysteria.

Idiographic Analysis: Table 3.3 presents the results of a configuration analysis conducted on the Rotterdam sample combined with the results of a similar analysis reported by Penk on American veterans seeking admission to a Veteran Administration Alcohol and Drug Dependence Treatment program in Dallas (1981: 11).

Table 3.3 MMPI Code Types for Heroin Addicts, Polydrug Abusers, and Alcoholics (Penk, 1981) and MMPI Code Types for Dutch Addicts.

MMPI Code Type	Heroin Addicts (n=558)		Polydrug Abusers (n=307)		Alcoholics (n=314)		Dutch Addicts (n=80)	
	f	%	f	%	f	%	f	%
Normal limits	61	10.9	28	9.1	47	15.0	56	70.0
123	4	.7	2	.6	6	1.9	0	0.0
1234	24	4.3	14	4.6	30	9.5	4	5.0
1237	0	0.0	2	.6	1	.3	0	0.0
132	3	.5	3	1.0	5	1.6	0	0.0
137	6	1.1	1	.3	1	.3	1	1.3
138	19	3.4	6	1.9	8	2.5	0	0.0
139	29	5.2	10	3.3	25	8.0	1	1.3
27	3	.5	2	.7	7	2.2	0	0.0
274	26	4.7	12	3.9	21	6.7	0	0.0
278	28	5.0	28	9.1	21	6.7	1	1.3
4	48	8.6	22	7.2	30	9.5	5	6.3
43	22	3.9	8	2.6	14	4.5	3	3.8
49	41	7.3	14	4.6	6	1.9	2	2.5
78	29	5.2	14	4.6	17	5.4	1	1.3
8123	2	.4	3	1.0	3	1.0	0	0.0
824	64	11.5	43	14.0	24	7.6	0	0.0
86	72	12.9	46	14.8	19	6.0	5	6.3
89	50	9.0	29	9.4	24	7.6	1	1.3
9	27	4.8	20	6.5	5	1.6	0	0.0

Table 3.3 presents the results of a configurational analysis, displaying the frequency distribution of MMPI code types within three Dallas subsamples (Penk, 1981) and the Rotterdam client sample. Computation of the code types in each sample followed the procedures outlined by Gilberstadt and Duker (1965). However, the reported frequency distribution for the Rotterdam sample is based upon adjusting the Gilberstadt and Duker rule downward to a sixty point critical value as compared to the American seventy point value. As mentioned above, the sixty point value is more consistent with the Dutch MMPI-research (e.g., Dingemans and Frohn-de Winter, 1983). Both the sixty point and seventy point values were computed as well as a "compromise" sixty-five point value. Little difference occurred with each value with a slightly higher percentage (3.8% difference) in the normal limits group for the seventy point value solution. There was also a small difference in the heterogeneity of the code types with, as could be expected, the sixty point solution producing (three) more psychopathological configurations.

An important result of this analysis is seen in the differences in the frequency of the normal limits group between the Rotterdam sample and the three Dallas subsamples. Seventy percent of the Rotterdam sample fell within normal MMPI limits indicating a thirty percent prevalence of psychopathology in the sample using this procedure. Comparatively, the Dallas heroin addicts had almost eleven percent of the sample within normal limits; the polydrug abusers had a little over nine percent within normal limits; and the alcoholics had almost fifteen percent of their group within normal limits. Separate Chi-square tests showed that the proportion of subjects within normal limits for the Rotterdam sample was significantly lower than the proportion of subjects within normal limits for the Dallas heroin addicts (Chi-square=163; df=1; $p<.001$), the Dallas alcoholics (Chi-square=100; df=1; $p<.001$) and the Dallas polydrug abusers (Chi-square=138; df=1; $p<.001$).This leads to the general conclusion that the Dallas addicts are more disturbed than the Rotterdam addicts.

Penk (1981: 10-11) suggests that the heterogeneity in MMPI profiles in heroin addicts is the rule at both the nomothetic and idiographic levels: "in preparing to interpret the MMPIs of substance abusers, the clinician should expect variety, not similarities." In the Dallas samples

the following code types are seen as most prevalent and significant. The following code type descriptions are taken directly from Penk (1981: p. 12-14):

Code Type 274: "This profile, with elevations on scales D, Pt, and Pd, is considered prototypical of many problem drinkers. ( ) The cardinal feature of persons obtaining such a profile is that of dependency."

Code Type 49: "The most frequent diagnostic impression is 'sociopathic personality' or 'emotionally unstable personality'. Negativism is the primary feature in interpersonal orientation. [However,] many drug users relate well, deeply, and lastingly to 'street folk' [where, perhaps, the] responsibility expected and social conformity demanded [is different]."

Code Type 4: "Diagnostic impression frequently is passive-aggressive personality, aggressive type. ( ) These drug users are comparatively well defended; they evidence little distress. Psychiatrically, there is minimal disturbance or incapacitation."

Code Type 824: "Diagnostic impressions are schizoid personality with depressive reaction. ( ) Maladjustment is seen in all spheres of interaction."

Code Type 86: "Elevations on scales 8 (Sc) and 6 (Pa, or Paranoia) suggest a thinking disorder. ( ) Drug use may occur in a 'self-medication' pattern. ( ) Many times, the attempt to participate in the 'street scene' is an effort to improve a poorly integrated sense of identity."

Code Type 89: "Like the 86 profile, schizophrenic reaction is the major diagnosis for the 89 code type. ( ) Cardinal features involve thinking disorder and paranoid projection, coupled with excitement and disorientation."

Code Type 278: "This code type is regarded traditionally as the 'modal psychiatric patient' profile, not a typical drug abuser profile. The prevalence of code type 278 among drug abusers again underscores the idea that there is heterogeneity among drug users and indicates the extent to which the marketing of illicit drugs has been successful in our times; drugs are available to a wide variety of persons. ( ) Cardinal symptoms are withdrawal and the distress syndrome."

Code Type 139: "The general diagnostic impression is chronic or traumatic brain syndrome ... [and] higher scores on scales registering somatic, CNS-like complaints. ( ) Those obtaining code type 139 generally are those who, life-long, have presented a 'macho' front to others in interpersonal interactions. ( ) Drug use may facilitate defenses of denial and repression; at the same time, such drugs as alcohol are used to 'pump up' the false front of bravado."

The Rotterdam sample does not show as wide a heterogeneity as the Dallas samples, but this may have to do, in part, to the relatively small size of the sample. The most frequently appearing Code Types are 4 and 86 (each with a 6.3% frequency). This conforms to the Dallas pattern where 86 is the most frequently found Code Type (12.9%) along with 824 (11.5%) and 89 (9.0%).

In the Dallas sample, Code Type 4 is, after the Code Type 8 "family", the most frequently found configuration. In the Rotterdam sample, Code Type 4 shares primacy with Code Type 86 suggesting that this Code Type plays a relatively more important role in the Netherlands than it does in America. Underlying this is that the frequency of Code Type 4 is almost as great as in the Dallas samples where the normal limits reach higher levels. Considering only those subjects that do not fall "within normal limits" there is no significant difference in the prevalence of Code Type 4 between the Rotterdam sample and the Dallas heroin addicts (Chi-square=3.12; df=1; $p<.10$) or the Dallas alcoholics (Chi-square=1.92; df=1; p=ns). However, prevalence of Code Type 4 is significantly higher in the Rotterdam sample as compared with the Dallas polydrug abuser sample (Chi-square=4.56; df=1; $p<.05$). There are no significant differences in the prevalence of the Code Type 8 "family" between, on the one hand, the Rotterdam subjects that do not fall within normal limits and, on the other hand, the Dallas heroin addicts that do not fall within normal limits (Chi-square=1.62; df=1; p=ns), the Dallas alcoholics (Chi-square=0.02; df=1; p=ns), and the Dallas polydrug abusers that do not fall within normal limits (Chi-square=2.96; df=1; $p<.10$).

One important difference between the Rotterdam and Dallas samples is the appearance of Code Type 1234 as an important configuration in the Netherlands. The prevalence of this Code

Type among those subjects that do not fall within normal limits is higher in the Rotterdam sample than in the Dallas sample of heroin addicts (Chi-square=6.30; df=1; p<.05) and the Dallas sample of polydrug abusers (Chi-square=5.37; df=1; p<.05). Only among the Dallas alcoholics that do not fall within normal limits is the prevalence of Code Type 1234 not significantly different from the Rotterdam sample (Chi-square=0.64; df=1; p=ns). Code Type 1234 pictures a personality trait disturbance with alcoholism, anxiety, depression and psychophysiological reactions. This category applies to individuals who are unable to maintain their emotional equilibrium and independence under minor or major stress, because of disturbances in emotional development. In addition, the clinical picture may show a superimposed anxiety reaction (Gilberstadt and Duker, 1965). To reinforce somewhat this result the related Code Type 137 also is more prevalent in the Dutch sample. Code Type 137 describes patients as passive and dependent with high anxiety reactions, even showing anxiety hysteria. Mixed neurosis is also reported as being related to this Code Type (Gilberstadt and Duker, 1965). These Code Types (1234 and 137) are thus both reflective of a high anxiety level and feelings of dependency.

3.3 DISCUSSION

In general, the specific hypothesis that Dutch heroin addicts would display less psychopathologies than American addicts has not been rejected. The nomothetic analysis showed that the American addicts have a composite MMPI profile that varies from the high fifty level to almost eighty points, while the composite profile of the Rotterdam addict sample varies between the fifty and sixty-five point range. In addition, the American heroin addicts have five elevated MMPI scales compared to three for the Dutch addicts, even when for the Dutch sample the "critical" T-score is set to sixty points.

The idiographic analysis further confirms this pattern of results. Seventy percent of the Dutch addicts fall within the normal limits range, using the prototypes outlined by Gilberstadt and Duker (again adjusted to the sixty point "critical" value), while only around eleven percent of the American addicts fall within normal limits.

Insofar as the MMPI norms reflect socio-cultural contextual differences, the general hypothesis that differences in the definition of the disease as determined by the social context of unacceptable behavior would effect the diagnostic profile of heroin addicts is not rejected by the statistical analysis. This analysis showed that, when raw scores are used, the differences between the American and the Dutch samples become less pronounced. While the American addicts score significantly higher on Depression and slightly higher on Psychastenia, and while the Dutch addicts score higher on Hysteria, on seven of the ten MMPI clinical scales there is no difference in the K-corrected raw scores between the Dutch and the American addict samples.

The three analyses presented here suggest two important conclusions: (a) that there may be certain cross (sub)cultural patterns of psychopathology found among heroin addicts that are apparently independent of the socio-cultural context, and (b) that socio-cultural factors can influence the diagnosis of psychopathology in heroin addicts.

Considering only the raw scores, the similarities between American and Dutch addicts in psychopathology are more obvious than the differences. However, using the normed scores, which is the recommended procedure in that the validity of the MMPI diagnosis is culturally determined, makes the differences more obvious. This presupposes that an analysis of this socio-cultural context is a necessary part of interpreting the MMPI differences. It seems quite plausible that although, based on the raw scores, American and Dutch addicts behave relatively the same, it is the socio-cultural context and definition of the behavior which accounts for most of the variation in the prevalence of psychopathology between the two systems. Thus, the diagnosis of psychopathology seems to involve a linkage of pathological factors with social judgmental norms. This essential point has been raised by Sederer (1985: 187): "Biological aberration must be coupled with the social value that what the individual has or does is undesirable in order for there to be sufficient cause to diagnose a disorder... This is how diagnosis impacts on the individual. It is not that the addict has a disease; it is that he has a socially unacceptable disease".

The relatively lower prevalence of psychopathology in Dutch addicts when compared to American addicts could be related to the policy of "relative tolerance" in the Netherlands, where addiction to illegal drugs is less stigmatizing compared to the United States. This may have a preventive effect, protecting individuals who engage in socially undesirable behavior from excessive social pressure to change one's behavior to adapt to social norms. Dutch society has had a long tradition of the tolerance of non-conformity, thus providing a system of both social support and obligation for those who engage in socially undesirable behavior. The medical-social network in the Netherlands seems to provide a protective factor to slow the spread of psychopathology in addicts. In contrast, American society seems to vacillate between strict conformity and "repression" to excessive tolerance, at least when it comes to substance abuse (Jaffe, 1979).

Although social tolerance tends to put a floor on psychopathology, the results of this study suggest that engaging in unacceptable behavior may still lead to psychopathological disturbances. Indeed socio-cultural factors seem to play a role in the display of psychopathology of addicts, but not to an unlimited extent.

CHAPTER 4: PSYCHOPATHOLOGY AND EARLY DRUG CAREER EXPERIENCES

4.0 INTRODUCTION

In chapter 3, we have attempted to specify the prevalence of psychopathology in a sample of clients in a Rotterdam Municipal Health Department methadone program using the complete version MMPI instrument. The analysis involved a systematic comparison with a similar American sample. The results indicated that around 30% of the sample were outside the normal limits of the MMPI. This was significantly lower than the American sample which had a prevalence of 89% using a comparable procedure. In this chapter we attempt to present a model that can discriminate the psychopathological from the non-psychopathological clients in the Rotterdam methadone program. The model provides a construct for generating future hypotheses. In this regard much of the analysis is exploratory and the results, while having an acceptable construct validity, still will need confirmation of its predictive validity based on larger samples with adequate control groups. Despite these limitations, the model represents a deepening of understanding of the psychosocial dynamics and the resultant psychopathological consequences of methadone clients. In short, we will explore in this chapter some determinants of psychopathology in this specific addict subpopulation. The aim of this chapter is to test the hypothesis that psychopathology of addicts is tied to early drug career experiences.

4.1 METHODS

The measurement of psychopathology in addict populations is still at its infancy despite recent developments of instruments such as the Addiction Severity Index and the DSM III R. These American instruments have only been recently validated in Dutch heroin addict populations (Van Limbeek, et al., 1986; Hendriks, et. al., 1989). At the time of data collection in this study the only validated instruments for measuring psychopathology were the Netherlands Personality Inventory (NPV) and to some extent the MMPI (Nuttin and Beuten, 1963; Wilde, 1965; Burger, 1967; Diekstra, 1971a, 1971b; Diepstraten and Boon van Ostade, 1973; Luteijn and

Kingma, 1979; Luteijn, Starren and van Dijk, 1985). The MMPI in its long version was administered to the population. This instrument has a wide acceptance in international clinical psychological work although there is a current trend toward the use of more specific instruments such as the Beck Depression Scale, Zuckerman Sensation-Seeking and the Seligman Learned Helplessness Scale (Beck et. al., 1961; Beck and Steer, 1988; Zuckerman, Kolin, Price, and Zoob, 1964; Seligman, 1972). However, none of these instruments have been validated on addict populations in the Netherlands to this date and were not available at the time of data collection.

A discriminant function analysis (DFA) has been chosen as an appropriate multivariate method of analysis given the underlying aim to develop a model function that would discriminate pathological from non-pathological clients on the basis of client-centered variables (Klecka, 1980). The group (criterion) variables were defined for both the MMPI and NPV distributions by the following operations. Related to the Minnesota Multiphasic Personality Inventory (MMPI) are the Gilberstadt & Duker prototypes (that have been corrected to a critical score of 60). The prevalence of any of these Gilberstadt & Duker prototypes has been dichotomized, resulting in a variable that distinguishes those subjects "within normal limits" (n=56) from those subjects "not within normal limits" (n=24). Related to the Nederlandse Persoonlijkheidsvragenlijst Dutch Personality Inventory; NPV) is the dichotomization of the sample in those subjects "with at least one elevated NPV-scale" (n=61) from those subjects "without elevated NPV-scale" (n=19). The discriminator (independent) variables consisted of the social background and life historical items. Theoretically, a typological variable was constructed to represent a certain complex of activity that was common before the policy change in 1976 which separated the administration of justice for "hard drugs" (heroin, amphetamine, cocaine) and "soft drugs" (E.Engelsman, 1989). It was composed from two items: contacts with the criminal justice system for cannabis dealing and/or possession of other drugs and/or other offenses. This historical type lost some of its relevance when cannabis dealing and possession of drugs became a low law enforcement priority.

DFA is a rather complex technique of analysis and permits multiple options. All subsequent DFA analyses have been reported in the form of standardized canonical discriminant unction coefficients. Klecka (1980: p. 29) suggests that these coefficients be interpreted as those "which determine which variables contribute most to determining scores of the function." The general aim of DFA is to maximize the overall separation between criterion groups through the use of special statistics (e.g. RAO's V). In order to explore for the most important variables, multiple options of the DFA procedure were employed as the form of cross-checking the robustness of functions. Option I employed a stepwise procedure of variable entry. Option II also involved a stepwise procedure, but with less control over the order of entry with the demographic variables sex, age and socioeconomic status directly entered rather than in a stepwise fashion as in Option I. Option III entered all variables in a direct manner and were reconsidered for remocal with F-to-Enter 3.84 and F-to-Remove 2.71 set at levels similar to that of multiple regression.

Table 4.1 Discriminant Fuction Coefficients for MMPI and NPV Groups, Three Options

	MMPI			NPV		
Method of analysis:	I	II	III	I	II	III
(1) Sex	-.73	.75		.54	.44	.64
(1) Age	.32	-.23			.32	
(1) SES		.10			-.04	
(2) Suicide in family						
(2) Leaving home early				.45	.40	.52
(2) Uithuisplaatsing						
(3) Juvenile Court	.49	-.43				
(3) Court						
(3) Length of sentences						
(3) Alcohol use	.43	-.44		-.51	-.45	-.63
(3) Cannabis use				-.35	-.46	
(3) Opiate use	-.04					
(3) Stimulant use						
(4) Historical type	.55	-.62	-.63	.57	.53	.60
(4) Feeling bored		.27				
(4) Nice feelings	.31			.32	.29	
(4) Indispensability						
(6) Clean periods	-.40	.42	.53			
(6) Length clean periods						
(5) Increased use	.31					
(5) Quick into problems		.27				
(5) In control						
(5) More lonely	-.50	.51	.65			
(5) Without interest						
(5) Life (-experiences)				.31		
Canonical correlation =	0.5138	0.5111	0.4105	0.4702	0.4683	0.4100
Percent correctly classified cases =	76.92%	74.36%	62.82%	73.75%	76.25%	70.00%

Table 4.1 presents the results of these exploratory analyses for the three options for the MMPI and NPV criteria. The historical type variable (HT) emerged as the most robust variable across both options and criteria. Sex gender and alcohol use were also quite robust across analyses. For the MMPI criterion the whether the clients had clean periods before entering the program and feelings of loneliness were important in discriminating psychopathological from normal groups. For the NPV, leaving home early (before 18) seems to play an important specific role. In summary, for the MMPI, having no clean periods and feeling lonely are associated to be within normal MMPI limits, while those of the HT are associated with not falling within normal limits. HT also is associated with having elevations on the NPV, further supporting the hypothesis that this complex is a robust discriminator of psychopathology.

Further exploration was conducted on the discriminator variables in order to specify any interaction terms that are related to the criteria. Analyses of variance were used for this purpose. For the MMPI criterion, a significant interaction was found between sex gender and leaving home ($F=4.89$; $df=1, 76$; $p=0.031$) and better life experiences ($F=4.89$; $df=1, 76$; $p=0.030$). Interesting trends were also found in the interaction of sex gender and prevalence of suicide in the subject's family ($F=2.87$; $df=1, 76$; $p=0.094$) and clean periods before entering the program ($F=3.49$; $df=1, 74$; $p=0.067$). For the NPV criterion, similar analyses revealed a significant interaction between sex gender and having had clean periods before entering the program ($F=4.85$; $df=1, 74$; $p=0.031$) and HT and prevalence of suicide in the family ($F=3.97$; $df=1, 76$; $p=0.050$). Trends were also observed in the interaction between sex gender and leaving home early ($F=2.82$; $df=1, 76$; $p=0.097$); sentencing by the juvenile court ($F=2.88$; $df=1, 76$; $p=0.093$) and the age of onset of alcohol use ($F=3.17$; $df=1, 76$; $p=0.079$).

Figure 4.1 Interaction effects on the *MMPI criterion* between: the clients' sex and leaving house early, or not.

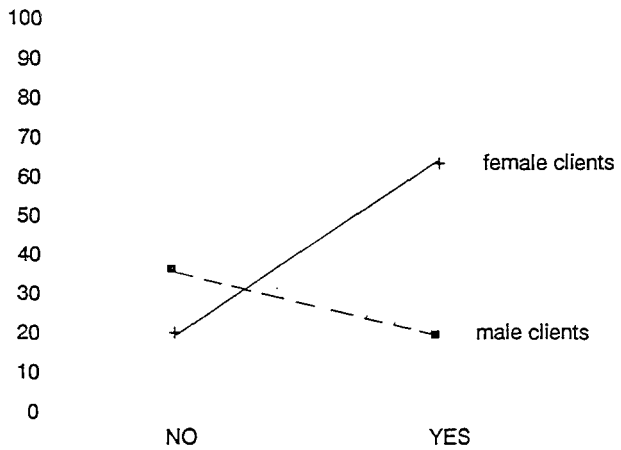


Figure 4.2 Interaction effects on the NPV criterion between the clients' sex and whether or not the clients have had clean periods before coming to the methadone maintenance program of the G.G.D.

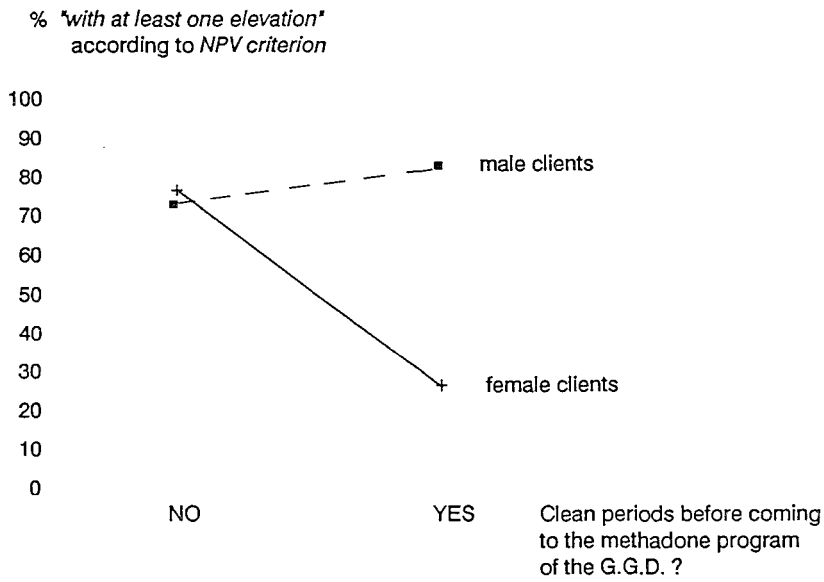
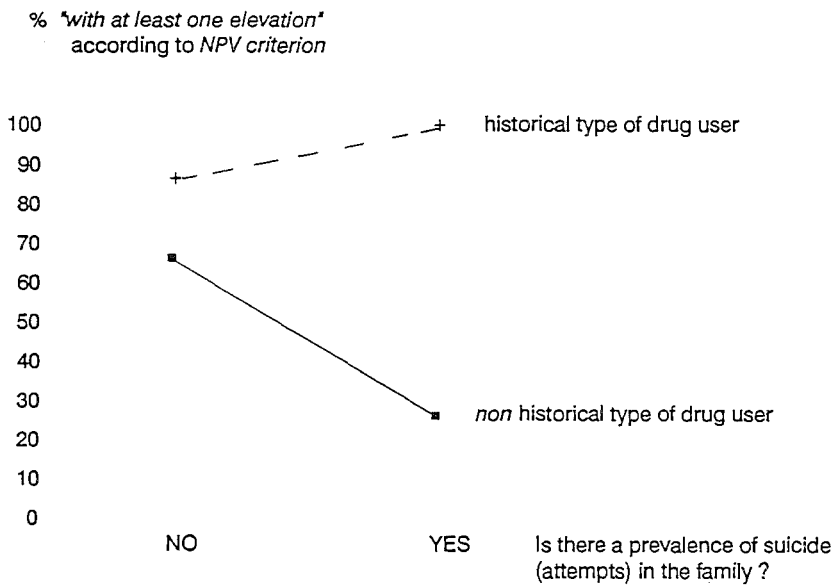


Figure 4.3 Interaction effects on the NPV criterion between: the clients' sex and whether or not the clients can be classified as a historical type of drug user and the prevalence of suicide in the clients' family, or not



These significant interaction terms are plotted in Figures 4.1, 4.2 and 4.3. Figure 4.1 shows the form of the interaction between sex gender and leaving home early for men and women clients for the MMPI criterion. The figure clearly indicates by the steeper slope for females that leaving home early has a much greater effect for women tha men. Under the condition of not leaving early, male-female differences are slight with females displaying somewhat less psychopathology. Under the condition of leaving home early, this relationship is reversed with females being much higher than the males. For the sample, there are only five female clients where leaving the house early does not apply so the interaction needs to be cautiously interpreted. Nevertheless, 63% of the eight female clients who did leave home early were not within the normal MMPI limits, suggesting that the relationship is indeed present.

In Figure 4.2 the interaction between sex gender and clean periods before entering the program, is plotted on the NPV criterion. Under the condition of no clean periods, elevations for male and female are almost equal and set at a high level. Under the condition of clean periods, the situation changes dramatically with female clients steeply dropping in ... percentages of elevations, while the males remain at about the same slope. Only one of the four female clients that had some clean periods before the program had also an elevated NPV score. Figur 4.3 shows another significant NPV-related interaction. Under the condition of no prevalence of suicide in the famile, the difference between the HT and non-HT types are not very great. But under the condition of suicide in the family, the relationship strengthens considerably with non-HT type having much lower psychopathology, while almost all of the HT type which had suicide prevalence in the family had elevated NPV scores. However, insofar as the non-HT type consisted of only 4 subjects with family suicide prevalence and only 1 of these had some psychopathology, the results should be seen under the limitations of the small sample size.

At this point of analysis, a strategy was decided based on the assumption that 25% of the variance was an acceptable level for refining and specifying the model. Note, however, that this level is not acceptable for diagnostic purposes as confirmed by the relatively small gains obtained in correct classification when compared to chance distributions. However, at the level

of constructive validity this was seen as quite acceptable. The aim of our analysis has been to construct an analytic model not to provide a valid diagnostic procedure. Under the scientific principle of parsimony it was decided to steer the analysis toward finding simpler models that retain the approximate explanatory power as the more elaborated model.

Trimming variables from the models by the 25% criterion and adding the interaction terms specified in the analysis of variance, DFA analyses using the two different criteria variables and the three options were repeated. Table 4.2 presents the results of this analysis.

Table 4.2 Discriminant Fuction Coefficients for MMPI and NPV, Three Options (Interaction terms included)

	MMPI			NPV		
Method of analysis:	I	II	III	I	II	III
Sex	.12	.12	----			
Age	-.06	-.06	----			
SES	.16	.16	----			
Historical type	-.61	-.61	-.63			
Clean periods	.02	----	----			
More lonely	.39	.38	.44			
Female & clean periods	.47	.48	.45			
Male & clean periods						
Female & uithuisplaatsing	-.44	-.44	-.49			
Male & uithuisplaatsing	.43	.44	.48			
Canonical correlation =	0.5080	0.5079	0.4996			
Percent correctly classified cases =	69.23%	67.50%	70.00%			
Sex				.21	.24	----
Age				-.37	-.35	-.37
SES				.11	.11	----
Historical type				-.48	-.53	-.48
Age of onset cannabis use				.48	.50	.52
Female & clean periods				.43	.44	.40
Male & clean periods				-.30	-.30	----
Historical type & suicide in family				-.13	----	----
No historical type & suicide in family				.37	.37	.39
Canonical correlation =				0.4877	0.4851	0.4649
Percent correctly classified cases =				75.64%	75.64%	75.00%

The historical type (HT) emerges as a consistent important variable in all MMPI and NPV models. Sex gender seems only consistent in interaction with other variables for both the MMPI and NPV. Female and clean periods interaction work in the same direction for both the MMPI and NPV models. Female and male interactions with leaving the house early work in opposite directions, but are only important in the MMPI models. Finally, more lonely has a function in the MMPI model, but not in the NPV, while age of onset of cannabis use and no HT interacting with suicide is important in the NPV models.

A limitation of interpreting these models is that the distribution of the interaction terms are skewed in that only four female clients have had any clean periods before entering the program, only five female clients have not left home early and only four non-HT in whose family suicide prevalence existed. Given these limitations, a third set of DFA's were conducted using the Option III procedure and deleting the problematic interaction variables. The results of this further trimming of the model are presented in Table 4.3.

Table 4.3 Discriminant Function Coefficients for MMPI and NPV, Option Three
(Interaction terms included, trimmed)

	MMPI	NPV
Method of analysis:	III	III
Sex	.75	
Age	----	
SES	----	
Historical type	-.69	
Clean periods	----	
More lonely	.47	
Female & clean periods	.58	
Male & clean periods	----	
Canonical correlation =	0.4537	
Percent correctly classified cases =	68.75%	
DF Score - not within normal	-0.75	
- within normal	0.33	
Sex		----
Age		-.43
SES		----
Historical type		-.56
Age of onset cannabis use		.59
Female & clean periods		.49
Male & clean periods		----
Canonical correlation =		0.4370
Percent correctly classified cases =		71.25%
DF score - one elevation		-0.27
- no elevations		0.84

The results of this analysis provide the basis of discussion for the rest of this chapter. Although some loss in the explanatory power was observed, the gains in parsimony were felt to warrant its presentation as the best solution for developing a model that would discriminate psychopathological from non-psychopathological clients on the basis of a theory of psychosocial processes.

Further methodological limitations are that the canonical correlation coefficients of the two models never exceed .50 which means that the proportion of variation explained by the MMPI model explains 20.6% of the variance, while that of the NPV 19.1%. This cannot be seen as an acceptable level for diagnosis but for structural theoretical purposes it provides an acceptable level of confidence that a relatively small number of variables in a complex situation can provide around one-fifth of the explanation. Of course social career and background variables only provide one domain of explanation. It is to be expected that explanatory power could also be added by variables derived from biological and abnormal psychological theories.

4.2 DISCUSSION

The overall conclusion of the analysis presented in this chapter is that psychopathology of addicts is definitely present, but the prevalence of psychopathology in this particular sample seems very much related on the instrument one chooses. Using the MMPI criterion 70% (56/80) of the clients were in normal limits. Almost the exact reverse is the case if the NPV criterion is employed. A "general disturbance" interpretation of the NPV in which at least one elevation on a scale satisfies the requirement for being seen as psychopathological, only 24% (19/80) are within normal limits. It seems clear that both instruments are measuring different dimensions of psychopathology.

The interpretation of what these dimensions could be is clarified by examining the two discriminant functions displayed in Table 4.3. The MMPI seems best discriminated by a function in which sex plays the most important role (coef = .75) with historical type and the interaction between femaleness and clean periods as well as loneliness playing an important role in the

function. Male/female differences are central in the MMPI which is consistent with both clinical and scientific experience with the instrument. Control for sex is always necessary in interpreting MMPI results (see Platt, 1986).

For the NPV age is more important than gender in the function (gender plays no role). This can be seen most clearly in the role of age of onset of cannabis use has in the function. With a standardized coefficient of .59 this variable is the most important one in the function. And following the MMPI function the historical type (-.56) and the female clean periods interaction has almost as an important weight in the function. Both the MMPI and the NPV functions are operating at the same level with the MMPI function accounting for 20% of the variance on the basis of a simple four variable solution while the NPV is acounting for 19% of the variance with a somewhat structurally similar four variable model. In short, the NPV seems more sensitive to temporal variations while the MMPI seems more attuned to deep psychological states such as loneliness and sex-specific disturbances. This is consistent with the clinical view that the NPV is an instrument more attuned to normal personality development, while the MMPI is more attuned to psychopathology. Thus, it is not surprising that the NPV responds to age of onset of cannabis use as a critical variable in adolescence while the MMPI varies most with the structural variable sex.

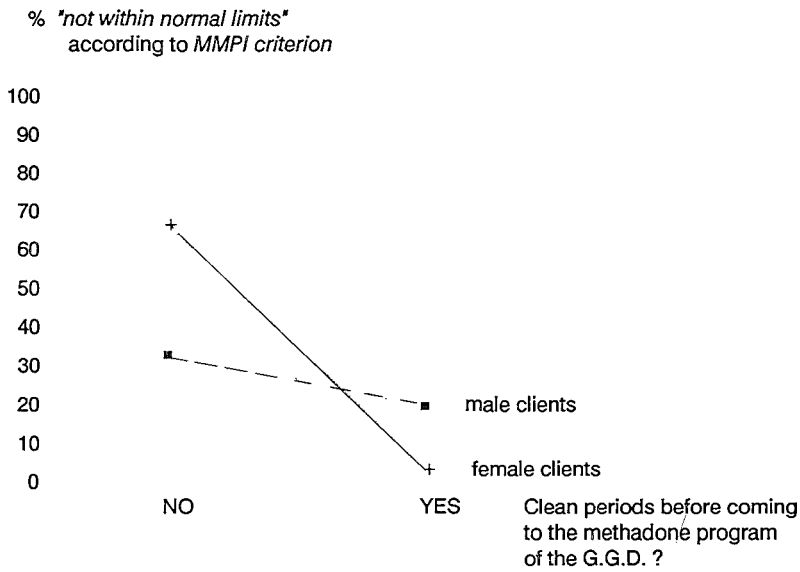
Two complex variables have a consistently important place in both the MMPI and the NPV functions: the historical type variable and the interaction variable of female x clean periods. The historical type (HT) variable has the second most weight in each function (-.69 in the MMPI DF and -.56 in the NPV DF). The direction is the same in both functions, i.e. negative denoting that being an HT is a determinant of not within normal limits. For the MMPI 43% of the 35 subjects classified as HTs were not within normal limits while only 20% of those not classified as HTs were not within normal limits. For the NPV about the same difference can also be seen with 91% of the HTs not being within normal limits while 64% of the non HTs are not within the normal limits. In the NPV function HT has only slightly less weight (.03 difference) than the first variable age of onset of cannabis use. Closer examination suggests that HT may even be slightly more important analytically in that those subjects who started

cannabis before the age of 15 (N=49) had a prevalence of psychopathology of 82% while those who started later had a prevalence of 68% (N=31; note that all of these started cannabis use at either 15 or 16 years). The differences are larger between the HT levels than the onset of cannabis levels. Furthermore, the psychopathological prevalences are also higher in the HTs.

The second constant determinant across both the MMPI and NPV functions is the interaction term of whether the subject had any clean periods before entering the methadone program and being female. Both the magnitude and direction of the coefficients in both functions are comparable (.58 for the MMPI DF and .49 for the NPV DF). In both functions this interaction term has the third place. This consistency of the interaction term (FxC) as well as in HT suggests that both these variables are weighing a common underlying but latent dimension of psychopathology in the sample that is being reliably measured by both instruments.

Figure 4.4 plots the male clients and female clients of the program in the two dimensional space of the level of MMPI psychopathology by clean periods before coming to the program. Comparing this figure to that of Figure 4.1 shows a consistent pattern. With the MMPI criteria the slope is steepest with 67% of those females with no clean periods not within normal MMPI limits.

Figure 4.4 Interaction effects on the *MMPI criterion* between: the clients' sex and whether or not the clients have had clean periods before coming to the methadone maintenance program of the G.G.D.



The NPV criteria shows the same general pattern with a less steep slope. 88% of the female clients who had no clean periods had at least one elevation while only 25% of the females who did have clean periods had at least one elevation. For the males the slopes of the lines are almost horizontal indicating that clean periods have only a consistent effect on the female psychopathology. Incidently the slope intersections of males and females suggest the importance of the sex variable in discriminating MMPI groups in the function. In contrast sex would only have any explanatory power in discriminating NPV groups under the conditions of having clean periods.

In summary, two significant DFs have been found that support the general hypotheses that being a certain HT and a female without any clean periods is structurally related to the presence of psychopathology in this sample of methadone clients. The experience of being clean or not has a special impact on females and is a determinant of their psychopathology. The role of cannabis is important in this configuration insofar as dealing the substance with subsequent criminal charges is an important determinant of underlying psychopathology. More specific and perhaps of less general importance are variables such as age, age of onset of cannabis use, sex and loneliness. A special pattern of youthful initiation to a drug career involving using cannabis before 15, dealing, being arrested for cannabis and then going on to heroin seems to be in the life trajectories of these methadone clients who are classified as psychopathological. Another special pattern seems to involve females whose ever deepening feelings of loneliness are connected to no clean periods determining a psychopathological classification of the methadone clients. However, these results need to be cautiously interpreted. The psychosocial determinants uncovered by this analysis have an acceptable construct validity and can be useful for theoretical elaboration. However, they definitely lack the confidence to be used as a clinical diagnostic function for predicting individual case classification. This can be seen in the relatively low levels of correct classification which are not much better than by chance. On the other hand, however, the theoretical use of the analysis is obvious in that a remarkably simple model has been constructed to explain approximately 20% of the variance of this small sample.

The results of this analysis specify a model which explains variation in psychopathology of a Rotterdam sample of methadone clients in a low-threshold program as defined by two independent criteria in terms of psychosocial factors. It still remains an open question whether the Dole and Nyswander metabolic theory supporting a "clinical" model of methadone maintenance has explanatory power. In any case, the statement that psychopathology and psychopathogenic determinants are "attracting" methadone clients can not be rejected despite the methodological limitations of this study. The broad model of psychopathology, addiction career and methadone maintenance has very actual relevance in the discussion recently re-opened by Jaffe (1985) on the need for a re-examination of the role of psychopathology, addiction career and treatment forms.

The critical place of male/female differences in the genesis of psychopathology in addiction has been somewhat clarified. Early American research using the social career model detected important male and female differences in the career (Waldorf, 1973). Waldorf's seminal study of the Phoenix House clients in the era before methadone first pointed out the observation that it was both clinically and subculturally verified that women heroin addicts were "sicker." That is, they did not respond well to the existing drug-free treatment available at the time nor were they accepted by the male-dominant addict subculture (Kaplan, 1976; Rosenbaum, 1982) further analyzed the problems of women addicts in a career perspective concluding that they were enmeshed in a dynamic of "narrowing options." Often sexually molested in their families, they became outcasts who were usually picked up by a predatory male addict and initiated in the further narrowing option of a heroin career. The dependency on the male addict for support was transformed into a heroin dependency. When ceasing to be useful to the male addict the female was thrown out once again. Loneliness and isolation was the frequent consequence where heroin provided the only warmth and fulfillment. When methadone became widely introduced in America these women became willing clients, but were often stigmatized by other clients as well as by the program.

Interestingly this pattern seems also present in the Rotterdam sample. The "sicker" women clients are those who have never been clean before entering the program. Further evidence supporting retrospectively this women pattern of "narrowing options" in the Rotterdam sample is the existence of loneliness in the significant MMPI DF. Even more strong evidence can be found in a significant interaction between leaving the family home early and gender. The interaction shows that leaving the family home early has a significant effect for the women in the direction of producing more psychopathology. Furthermore, for the men, the effect is reversed where being thrown out of the house actually decreases the level of psychopathology although the relationship is not quite as strong as with the women. One might say when a young boy is thrown out of his house his horizons are widened and this actually protects him from developing psychopathology. The pathogenic situation for boys would be to be kept in the house too long. This confirms the old psychoanalytic view of addiction being the result of an overprotective mother and dependency relationship with the male child (Kaplan, 1978; Savitt, 1963). For the young girl, the same experience has the exact opposite function. It narrows the career options because a young woman without a fixed home and family may be seen as basically a "woman of the streets." If heroin useage begins the option narrow even more to that of a "heroin prostitute" unsuitable for job, family or even motherhood. It has to be noticed that women in deviant social situations are more easily considered to be more pathogenic than men. (D.Bauduin, 1980).

The critical presence of the historical type pattern suggests the role of criminalization together with early onset of use, dealing and prosecution for cannabis for the generation not only of later heroin use but the amplification of latent family psychopathology. The term "historical type" may seem somewhat odd. What is meant was a career pattern that is historically bounded by the change in Dutch drug policy in 1976. The clients in this study largely began there drug careers before the reform of the Dutch policy which made cannabis possession and dealing a "low enforcement priority" in an attempt to separate the "hard" and "soft" drug markets. In a real sense these historical types represent an extinct form surpassed in the evolution of Dutch policy. However, they are of interest because they show quite clearly the

effect that criminalization of cannabis use can have both on the development of a heroin addiction as well as on a particular form. It may be plausible that these arrested cannabis user/dealers were self-medicating their trauma of criminalization and social alienation by taking heroin (Kaplan, 1984). In this sense the theory of stepping stone and gateway has some real validity (Clayton and Voss, 1981). This study confirms the American research finding that age of cannabis onset is an important determinant of later heroin use. All of the clients in the Rotterdam program used cannabis before they were seventeen years old. However, those who used before they were fifteen years old were more prone to have the dual diagnosis of having both psychopathology and addiction. The historical type clearly demonstrates that this "naturally" occurring risk factor for psychopathology (fourteen year old first use) can be "socially" reproduced through arrest and dealing in older teenagers. This parallels Clayton and Voss' New York study where dealing drugs has more of an effect than using drugs in a structural equation model predicting later drug career outcomes.

However, compelling this interpretation is it begs the question of what were the precannabis conditions in the first place. If Trimbos' theory is consistent certain cannabis use is self-medicating something in early teenagers. Only a clue can be given for further analysis of this question. In the exploratory analysis of variance there was a significant interaction between HT and whether there was a prevalence of suicide (attempts) in the family. It seems likely that one origin of psychopathology and addiction is the suicide prevalence in the family. It suggests that certain early teenagers in Rotterdam may have been self-medicating the trauma of death within their own families with cannabis. Inspection of the interaction plot reveals that having suicide in the family slightly boosts the psychopathology in HT, but strongly reduces it in the non-HT group. This reduction needs some further explanation in itself. However, it does show that in the absence of cannabis dealing the family suicide does not relate to high psychopathology. This implies that cannabis may have a special function for those who do deal it. In any case, the association of intense involvement with cannabis and family disorganization found in recent American studies seems to be also working here (Beschner and Friedman, 1986). When the exploratory findings relating to alcohol in this study are also considered, it seems

that other substances are involved in this early teenage complex. One would expect that in the current Dutch situation which has made the HT extinct, alcohol would play a more important role as a predeterminant of psychopathology in heroin addicts.

In conclusion, while the policy changes made in 1976 have made the HT variable obsolete, it remains for current research to still whether cannabis use in the early teenage years still exists in situations of family disorganization and whether it is still linked to the pathogenesis in heroin addicts. Only this kind of research can scientifically verify whether cannabis is still a drug of "acceptable risk" in high-risk children. In addition, the entire women complex is just beginning to be addressed (e.g., Haafkens and Smit, 1987) and there seems nothing that has changed anywhere as dramatic as the cannabis policy of 1976. Given that the Netherlands still is one of the more traditional societies in western Europe when it comes to the indicator of women in the workforce, it still remains to be seen what can be done to those girls who are leaving their traditional family statuses at an early age and end up on the streets.

CHAPTER 5: SUMMARY AND CONCLUSIONS

In Chapter One a general introduction on the phenomenon of drug addiction was given, as well as a brief overview of the theories explaining drug abuse and a description of the methadone programme from which the data was gathered. The purpose of the dissertation was also outlined.

In Chapter Two the research methodology was described. A short description of the subjects and a description of the distribution of the items of the questionnaire was provided. The tests (MMPI and NPV) used as criterion variables were extensively described and the results of various analyses of the test variables were presented. Following the suggestion of Luteijn the raw scores of the Rotterdam methadone clients were normalized on the tables for both the general population group and the group of psychiatric patients. The underlying NPV-dimensions were explored and a factor analysis was done on the seven NPV scales. Comparison of the results of this study with other results indicates that the test-retest reliability of the NPV seems to be good and that the NPV has a stable factor structure. The MMPI scale scores were considered both on the critical 70 and 60 score level. Elevations on at least one scale are found in 65% c.q. 87.5% of all cases. A factor analysis was done on the MMPI and two coherent factors were found. Factor I could be described as adjustment versus social abberation and Factor III as hapiness versus social withdrawal. A measure of general disturbance was introduced both for the MMPI and NPV. The IN and ZW subscale seem to discriminate all MMPI scales except for paranoia and hypomania. The relationship between demographic variables and the measures of general disturbance were explored. Age and intelligence showed significant relations with NPV-measures c.q. MMPI-measures of general disturbance. A factor analysis of the MMPI and NPV-scales showed analogous results. Four factors were found with an eigen value of more than 1. One factor was identical in both cases and explained 6% of the variance.

Chapter Three contains an analysis of psychopathology in Dutch and American methadone clients, using the MMPI for cross-cultural comparison. In this chapter data were presented concerning the clinical diagnosis of a sample of Dutch heroin addicts using the MMPI. In addition the role of socio-cultural factors in addiction was explored through systematical

comparison between the Dutch sample and a sample of American heroin addicts. In general, the Rotterdam sample seems comparable to the American sample. It was hypothesized that Dutch addicts would display less extreme psychopathology while American addicts would present more psychopathology. Data analysis was conducted on three levels: comparison of published data sources, a nomothetic analysis comparing the published plots of the American K-corrected T-scores with the plots of the K-corrected T-scores of the Rotterdam sample, and an idiographic analysis on the relative elevation in each subject's profile.

The statistical analyses on the K-corrected raw scores showed that there are no significant differences between the samples on seven of the ten scales. The American sample scored higher on Depression and Psychastenia, but the Rotterdam sample scored higher on Hysteria. The nomothetic analysis showed that the American sample seems more disturbed than the Rotterdam sample. Interpretation of the Rotterdam profile was based on elevations, defined as scores above 60. The nomothetic analysis supports the view that American addicts appear to have higher elevations in the areas of Schizophrenia and Hypomania while their Dutch counterparts seem to have higher elevations in the area of Hysteria. The idiographic analysis further confirms this pattern of results. Seventy percent of the Rotterdam sample fell within normal MMPI limits according to the prototypes outlined by Gilberstadt and Duker (again adjusted for the 60-point "critical" value), while only some 11 percent of the American addicts fall within normal limits.

The three analyses presented here suggest two important conclusions:

A) There may be certain cross-cultural patterns of psychopathology found among heroin addicts that are apparently independent of the socio-cultural context; and

B) Socio-cultural factors can influence the diagnosis of psychopathology in heroin addicts.

Chapter 4 provides an analysis on psychopathology and early drug career experiences. It presents a model discriminating the psychopathological from the normal clients in the Rotterdam methadone programme, deepening the understanding of the psychosocial dynamics. The resulting psychopathological consequence of methadone clients was presented.

A discriminant function analysis was selected as an appropriate multivariate method of analysis, given the underlying aim to develop a model function that would discriminate pathological from non-pathological clients on the basis of client-centered variables. The group variables were defined for both the MMPI and NPV distributions. The overall result of the analysis is that psychopathology of addicts is definitely present, but the prevalence of psychopathology in this particular sample seems very much related to the instrument one chooses. Using the MMPI-criterion 70% of the clients fell within normal limits. If the NPV-criterion is applied only 24% fall within normal limits. It seems clear that both instruments are measuring different dimensions of psychopathology.

The critical place of gender differences in the genesis of psychopathology in addiction has been somewhat clarified. The "sicker" female clients are those who have never been clean before entering the programme. This pattern of "narrowing options" for female clients is the existence of loneliness in the significant MMPI. DF. There is also a strong significant interaction between leaving the family home early and gender. A girl leaving home early is susceptible to increasing psychopathology.

The critical presence of the "historical" type pattern suggests the role of criminalization together with early onset of use, dealing, and prosecution for possession of cannabis for the generation not only of late heroin use but the amplification of latent family psychopathology.

Those who used before they were fifteen years old were more prone to have the dual status of having both psychopathology and addiction. It seems likely that one origin of psychopathology and addiction is the noticeable prevalence in the family. Cannabis may have a special funtion for those who deal it. It remains for future research whether cannabis use in the early teenage years still exists in situations of family disorganization and whether it is still linked to the psychopathology in heroin addicts.

Finally, this study leads to some conclusions which could be of importance for follow-up. The use of the NPV in combination with the MMPI has shown to be fruitfull when applied to an addict population. However, it would be worthwhile to include the DSM III-R in a test

battery in order to explore the value of the extra information gathered. Instead of the long version MMPI, the shortened Dutch version could be used as Luteijn has stated. In any case, the NPV is clearly a test to be considered for use when applied to a Dutch addict population. For cross-cultural comparison the NPV can not be used as this test is not widely applied outside the Dutch speaking community. The MMPI could be used in this context together with DSM III-R or the Addiction Severity Index.

The NPV showed a stable factor-structure across different populations when using the general norms. Cross-cultural comparison between addict populations remains to be important as socio-cultural factors can influence the diagnosis of psychopathology in addicts. On the other hand, addicts show certain cross-cultural patterns as well. It might be of interest to explore these patterns in a follow-up study using more updated methods and instruments.

The pattern of narrowing options for female addicts should be more deeply studied as this might have consequences for treatment and resocialisation. The role of criminalisation of a lifestyle i.e. the use of cannabis and its impact on the drug-career should be studied in the present generation of drug users. This could be done in countries with a low law enforcement priority vis-a-vis cannabis use and countries with a more repressive attitude in order to assess the impact of various policies. The rapid internationalization of the drug problem requires solid compatible statistical data and comparible instruments to be used in order to provide authorities with scientific relevant data for policy purposes.

REFERENCES

American Psychological Association, 1974

Revised standards for education and psychological tests. Washington, D.C.: Author

Anglin, M.D. and Speckart, G., 1984

Narcotics and Crime: An analysis of existing evidence for a causal relationship. Los Angeles: University of California, Department of Psychology.

Ausubel, D.P., 1958, 1964

Drugaddiction: physiological, psychological and sociological aspects. New York: Random House

Ausubel, D.P., 1961

Causes and types of narcotic addiction: A psychosocial view. Psychiatric Quarterly, 523-531.

Beck, A.T., Ward, C.H., Mendelson, M., Mock, J.E., Erbaugh, J., 1961

An Inventory for measuring depression. Archives of General Psychiatry, 4, 561-571.

Beck, A.T. and Steer, R.A., 1988

Manual for the Revised Beck Depression Inventory. San Antonio, Texas: Psychological Corporation.

Becker, H.S., 1963

Outsiders: Studies in the Sociology of Deviance. London: Collier-Macmillan.

Becker, H.S. (Ed.), 1964

The other side: Perspective on deviance. New York, Free press.

Berger, F.M., 1969

Drug Abuse and society. Drugs and Youth Springfield.

Beschner, G., Friedman, A.S. (ed), 1986

Teen Drug Use. Lexington, Mass.: Lexington Books.

Buchman, J., 1971

Psychology of drug abuse. Medical college of Virginia Quarterly, 98-102

Burger, A.W., 1967

De validiteit van enkele MMPI gestoordheidsschalen. Nederlands Tijdschrift voor de Psychologie, 22, 55-61.

Cavior, N., Kurtzberg, R.L., and Lipton, D.S., 1967

The Development and validation of a Heroin Addiction Scale with the MMPI. The International Journal of the Addictions, 2, 129-137.

Chein, I., Gerard, D.L., Lee, R.S., and Rosenfeld, 1964

The Road to H: Narcotics, Delinquency and Social Policy. New York, Basic Books.

Clayton, R.R., and Voss, H.L., 1981

Young Men and Drugs in Manhattan: A Causal Analysis. NIDA Research Monograph 39. Washington, D.C.: U.S. Government Printing Office.

Cloward, R.A., and Ohlin, L.E., 1960

Delinquency and opportunity: A theory of delinquent gangs. New York, Free Press.

Craig, R.J., 1979a

Personality characteristics of heroin addicts: A review of the empirical literature with critique (I). The International Journal of the Addictions, 513-532.

Craig, R.J., 1979b

Personality characteristics of heroin addicts: A review of the empirical literature with critique (II). The International Journal of the Addictions, 607-626.

Dahlstrom, W.G., Welsh, G.S., 1960

An MMPI handbook, a guide to use in clinical practice and research. Minneapolis: University of Minnesota Press

Dahlstrom, W.G., Welsh, G.S.,and Dahlstrom, L.E., 1979

An MMPI handbook. Volume I: Clinical Interpretation. Minneapolis: University of Minnesota Press

Diekstra, R.F.W., 1971a

De dimensionaliteit van de MMPI-1. Gawein 19, 1-23.

Diekstra, R.F.W., 1971b

De dimensionaliteit van de MMPI-2. Gawein 19, 109-131.

Diepstraten, Ph.H.J., and Boon van Ostade, A.H., 1973

De informatiewaarde van de MMPI bij TBR's. Tijdschrift voor Psychologie 1, 318-328.

Dingemans, P.M.A.J., and Frohn-de Winter, M.L., 1983

Kort rapport: Amerikaanse en Nederlandse MMPI-nomen vergeleken. De Psycholoog 18, 80-84.

Dole V.P. and Nyswander, M.E., 1965

A medical treatment for diacetylmorphine (heroin) addiction. Journal of the American Medical Association, 193, 646-650.

Dole V.P. and Nyswander, M.E., 1966

Rehabilitation of heroin addicts after blockade with methadone. New York State Journal of Medicine, 66, 2011-2017.

Dole V.P. and Nyswander, M.E. and Kreek, M.J., 1966

Narcotic blockade. Archives Internal Medicine, 118, 304-309.

Dole V.P. and Nyswander, M.E., 1967

Rehabilitation of the street addict. Archives of Environmental Health, 14, 477-480.

Dole V.P., 1967

Evaluation of narcotic treatment programs. American Journal of Public Health, 57, 2000-2008.

Dole, V.P., and Nyswander, M.E., 1968

Methadone maintenance and its implication for theories of narcotic addiction. In: Wikler, A. (Ed.). The addictive state. Baltimore, Williams & Wilkins.

Dole V.P. and Nyswander, M.E. and Warner A., 1968

Successful treatment of 750 criminal addicts. Journal of the American Medical Association, 206, 2708-2711.

Dole V.P., Robinson, J.W., Orraca, J., Towns, E., Searcy, P. and Caine, E., 1969

Methadone treatment of randomly selected criminal addicts. New England Journal of Medicine, 280, 1372-1375.

Dole, V.P., 1971

Methadone Maintenance: Treatment for 25,000 heroin addicts. Journal of the American Medical Association, 215, 1131-1134.

Dole, V.P., Foldes, F.F., Trig, H., Robinson, J.W. and Blatman, S., 1971

Methadone poisoning. New York State Journal of Medicine, 71, 541-543.

Dole, V.P. and Joseph, H., 1978

Long-term outcome of patients treated with methadone maintenance. Ann. New York Academy of Science, volume 311, 181-189.

Dole, V.P., and Nyswander, M.E., 1983

Behavioral pharmacology and treatment of hyman drug abuse: Methadone maintenance of narcotic addicts. In: Smith, J.E., and Lane, J.D. (Eds.). The neurobiology of opiate reward processes. Amsterdam, Elsevier Biomedical Press.

Dole, V.P., 1988

Implications of methadone maintenance for theories of narcotic addiction. JAMA, 260 (20), 3025-3029.

Durhie, R.B., 1980

Factor analytic study of the personality of female methadone outpatients. International Journal on the Addictions, 15 (7), 1091-1096.

Duster, T., 1970

The Legislation of Morality: Law, Drugs and Moral Judgement. New York: Free Press.

Eepen, J.H. van, 1974, 1978

Compendium Drugverslaving en alcoholisme, Amsterdam.

Engelsman, E., 1989

Paper presented at the Anglo-Dutch Debate Conference, London.

Gendreau, P., and Gendreau, L.P., 1970

The "addiction-prone" personality: A study of Canadian heroin addicts. Canadian Journal of Behavioral Sciences 2, 18-25.

Gendreau, P., and Gendreau, L.P., 1971

Research design and narcotic addiction proneness. Canadian Psychiatric Association Journal 16, 265-267.

Gendreau, P., and Gendreau, L.P., 1973

A theoretical note on personality characteristics of heroin addicts. Journal of Abnormal Psychology 82, 139-140.

Geerlings, P.J., 1970

Ambulante hulp voor druggebruikers in Amsterdam. In: Brand, P. (Ed.). Drugs in Nederland. Bussum.

Gilberstadt, H., and Duker, J., 1965

A Handbook for Clinical and Actuarial MMPI Interpretation. Philadelphia: W.B. Saunders.

Gordon, R.A., McAuliffe, W.E., 1974

A test of Lindesmith's theory of addiction: The frequency of euphoria among long term addicts. American Journal of Sociology, 79 (4), 795-840.

Gough, H.G., 1964

Manual for the California Psychological Inventory. Palo Alto

Haafkens, J.A., and Smit, M. (Eds.), 1987

Proceedings Conference Women and Addiction. Rotterdam, Erasmus University, Rotterdam, Medical Faculty, Institute for Preventative and Social Psychiatry. Institute publication nr. 70.

Hendriks, V.M., Kaplan, Ch.D., Limbeek, J. van, and Geerlings,

P.J., 1989

The addiction severity index: Reliability and validity in a dutch addict population. Journal of Substance Abuse Treatment, 6, ...-....

Ingraham, L.H., 1974

"The Nam" and "the world": Heroin use by U.S. army enlisted men serving in Vietnam. Psychiatry, 37, 114-128.

Ingraham, L.H., 1979

The myth of illicit drug use and military incompetence. USAREUR Medical Bulletin, 36, 18-21.

Intraval

Jaffe, J.H., 1979

The swinging pendulum: The treatment of drug abusers in America. In: R.I. DuPont, A. Goldstein, and J. O'Donnell (Eds.), Handbook on drug abuse. National Institute on Drug Abuse, Washington, D.C.

Jaffe, J.H., 1984

Evaluating drug abuse treatment: A comment on the state of the art. In: F.M. Tims, and J.P. Ludford (Eds.), Drug abuse treatment evaluation: Strategies, progress, and prospects. NIDA Research Monograph 51, Rockville, Maryland.

Jaffe, J.H., 1985

James, J., Gosho, C. and Wohl, R.W., 1979

The relationship between female criminality and drug use. Int. Journal on the Addictions, 14 (2), 215-229.

Jansen, O. and Swierstra, K., 1982

Heroïnegebruikers in Nederland. Een typologie van levensstijlen. Groningen: RU Groningen, Criminological Institute.

Johnson, B.D., Goldstein, R., Preble, E., Schneidler, J., Lipton, D.S., Spent, B., and Miller, T., 1985

Taking care of business: The economics of crime by heroin abusers. Lexington, MA. Lexington Books.

Kaplan, Ch.D., Wogan, M., 1978

The psychoanalytic theory of addiction: a reevaluation by use of a statistical model. The American Journal of psychoanalysis, 38, 317-326.

Kaplan, Ch.D., 1984

On the general theory of addiction and the special complications of heroin. Tinbergen chair lecture, Rotterdam.

Kaplan, Ch.D., 1986

Droge und Militar. In: Korczak, D. (Ed.). Die betäubte Gesellschaft. Süchte: Ursachen-Formen - Therapien. Fischer Taschenbuch Verlag.

Kaplan, Ch.D., Korf, D., and Sterk, C., 1987

Temporal and social contexts of heroin-using populations. An illustration of the snowball-sampling technique. The Journal of Nervous and Mental Disease, 175 (9), 566 - 574.

Klecka, W.R., 1980

Discriminant analysis. Beverly Hills, SAGE Publications Inc..

Kouwer, B.J., 1962

Een opmerking over "MMPI en psychiatrie'. Nederlands Tijdschrift voor de Psychologie 17, 184.

Lambert, H., and Luteijn, F., 1987

De vergelijking van de NVM en de MMPI in de klinische praktijk. Nederlands Tijdschrift voor de Psychologie 42, 81-85.

Laufer, R.S., Brett, E., and Gallops, M., 1985

Symptoms associated with post-traumatic stress disorder among Vietnam veterans exposed to war trauma. American Journal of Psychiatry, 141, 1304-1311.

Limbeek, J. van, Schalken, H.F.A., Geerlings, P.J., Wouters, L., Groot, P.A. de, Sijlbing, G., and Beelen, W., 1986/87

Het gebruik van het Diagnostisch Interview Schema (DIS) bij het vaststellen van psychopathologie bij alcohol- en drugsverslaafden. Tijdschrift voor Psychiatrie 28, 459-473.

Lindesmith, A.R., 1938

A sociological theory of drug addiction. American Journal of Sociology, 43, 593-613.

Lindesmith, A.R., 1947

Opiate addiction. Bloomington, Indiana: Principia Press.

Lindesmith, A.R. and Gagnon, J.H., 1964

Anomy and drug addiction. In Clinard, M.B. (Ed) Anomie and deviant behavior. New York: Free Press of Glencoe, Pp. 158-188.

Lindesmith, A.R., 1966

The addict and the law. Bloomington: Indiana University Press.

Lindesmith, A.R., 1967

The addict and the law. New York: Vintage Books.

Lindesmith, A.R., 1973

Patent medicine for the drug problem. American Journal of Ortho-psychiatry, 43, 512-514.

Luteijn, F., and Kingma, L., 1979

Een nieuwe verkorte MMPI. Nederlands Tijdschrift voor de Psychologie 34, 459-471.

Luteijn, F., Starren, J., Dijk, H. van, 1985

Nederlandse Persoonlijkheids Vragenlijst - Handleiding. Herziene uitgave 1985. Lisse, Swets & Zeitlinger.

McAuliffe, W.E., Rohman, M., Feldman, B, Launer, E.K., 1985

The role of euphoric effects in the opiate addictions of heroin addicts, medical patients and impaired health professionals. Journal of Drug Issues, Inc., (Spring), 203-224.

Morival, M., Kaplan, Ch.D., Blanken, P., and Platt, J.J.

Psychopathology in dutch and american methadone clients: A cross-cultural comparison using the MMPI. Paper presented at the 11 World Basque Congress, Bilbao

Nie, N.H.; Hull, C.H.; Steinbrenner, K. and Bent, D.H., 1975

Statistical Package for the Social Sciences. Second edition. New York: McGraw-Hill Book Company

Noether, G.E., 1976

Introduction to statistics. A nonparametric approach. Second edition. Boston: Houghton Mifflin Company

Nuttin, J., and Beuten, B., 1963

Handleiding bij de persoonlijkheidsinventaris MMPI. Leuven: Leuvense Universitaire Uitgaven

Nyswander, M.E., 1967a

The methadone treatment of heroin addiction. Hospital Practice, 2, 27-35.

Nyswander, M.E., 1967b

The present status of methadone blockade treatment. American Journal of Psychiatry, 123, 1441-1442.

Nyswander, M.E., 1971

Methadone therapy for heroin addiction. Drug Therapy, 23-30.

Penk, W.E., Woodward, W.A., Robinowitz, R., and Hess, J.L., 1978

Differences in MMPI scores of black and white compulsive heroin users. Journal of Abnormal Psychology 87, 505-513.

Penk, W.E., Fudge, J.W., Robinowitz, R., and Neman, R.S., 1979

Personality characteristics of compulsive heroin, amphetamine, and barbiturate users. Journal of Consulting and Clinical Psychology 47, 583-585.

Penk, W.E., 1981

Assessing the substance abuser with the MMPI. In: J. Butcher, G., Dahlstrom, M. Gynther, and W. Schofield (Eds.), Clinical Notes on the MMPI (nr. seven). Nutley, New Jersey: Hoffman-La Roche Inc.

Platt, J.J., 1986

Heroin addiction: Theory, research and treatment. Second edition. Malabar, Florida: Krieger Publishing Company.

Porterfield, J., 1969

Drug abuse and society. Drugs and Youth, Springfield.

Rado, S., 1933

The psychoanalysis of pharmacothymia. Psychoanalytic Quarterly, 2, 1-23.

Raven, J.C., 1960

Guide to the Standard Progressive Matrices. London: H.K. Lewis & Co. Ltd.

Robins, L.N., 1974

The Vietnam Drug User Returns. National Institute on Drug Abuse. Special Action Office Monograph Series A, no 2. Washington, D.C.: VSGPO.

Rosenbaum, M., 1969

Women and heroin. Broveman & Broveman.

Rosenbaum, M., 1981

Sex roles among deviants; the woman addict. Int. Journal on the Addictions, 16(5), 859-877.

Rosenbaum, M., 1982

Women on heroin. New Brunswick, Rutgers University Press.

Savitt, 1963

Sederer, L.I., 1985

Diagnosis, conceptual models, and the nature of this book. In: H.B. Milkman, and H.J. Shaffer (Eds.), The addictions. Multidisciplinary perspectives and treatments. Massachusetts: Lexington Books

Seligman, 1972

Learned Helplessness. Annual Review of Medicine, 23, 407-412.

Speckart, G. and Anglin, M.D., 1984

Narcotics and Crime: An Analysis of Existing Evidence for a Causal Relationship. Los Angeles: UCLA

Stanton, M.D., 1978

The family and drug misuse: A bibliography. American Journal of Drug and Alcohol Abuse, 6, 203-205.

Stanton, M.D., 1979

Family Treatment of drug problems. A review. In Dupont R.L., Goldstein A. and O'Donnell J.(Eds), Handbook on drug abuse. Washington D.C.: NIDA.

Stanton, M.D., 1980

A family theory of drug abuse. In Lettieu???, D.T., Sayers, M. and Pearson, H.W. Theories on Drug Abuse: Selected contemporary perspectives NIDA Research Monograph. Washington D.C.: Government Printing, 147-156.

Steer, R.A., 1979

Differences in heroin addicts seeking impatient detoxification, ambulatory detoxification, and methadone maintenance. Drug Alcohol Depend., 4 (5), 399-406.

Steer, R.A. and Kotzken, E., 1980

Affective changes in male and female methadone patients. Drug Alcohol Depend., 5 (2), 115-122.

Sutker, P.B., and Archer, R.P., 1979

MMPI characteristics of opiate addicts, alcoholics, and other drug abusers. In: C.S. Newmark (Ed.), MMPI: Current clinical and research trends. New York: Praeger

Sutker, P.B., and Archer, R.P., 1983

Trimbos, C.J.B.J., 1971

De methadon-onderhoudsbehandeling van heroïne-verslaving. Nederlands Tijdschrift voor Geneeskunde, 115 (7), 261-266.

Visser, R.S.H., Vliet-Mulder, J.C., Evers, A., and ter Laak, J.,

1982

Documentatie van tests en testresearch in Nederland. Amsterdam: N.I.P.

Waldorf, D., 1973

Careers in Dope, Eaglewood Cliffs NJ, Prentice Hall

Wilde, G.J.S., 1965

Bespreking van de handleiding bij de MMPI-vertaling van Nuttin & Beuten. Nederlands Tijdschrift voor de Psychologie, 20, 253-254.

Zuckerman, M., Kolin, E.A., Price, L., and Zoob, I., 1964

Development of a sensation-seeking scale. Journal of Consulting Psychology, 28, 477 - 482.

Zuckerman, M., Sola, S., Masterson, J., and Angelone, J.V., 1975

MMPI patterns in drug abuse before and after treatment in therapeutic communities. Journal of Consulting and Clinical Psychology 43, 286-296.

APPENDIX 1: QUESTIONNAIRE

De vragenlijst

1. Geslacht: geboortedatum - - 19

( ) man
( ) vrouw

2. Leeftijd:

( ) onder 15 jaar ( ) 15 en 16 ( ) 17 en 18

( ) 19 en 20 ( ) 21 en 22 ( ) 23 en 24

( ) 25 en 26 ( ) 27 en 28 ( ) 29 en 30

( ) 31 t/m 35 ( ) 36 of ouder

3. Burgelijke stand:

( ) ongehuwd ( ) gehuwd/samenwonend

( ) gehuwd uit elkaar ( ) wettig gescheiden

( ) vrij huwelijk hetero ( ) vrij huwelijk homo

( ) samenwonend zonder sexuele band ( ) weduwnaar of weduwe

( ) lid van een commune

4. Woonsituatie:

( ) bij ouders ( ) pleeggezin

( ) eigen kamer ( ) eigen huis

( ) slaaphuis ( ) tehuis

( ) geen

5. Kinderen:

( ) ja aantal.....

( ) nee

6. Onderwijs (in heden en/of verleden) nog bezig/ afgemaakt/ niet afgemaakt

( ) GLO ( ) BLO

( ) MULO/MAVO/IVO ( ) HBS/HAVO/Atheneum/gymnasium

( ) Universiteit ( ) Lager Beroepsonderwijs

( ) Middelbaar Beroepsond. ( ) Hoger Beroepsonderwijs

( ) Avond-onderwijs (wat,waar) ( ) Andere opleiding

7. Beroep:

.....

8. Werk nu:

( ) in eigen vak ( ) full time

( ) in ander vak ( ) part time

Geen werk:

( ) sinds minder dan 6 maanden

( ) sinds 6 maanden tot 1 jaar

( ) sinds 1 tot 2 jaar

( ) sinds meer dan 2 jaar

Reden:

( ) invalide ( ) werkloos bij gebrek aan werk

( ) in opleiding ( ) werkloos bij gebrek aan werklust

9. Inkomsten:

Eigen inkomsten:

( ) loondienst ( ) vermogen

( ) bijstand ( ) WW

( ) WWV ( ) WAO

Andere inkomsten: specificeren geen inkomsten

10. Bedrag:

( ) minder dan f 150,- ( ) f 150,- tot f 200,-

( ) f 200,- tot f 250,- ( ) f 250,- of meer

11. Ouderlijk gezin:

P .....

M .....

Beroep P .....

Beroep M .....

Patient in kinderrij:

( ) enig kind ( ) 1 ste

( ) 2 de ( ) 3 de

( ) 4 de ( ) 5 de

( ) 6 de ( ) 7 de

12. Hebt u in uw leven een bijzondere ziekte gehad?

( ) nee

( ) ja nl.....

13. Komt er in uw familie voor:

( ) alkoholisme ( ) epilepsie

( ) zwakzinnigheid ( ) opname i.e. psyciatrisch ziekenhuis

( ) suicide ( ) neen

14. Hoe noemt u de aard van uw opvoeding:

( ) streng ( ) slap

( ) afwisselend ( ) beide

15. Hebt u in uw jeugd een schokkende ervaring gehad:

( ) nee

( ) ja nl.....

16. Hebt u voor uw 18 jaar buiten uw ouderlijk gezin verbleven?

( ) nee

( ) ja, bij

( ) grootouders of andere familie

( ) in een pleeggezin

( ) in 2/3 pleeggezinnen

( ) in een tehuis

( ) in 2/3 tehuizen

( ) op kamers

( ) in een slaaphuis

( ) in een jeugdhotel

( ) in een commune

Hoe lang? .....

17. Indien u buiten het ouderlijk huis verbleven hebt, was dit dan via een "instantie" en zo ja, welke.

( ) n.v.t.

Zonder "instantie"
bepaald door en gefinancierd door:

( ) gemeente

( ) Raad voor de Kinderbescherming

( ) Kinderrechter (civiele o.t.st.)

( ) Voogdijvereniging

via een strarechterlijk maatregel:

( ) voorlopige hechtenis in:

( ) Huis van bewaring

( ) opvanghuis

( ) observatiehuis

( ) tuchtschool

( ) t.b.r.

( ) strafrechterlijke o.t.st.

Periode waarin dit viel: voor 12 jaar/ 12-16 jaar/ na 16e jaar.

18. Bent u in contact geweest met de politie n.a.v. een delict?

( ) neen

Ja, wegens: ( ) vermogensdelict ( ) agressie

( ) joyriding ( ) rijden onder invloed

( ) drug-bezit ( ) cannabis
( ) andere

( ) drughandel ( ) cannabis
( ) andere

( ) ander delict

Aantal keren voor 18e jaar .....
na 18e jaar .....

19. Bent u voor een van deze delicten in contact geweest met de rechterlijke macht?

( ) n.v.t.

( ) neen

Ja, voor: ( ) vermogensdelict aantal keren veroordeeld door:

( ) agressie ( ) kinderrechter

( ) joyriding ( ) kantonrechter

( ) rijden onder invloed ( ) rechtbank

drugbezit ( ) cannabis

( ) andere

drughandel ( ) cannabis

( ) andere

Wat waren de vonnissen?

( ) n.v.t.

( ) vrijspraak
boete: ( ) onvoorwaardelijk
( ) voorwaardelijk

( ) berisping
o.t.st.( ) met plaatsing
( ) zonder plaatsing

( ) tuchtschool
( ) onvoorwaardelijk
( ) voorwaardelijk

( ) arrest
( ) onvoorwaardelijk
( ) voorwaardelijk

Plaatsing i.e. inrichting voor buitengewone behandeling.

gevangenisstraf ( ) onvoorwaardelijk
( ) voorwaardelijk
( ) combinatie

combinatie boete en voorw.gevangenis straf.
( ) t.b.r.

20. Tot hoeveel maanden bent u na uw 18e in totaal onvoorwaardelijk veroordeeld geweest?

( ) n.v.t.
( ) minder dan een maand
( ) 1 t/m 3 maanden
( ) 4 t/m/ 6 maanden
( ) 7 t/m 12 maanden
( ) langer dan 1 jaar

21. Sinds welke leeftijd gebruikt u?

<15 15/16 17/18 19/20 21/22 23/24 25/30 31/35 36>

opiaten
cannabis
stimulanti
psychedelica
hypnotica
nicotine
alkohol

Onder welke omstandigheden en om welke reden bent u voor het eerst drugs gaan gebruiken:

( ) cafe ( ) vrienden ( ) problemen ( ) experiment ( ) andere

Hoe voelde u zich op het moment dat u de eerste keer ging gebruiken?
.....

Hoe lang lag er tussen het eerste gebruik en de verslaving?
.....

Hoe en waarom is het gebruik tot verslaving geworden?
.....

Hoe was het verloop van de verslaving?
.....

Welke plaats heb u in de groep?
.....

Hoe is uw leven veranderd sinds de verslaving?
.....

22. Sinds welke leeftijd doet u aan: spuiten/ inhaleren/ slikken/

snuiven/ combinatie

( ) n.v.t.
( ) voor 15 jaar
( ) 15 en 16 jaar
( ) 17 en 18 jaar
( ) 19 en 20 jaar
( ) 21 en 22 jaar
( ) 23 en 24 jaar
( ) 25 t/m/ 30 jaar
( ) 31 t/m 15 jaar
( ) na 36 jaar

23. Waarom wilde u eraf?
.....

Gebruikte u methadon via slikken/ spuiten/ of beide

24. In welke periodes bent u voor deze keer in behandeling geweest?

Leeftijd .....
met methadon/ zonder methadon/ met begeleiding/ zonder begeleiding (van een arts, psycholoog of via praat -m.w.)

25. Hebt u iets aan die behandeling gehad?

( ) n.v.t.
( ) ja
( ) nee

26. Wat betreft de behandeling bij de G.G. & G.D. die het uitgangspunt vormt voor dit gesprek: hebt u daaraan iets gehad?

( ) ja
( ) nee

Was u na verloop werkelijk van de heroine af?

( ) ja
( ) ten dele
( ) nee
ten dele kan zijn nog wel enige verslaving of geen verslaving

Was er begeleiding:

( ) geen
( ) 1 x per week
( ) 1 x per maand
( ) 1 x per half jaar

27. Bent u na die keer opnieuw verslaafd geraakt?
( ) neen gebruikt niets
( ) neen gebruikt wel
( ) ja

zo ja, welke type drugs?
( ) n.v.t.
( ) opiaten
( ) cannabis
( ) stumul.
( ) psyched.
( ) hypnot.
( ) nicot.
( ) alkohol

28. Indien u opnieuw verslaafd geraakt bent, hebt u zich dan onder behandeling gesteld?

( ) n.v.t.
( ) nee
( ) ja

29. Bent u op dit moment verslaafd?

( ) nee
( ) ja, wel onder behandeling
( ) ja, geen behandeling
( ) n.v.t.
( ) opiaten
( ) cannabis
( ) stumul.
( ) psyched.
( ) hypnot.
( ) nicot.
( ) alkohol

30. Combineert u ook alkohol en drugs

( ) neen, nooit gedaan
( ) eerder met: .....
( ) ja nu met: .....

31. Heeft u ooit een vaste relatie gehad? .....

32. Heeft u vrienden gehad? .....

33. Heeft u tijdens de verslaving vrienden gehad? .....

APPENDIX 2: BACKGROUND VARIABLES

Housing: 44 patients had an own house
11 rented rooms
21 lived with their parents
4 had no housing.

Education: Almost half of the patients never finished their education. Most (n = 46) followed "LBO" or junior high school.

Type of school	Total
glo	3
blo	-
mulo/ivo/mavo	19
hbs	6
university	-
lbo	46
evening classes	-
other education	6
total	80

Family:
Most patients were single. About 20% lived together; only a few were married or divorced. 17% had children who usually did not live with them.

Traumata:
Some 25% said they had experienced a traumatic situation.

Family background:
Almost 50% came from broken homes or incomplete families. 10 patients were children of single mothers; in 17 cases the father had already died. A few had never known their parents. Most were born in families with less than 3 children; 23 were only child.

Socioeconomic status:
This was measured by the parents' occupation on a 7-point scale. On the average it was above moderate (mean 3.738; s.d. 1.888).

Special diseases in the family:
The number of alcoholics (mostly fathers) and drug abusers (mostly mothers) in the family is high.

Family member	Alcohol	Epilepsy	Insanity	Admission	Suicide	Drugs
P.	13	-	-	1	3	2
M.	3	-	-	3	2	-
F.	4	1	4	2	-	8
S.	-	-	-	1	3	3
P.P.	2	-	-	-	-	-
M.M.	-	-	1	1	-	1
M.P.	1	-	-	-	-	-
P.M.	-	-	-	-	-	-
Others	4	2	4	5	3	3
Don't know	1	-	-	1	-	-
None	52	77	71	66	69	63
Total	80	80	80	80	80	80

Income:

Mostly (n = 73) the income consisted of "Bijstand" (welfare) (n = 44) or invalidity pension AAW (n = 27).

Independence:

Most (n = 48) left their parent(s) home before 18 years of age to live on their own (not to be placed in an institution). Only a few went to live with foster parents after leaving home. Some (n = 12) had lived in an institution all of their youth.

Police/Justice:

Most had previous contacts with the police, usually frequently and for property crimes. 20% had been sentenced for more than one year. Some 50% already had contact with the police before 18 years of age. Most of the crimes were drug-related.

Contact with justice	Total	Contact with police	Total
None	16		
Property crime	43	Property crime	59
Violence	10	Violence	13
Joyriding	3	Joyriding	4
Driving under influence	1	Driving under influence	1
Cannabis:		Possession:	
-possession	4	-cannabis	13
-dealing	8	-other drugs	13
Hard drugs:		Dealing:	
-possession	9	-cannabis	3
-dealing	8	-other drugs	7
Other	8	Other	21

Drug use:

Most started taking drugs before 20 years of age, with cannabis even before 15 years. 85% of the population used needles. In 55% of the cases the peer group was indicated as motivation for initial use. School was rarely mentioned as a circumstance leading to drug use. Curiosity, the wish to experiment and being forced were also mentioned as reasons for initial use. Availability of drugs was often indicated as an important factor in the process. Having problems did not seem to play an important role. Most had the feeling of being addicted after 6 months of opiate use. Addiction was experienced in terms of financial problems and withdrawal symptoms. The majority had been in treatment several times. The relapse rate was high. Only some 20% had been clean through treatment, but never longer than for one year. Only 17% admitted to still using heroin while being enrolled in the methadone program.

Age	Use of: Opiates	Cannabis	Stimulants	Psyched.	Hypno.	Nicot.	Alc.
< 15	1	49	11	8	4	29	31
15-16	21	31	18	13	11	27	10
17-18	30	-	16	16	10	6	39
19-20	15	-	9	12	7	6	-
21-22	7	-	6	1	3	-	-
23-24	4	-	3	-	2	-	-
25-30	-	-	2	1	-	-	-
31-35	-	-	-	-	-	-	-
> 36	1	-	1	1	-	-	-
irr.	-	-	14	28	43	12	-
Total	80	80	80	80	80	80	80

Circumstances contributing to initial drug use:

	Cannabis	Opiates
Irrelevant	5	-
School/work	3	2
Friends	45	45
Youth centers	17	15
Family	8	6
Pubs	1	3
Own choice	1	7
Hospital	-	2
Total	80	80

Relationships:

Most of the subjects (n = 62) had experienced a stable relationship and claimed having friends while addicted.

APPENDIX 3: NPV AND MMPI TABLES

Table NPV 1. Intercorrelations between the seven NPV subscales

(Reported by Luteijn, Starren and Van Dijk, 1985)

	IN	SI	RG	VE	ZE	DO
IN	--					
SI	r= .49	--				
RG	r= .17	r= .19	--			
VE	r= .44	r= .31	r= .39	--		
ZE	r= .09	r= .21	r= .40	r= .40	--	
DO	r= .08	r=-.34	r= .10	r= .17	r= .14	--
ZW	r=-.46	r=-.38	r= .12	r=-.08	r= .13	r= .42

Table NPV 2 Mean raw NPV scores for two groups of drug users and a "normal" control group

NPV scales	Van Limbeek et al. (1986) "normal"	drug users mean score	Morival drug users	s.d.
IN	9,1	24,1	20,8	10,5
SI	4,8	11,5	13,2	7,3
RG	18,3	24,2	23,5	9,0
VE	11,6	26,3	26,4	6,7
ZE	8,1	12,3	14,6	5,6
DO	17,8	17,7	15,0	6,5
ZW	27,8	20,5	22,6	6,8

Table NPV 3 Frequention distribution (%) of Rotterdam methadone clients over normalized categories of NPV scales (first figure takes general group as standard table, figure in brackets takes psychiatric patients as standard table)

	IN	SI	RG	VE	ZE	DO	ZW
very low	1	1	11	1	1	4	22
	(9)	(6)	(9)	(1)	(1)	(4)	(1)
low	6	6	24	14	11	33	
	(28)	(27)	(24)	(4)	(8)	(1)	(9)
below average	3	14	5	5	9	23	6
	(21)	(20)	(29)	(6)	(10)	(24)	(9)
average	16	36	17	9	39	35	26
	(16)	(20)	(20)	(22)	(45)	(34)	(36)
above average	5	10	5	10	1	4	6
	(11)	(14)	(8)	(17)	(1)	(10)	(9)
high	35	20	10	39	17	17	6
	(13)	(10)	(9)	(41)	(18)	(20)	(23)
very high	34	12	28	36	19	6	-
	(1)	(3)	(2)	(9)	(17)	(7)	(13)
missing	-	-	-	2	2	-	2
n	80	80	80	78	78	80	78

Table NPV 4a Factor loads (x100 > +/-30) of NPV scales for:
A the EPOZ-group of Van de Velde et al. (1980)
B the construction-group of Luteijn (1974)
C the methadone clients from Rotterdam

	FACTOR I			FACTOR II			FACTOR III		
	A	B	C	A	B	C	A	B	C
IN	88	80	91						
SI	45	51	37	41		42	-62	-50	-59
RG				77	55	(23)			65
VE	40	47	(21)	67	55	71	32		
ZE				80	62	83			
DO							91	70	73
ZW	-76	-57	-75				37	34	34

Table NPV 4b Factor loads (x100) of NPV scales, using the control group and the group of psychiatric patients as norm tables

	FACTOR I		FACTOR II		FACTOR III	
	contr.	ps.pat.	contr.	ps.pat.	contr.	ps.pat.
IN	91	84	15	17	05	
SI	37	77	42	11	-59	
RI	04	-04	23	62	65	
VE	21	09	71	75	28	
ZE	-22	-02	83	68	00	
DO	-12	-52	07	50	73	
ZW	-75	-75	26	38	34	
R^2 =	.291	.330	.230	.23	.146	

Table MMPI 0. The mean scores of the subjects on the ten MMPI scales

	mean	standard deviation	standard error
Hypochondriasis	62.5	13.4	1.5
Depression	57.3	12.9	1.4
Hysteria	61.6	12.8	1.4
Psychopathic Deviate	63.9	12.3	1.4
Masculinity/Femininity	50.6	11.2	1.3
Paranoia	58.7	13.4	1.5
Psychasthenia	54.5	11.8	1.3
Schizophrenia	57.7	15.0	1.7
Hypomania	59.1	10.9	1.2
Social Introversion	50.6	10.8	1.2

Table MMPI 1 Intercorrelations among the ten MMPI basic scales

	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma	Si
HS	1.00									
D	.64	1.00								
	<.01									
Hy	.58	.46	1.00							
	<.01	<.01								
Pd	.26	.40	.67	1.00						
	=.01	<.01	<.01							
Mf	.42	.34	.03	.04	1.00					
	<.01	<.01	=.38	=.35						
Pa	.50	.50	.44	.43	.49	1.00				
	<.01	<.01	<.01	<.01	<.01					
Pt	.55	.68	.59	.52	.22	.65	1.00			
	<.01	<.01	<.01	<.01	<.05	<.01				
Sc	.39	.45	.33	.28	.32	.57	.57	1.00		
	<.01	<.01	<.01	<.01	<.01	<.01	<.01			
Ma	.28	.04	.41	.40	.09	.40	.45	.52	1.00	
	<.01	=.36	<.01	<.01	=.22	<.01	<.01	<.01		
Si	.16	.61	.16	.18	.12	.31	.50	.36	-.05	1.00
	<.10	<.01	<.10	<.10	=.13	<.01	<.01	<.01	=.33	

Table MMPI 2 Classified MMPI-scale scores

	T 30 Very low	31T40 Low	41T59 Moderate	60T69 High	T 70 Very high	Average	s.d.
Hs	-	1.3	42.5	30.0	26.2	62.5	13.4
D	-	7.5	51.3	20.0	21.3	57.3	12.9
Hy	1.3	2.5	38.8	35.0	22.5	61.6	12.8
Pd	1.3	-	33.8	30.0	35.0	63.9	12.3
Mf	2.5	16.3	61.3	17.5	2.5	50.6	11.2
Pa	-	5.0	55.0	20.0	20.0	58.7	14.4
Pt	1.3	11.3	55.0	23.8	8.8	54.5	11.8
Sc	1.3	6.3	50.0	21.3	21.3	57.7	15.0
Ma	1.3	2.5	56.3	23.8	16.3	59.1	10.9
Si	1.3	16.3	62.5	13.8	6.3	50.6	10.8

Table MMPI 3 Frequency distribution (%) of respondents according to number of "very high" (T 70) and "high" or "very high" MMPI-scores (T 60)

Number of scores (T 70)	Number of respondents	Number of scores (T 60)	Number of respondents
0	35.0	0	12.5
1	21.3	1	8.8
2	15.0	2	12.5
3	12.5	3	10.0
4	6.3	4	10.0
5	2.5	5	11.3
6	2.5	6	11.3
7	1.3	7	10.0
8	3.8	8	7.5
9	-	9	5.0
10	-	10	1.3

Table MMPI 4 Factor loads (x100) for the ten MMPI basic scales

MMPI-scale	Factor I	Factor II	Factor III
Hypochondriasis	36	60	28
Depression	28	39	79
Hysteria	83	12	22
Psychopathic Deviate	81	02	21
Masculinity/Femininity	-20	86	07
Paranoia	41	69	23
Psychasthenia	62	41	50
Schizophrenia	39	61	18
Hypomania	70	37	-36
Social Introversion	05	11	86
R^2 =	0.462	0.143	0.117

Table NPV&MMPI 1 Correlations (and significance) between the ten basic MMPI-scales and the seven NPV-subscales

		NPV-subscales						
MMPI-scale		IN	SI	RG	VE	ZE	DO	ZW
Hypochondriasis	r=	.49	.21	-.17	.00	-.04	-.03	-.38
	p=	.00	.03	.06	.49	.36	.39	.00
Depression	r=	.65	.46	-.25	.08	-.10	-.22	-.70
	p=	.00	.00	.01	.25	.20	.03	.00
Hysteria	r=	.30	-.15	-.04	-.13	-.24	-.18	-.42
	p=	.00	.09	.36	.12	.02	.05	.00
Psychopathic	r=	.25	-.10	-.00	.08	-.20	-.10	-.27
Deviate	p=	.01	.20	.49	.23	.04	.18	<.01
Masculinity/	r=	.38	.19	-.08	.23	-.10	.21	-.19
Femininity	p=	.00	.04	.22	.02	.19	.03	.04
Paranoia	r=	.40	.18	-.05	.09	.02	.09	-.13
	p=	.00	.06	.32	.20	.41	.21	.13
Psychasthenia	r=	.54	.36	-.14	.05	-.15	-.16	-.41
	p=	.00	.00	.10	.32	<.10	.08	.00
Schizophrenia	r=	.42	.19	.00	.17	.09	.13	-.25
	p=	.00	<.05	.50	.07	.23	.12	.01
Hypomania	r=	.16	-.11	.06	.14	.07	.21	.12
	p=	.08	.16	.30	.10	.26	.03	.14
Social	r=	.47	.63	-.14	.13	-.05	-.38	-.47
Introversion	p=	.00	.00	.10	.11	.34	.00	.00

Table NPV&MMPI 2 Correlations (and significance) between the measures of general disturbance, based on the ten MMPI-scales and the seven NPV-subscales

	AVMMPI	ELMMPI70	ELMMPI60	AVNPV	ELNPV67	ELNPV7
AVMMPI	r=1.00					
ELMMPI70	r= .83 p< .001	r=1.00				
ELMMPI60	r= .93 p< .001	r= .79 p< .001	r=1.00			
AVNPV	r= .24 p< .05	r= .13 p= .25	r= .21 p< .10	r=1.00		
ELNPV67	r= .36 p< .01	r= .24 p< .05	r= .29 p< .01	r= .83 p< .001	r=1.00	
ELNPV7	r= .33 p< .01	r= .20 p< .10	r= .30 p< .01	r= .66 p< .001	r= .67 p< .001	r=1.00

Table NPV&MMPI 3 Multivariate analysis of variance for the demographic variables and measures of general disturbance

	significance of multivariate F	Significance of univariate F if multiv. F is significant AVMMPI	ELMMPI70	ELMMPI60
Sex	.636			
Age				
-dichotomized	.322			
-trichotomized	.300			
Intelligence				
-dichotomized	.018	.018	0.81	.003
-trichotomized	.533			
Socioeconomic status	.579			

	significance of multivariate F	Significance of univariate F if multiv. F is significant AVNPV	ELNPV67	ELNPV7
Sex	.893			
Age				
-dichotomized	.051	.011	.007	.013
-trichotomized	.342			
Intelligence				
-dichotomized	.949			
-trichotomized	.782			
Socioeconomic status	.520			

Table NPV&MMPI 4. Factor loadings on MMPI and NPV subscales with NPV general norm and psychiatric patients as controls

	NPV: general norm				NPV: psych. patients			
	I	II	III	IV	I	II	III	IV
Hs	53	14	65	-08	66	19	49	-07
D	27	63	63	-02	35	70	50	02
Hy	34	-07	81	-21	48	04	72	-19
Pd	30	-05	74	-01	29	05	71	15
Mf	55	12	26	20	53	12	22	24
Pa	74	19	28	05	74	21	18	17
Pt	63	48	40	-10	69	50	26	-01
Sc	81	32	29	05	85	32	14	12
Ma	78	-22	04	02	79	-25	-04	05
Si	08	87	14	04	11	89	01	05
IN	27	49	52	29	38	68	32	16
SI	15	85	-18	02	22	80	-34	-02
RI	-15	-31	13	67	10	-10	-00	58
VE	17	13	-06	75	-00	09	08	85
ZE	11	08	-35	59	13	02	-43	52
DO	44	-48	-17	24	27	-57	-02	46
ZE	14	-52	-65	15	-01	-67	-48	29
R =	35.1	14.6	11.3	6.4	35.9	15.9	10.9	5.9
		67.5%				68.6%		

KLINISCHE EN SOCIALE ASPEKTEN VAN HEROINEVERSLAAFDEN IN EEN AMBULANT METHADONPROGRAMMA

DUTCH SUMMARY

In deze dissertatie wordt getracht enkele klinische en sociale aspecten te exploreren van een sample van Rotterdamse methadongebruikers, opgenomen in een ambulant laagdrempelig methadon-programma. De studie maakt een vergelijking tussen subgroepen van het sample en vergelijkt het Rotterdamse sample methadongebruikers met een Amerikaans sample, waarbij variaties in psychopathologie worden onderzocht in het kader van verschillende socioculturele determinanten en condities. De onderliggende hypothese is dat de psychopathologie van verslaving geen sociaal-cultureel vrij fenomeen is, vooral als er maatschappelijke afkeuring optreedt.

Tevens worden verbanden tussen vroege ervaringen in de drug-carriere en het optreden van psychopathologie onderzocht.

Hoofdstuk 1 bevat een algemene inleiding over het fenomeen drugverslaving en een kort overzicht van enkele theorieën over drugverslaving. Tevens wordt het methadonprogramma waaruit het onderzoekssample werd samengesteld, beschreven.

In Hoofdstuk 2 wordt de methodologie beschreven. Een korte beschrijving van de onderzoekspopulatie en een samenvatting van de enquete data wordt hier verstrekt. De test variabelen (MMPI en NPV) worden hier uitgebreid besproken en een analyse van de testresultaten vindt plaats. De normtabellen voor de algemene populatie en de populatie psychiatrische patienten werden toegepast om de ruwe NPV scores van de Rotterdamse methadongebruikers om te zetten in normaalscores. De algemene indruk is dat druggebruikers hoger scoren op de NPV schalen IN (Inadequatie) en VE (Verongelijktheid) en lager op de ZW (Zelfwaardering) schaal.

In navolging van Luteijn (1974) en Van de Velde, Luteijn en Valkenburg (1980) hebben wij een factoranalyse op de 7 NPV schalen toegepast. Wanneer wordt uitgegaan van de algemene normtabel, worden 3 factoren gevonden. Deze komen redelijk overeen met de 3 factoren die door Luteijn en Van der Velde (1980) zijn gevonden (Algemene angst versus emotionele stabiliteit, dogmatisme versus vriendelijkheid, extraversie versus introversie). Wordt de

normtabel voor psychiatrische patienten aangehouden, dan worden 2 factoren gevonden. De MMPI scores werden zowel op de kritische niveaus 70 als 60 geïnterpreteerd. Verhoogde scores op minimaal 1 schaal werden bij 65% c.q. 87.5% van de onderzoeksgroep aangetroffen. Bij factoranalyse werden 2 coherente factoren gevonden.

Er werd een "general disturbance" criterium geïntroduceerd zowel voor de MMPI als de NPV. De IN en ZW schalen van de NPV blijken alle MMPI schalen behalve paranoia en hypomania te discrimineren. Het verband tussen "measures of general disturbance" en demografische variabelen werd geëxploreerd. Leeftijd en intelligentie vertoonden significante verbanden met zowel de NPV als de MMPI "general disturbance" criteria. Bij een factoranalyse van de MMPI en NPV schalen werden telkens 4 factoren gevonden. De eerste 3 factoren zijn niet identiek, de 4de factor is identiek en verklaart 6% van de totale variantie. Dit betreft de NPV schalen Verongelijktheid (VE), Rigiditeit (RG) en Zelfgenoegzaamheid (ZE).

Hoofdstuk 3 beschrijft de psychopathologie bij Nederlandse en Amerikaanse methadongebruikers door middel van de MMPI als cross-cultureel instrument. MMPI onderzoeksgegevens betreffende de klinische diagnose van onze Rotterdamse onerzoeksgroep worden hier naar voren gebracht. Tevens wordt de rol van socio-culturele factoren bij het verslavingsproces onderzocht door systematische vergelijking van een Nederlandse en een Amerikaanse groep methadongebruikers. De Amerikaanse methadonpopulatie bestond uit blanke "veteranen", allen mannen. Aangezien de Rotterdamse onderzoeksgroep ook vrouwen bevatte, werd gecontroleerd voor geslacht, leeftijd en socio-economische status. Er werden geen significante verschillen tussen beide Rotterdamse subgroepen gevonden. De invloed van mogelijke Vietnam ervaringen bij sommige van de Amerikaanse "veteranen" bij de Amerikaanse onderzoeksgroep kan door ons niet ingeschat worden. De resultaten van dit onderzoek dienen dan ook met voorzichtigheid te worden geïnterpreteerd.

Onze hypothese is dat Nederlandse methadongebruikers minder extreme psychopathologie zouden vertonen. Deze analyse gebeurde op drie niveaus: vergelijking van de gepubliceerde data bronnen, een nomothetische analyse die de Amerikaanse T-scores (verhoogde scores vanaf 70) met de Nederlandse T-scores (verhoogde scores vanaf 60) vergelijken en een idiografische analyse van de relatieve verhogingen in het profiel van elke persoon.

De statistische analyse van de ruwe scores vertoonde geen verschillen tussen de samples op 7 schalen. De Amerikaanse groep scoorde hoger op Depressie en Psychasthenie, maar de Rotterdamse groep scoorde hoger op Hysterie. De nomothetische analyse ondersteunt de hypothese dat Amerikaanse methadongebruikers meer psychopathologie vertonen dan de Nederlandse gebruikers. De idiografische analyse bevestigt dit beeld: 70% van het Rotterdamse sample viel binnen de normale limieten (als kritische score werd opnieuw 60 en hoger gebruikt); bij slechts 11% van de Amerikaanse verslaafden was dit het geval (bij het gebruik van 70 en hoger als kritische score). Twee conclusies kunnen naar voren gebracht worden:

a. Schijnbaar onafhankelijk van de socioculturele context doen zich cross-culturele psychopathologische patronen bij heroineverslaafden voor.
b. De psychopathologische diagnoses bij heroineverslaafden kan beïnvloed worden door socioculturele factoren.

Hoofdstuk 4 beschrijft vroege ervaringen binnen de drugcarriere en psychopathologie. Een model wordt gepresenteerd waarbij de psychopathologische en "normale" clienten in een Rotterdams methadonprogramma worden onderscheiden. Het algemene resultaat laat zien dat de prevalentie gerelateerd is aan het gebruikte instrument. Bij gebruik van de MMPI criteria valt 70% van de groep binnen de normale limieten. Bij gebruik van de NPV valt slecht 24% binnen de normale limieten. De invloed van het sexe-verschil op de psychopathologie van de heroineverslaafde wordt hier verduidelijkt. Vrouwen die nooit drugvrij zijn geweest in de periode sinds hun verslaving en opname in het programma zijn duidelijk 'zieker'. Er is ook een significant verband tussen geslacht en vroege uithuisplaatsing. Meisjes die vroeger uit huis gaan, vertonen bij dit onderzoek meer kans op latere psychopathologie. De leeftijd waarop het initiele gebruik zich voordoet, handel in cannabis en vervolging voor bezit van cannabis, blijken in dit ondrzoek van belang voor de ontwikkeling van de heroineverslaving en de psychopathologie. Diegenen bij wie het cannabisgebruik zich voordeed voor 15 jaar, blijken meer 'at risk' voor een psychopathologische ontwikkeling. De prevalentie van suicide in de familie bleek in dit sample van invloed te zijn op de ontwikkeling van de verslaving en de psychopathologie.

Deze dissertatie leidt tot enkele conclusies waarbij follow-up onderzoek meer duidelijkheid zou kunnen verschaffen. Het gebruik van de MMPI in combinatie met de NPV lijkt zinvol bij onderzoek bij verslaafden. Het zou echter wenselijk zijn bij verder onderzoek de DSM-III-R aan

de testbatterij toe te voegen, gezien de internationale erkenning van dit instrument. Het valt ook te overwegen bij onderzoek bij Nederlandstaligen de korte MMPI-versie (NVM) te gebruiken, zoals Luteijn opmerkte. Het gebruik van de NPV is in ons onderzoek zeer waardevol gebleken en lijkt een test die binnen de Nederlandstalige context geschikt is voor onderzoek bij (heroine) verslaafden.

Een meer uitgebreide en 'updated' cross-culturele vergelijking van methadon- c.q. verslavingspopulaties zou beter inzicht kunnen verschaffen in de invloed van socio-culturele factoren bij verslaving en het bestaan van typische cross-culturele patronen, eigen aan de verslaafden c.q. de verslaving.