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A Study of the Personality Characteristics of Patients in Methadone Maintenance Programs

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of Patients in Methadone Maintenance Programs

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Chapter One

Introduction and Statement of the Problem

Estimates of the number of heroin addicts in the United States vary between 200,000 and 500,000. Although differences of opinion exist as to the numbers of heroin addicts, there is little argument about the cost of supporting their addiction. Hundreds of millions of dollars are lost each year through criminal activities perpetrated to support addictions. No price can be assessed for the addict's misery, suffering, poor health, and even sometimes his untimely death.

Various rehabilitation treatment plans and programs such as compulsory hospitalization and therapeutic communities have had very limited success in treating and rehabilitating the heroin addict. However, Methadone Maintenance, a new treatment modality, made its appearance in 1963 through the efforts of Doctors Dole and Nyswander. Based on their studies with heroin, they maintained that the heroin drug hunger may be relieved by administering the heroin addict methadone hydrochloride to blockade the effects of heroin. Methadone itself is a synthetic addictive drug, which, unlike heroin, does not produce euphoria, sedation or distortion

of behavior in a tolerant individual; it produces a cross tolerance for heroin making the effects of heroin inoperative. Thus, methadone prevents withdrawal symptoms when the addict stops using heroin and also suppresses the addict's craving for drugs. Under these conditions, this treatment modality has helped the addict to abandon a life of crime and has turned "a majority of heroin addicts into law-abiding citizens (Brecher, 1972)."

Already some 60,000 of the country's 600,000 addicts are being treated at 460 public and private clinics in 40 states with another 30,000 on waiting lists (Brecher, 1972). However, Malensky, 1971; Knowles, Lahiri, & Anderson, 1971; Bloom and Sudderth, 1971; Jaffe, 1971; Ramer, 1972; Senay, & Renault, 1971 maintain that methadone alone is not sufficient to rehabilitate heroin addicts, but that psychological, social, vocational and educational services are also a necessary component of the total rehabilitative process.

Although the physiological effects of methadone have been researched extensively (Black, 1969; Blinick, 1968; Chein, 1948; Dole and Nyswander, 1965. 1966, 1968, 1969; Isbell, Wikler, Eddy, Wilson, & Moran, 1947; and Jaffe, 1969, 1970), the studies concerning these ancillary services, especially the psychological aspects of those in a methadone program have been few in number

(Levin, Levine, Sloan, & Chappell, 1972; Wieland, & Sola, 1972; Martin, 1970, and Pittell, 1971). Moreover, Dole and Nyswander, 1967; Jaffe, 1970; O'Malley, Anderson, & Lazare, 1972; Eddy, 1970, and Martin, 1970 have called for more studies on the personality characteristics and psychological aspects of those in the methadone treatment since so little information is presently available. If the methadone treatment modality is to continue to be a major treatment program for the rehabilitation of the heroin addict, such research will be needed.

A search of the literature in the area of the personality characteristics of those in methadone maintenance programs shows that there has been little research conducted on this aspect of the maintenance program. Such neglect indicates that until recently the personality characteristics of the patient were not considered to have great import in most methadone maintenance programs. Hence, in an attempt to investigate this area, this study will focus on the personality and demographic characteristics of those in the methadone maintenance program, and those who have dropped out of the program.

The significance of this study, therefore, lies in the fact that it is one of the first attempts to obtain objective data based on research in an area which is rampant with opinions and unresearched assumptions.

Chapter Two

Review of Literature

Clinical studies of methadone as a medication to counteract the pharmocological effects of heroin on humans were conducted by Dole and Nyswander in the metabolic ward of the Rockerfeller University Hospital during 1964 and extended to Beth Israel Medical Center in 1965. These studies suggested that the heroin drug hunger might be relieved by using the familiar drug methadone hydrochloride. Methadone is a synthetic narcotic which does not produce euphoria, sedation, or a distortion of behavior in a tolerant individual and can be used as a physiological blocking agent for the effects of heroin.

Although methadone is an addicting drug, there are three main advantages in substituting methadone for heroin. First, it is possible to slowly build an addict up to a stable dose between 60 to 80 milligrams of methadone per day, and maintain him at this dosage over a long period of time (Senay, & Renault, 1971). Secondly, although methadone is a potent analgesic for the non-tolerant individual, at a stabilization dose, it produces no

euphoric effect in the drug-tolerant heroin addict and, in fact, blocks the euphoric effect of heroin. Finally, methadone is longer acting than heroin. Its 24 to 38 hour duration, as opposed to the 2 to 4 hour effect of heroin, permits the addict to take methadone on a fixed schedule every 24 hours.

The principle underlying the technique of narcotic blockage is not new. It has long been known to pharmacologists that drugs of the opiate class induce a state of tolerance, and that the tolerance induced by one drug in the group extends to others (Isbell, 1947). Theoretically, therefore, addiction can be cured by making heroin ineffective. If heroin ceases to produce its euphoric effects, it will no longer be sought by addicts (Senay, & Renault, 1971).

In the Dole and Nyswander (1965) methadone treatment program, the conditions under which the addict was accepted for treatment were: 1. men between the ages of 20 to 40, 2. main-line heroin users for several years, 3. a history of failure in other withdrawal programs, 4. non-psychotic and 5. voluntary. In this program, the addict spent six weeks in a hospital becoming stabilized on 80 to 120 mg of methadone per day after which they became out-patients returning every day for their methadone. Along with the methadone blockade, counseling, job training,

schooling and legal assistance were also made a part of the total program. With this method, after a four year trial of the methadone blockade treatment, Dole and Nyswander (1968) claimed a 94% success in ending the criminal activity of 750 former heroin addicts. They base their success rate on the amount of criminal activity (actual arrests) before and after the methadone program. They state: The majority of these patients are now productively employed living as responsible citizens, and are supporting families. The results show that criminal addicts can be rehabilitated by a well-supervised maintenance program (p. 2708).

Dole (1971) claims that methadone maintenance programs in the United States and Canada are now treating about 9,000 former heroin addicts, with plans to treat 25,000 heroin addicts in New York City alone. Other methadone maintenance programs based on the Dole-Nyswander program have also been initiated around the country (Malansky, 1971; Knowles, Lahiri, and Anderson, 1971; Kleber, 1971, and Bloom & Sudderth, 1971) with an estimated membership of 60,000 (Time, 1972). These methadone maintenance programs are for the most part based on the original program of Dole and Nyswander, but the present trend is to stabilize the patient on an out-patient basis instead of the initial six week stabilization period in a hospital (Helf, Folick & Himmel, 1971).

As methadone treatment programs have developed, the rehabilitative emphasis has also begun to shift. Presently more emphasis in the maintenance programs is being placed on the psychological, social and vocational problems of the patient than was done formerly (Mc Dermott, 1970; Kleber, 1971; Ramer, et.al., 1971), so that the rehabilitative thrust has shifted to the combination of both methadone and ancillary psychological services as the most beneficial method of treatment.

Currently most experts feel that it is methadone, with its unique pharmacological properties in combination with supportive services which accounts for the successes achieved in treatment; methadone alone or rehabilitation efforts alone do not appear to have anywhere the impact of the combination (Senay, & Renault, 1971; Trussel, 1971). Ramer (1971) is in agreement with Senay and Renault when he states: Methadone maintenance is not a panacea. Methadone alone (without supportive services) was successful in rehabilitation of only 50 per cent of the patients in our program. Another 40 per cent required ancillary services for rehabilitation and 10 per cent of the patients were unable to adjust to the new life style and were treatment failures. From our experience, it would appear that the ideal program offers

a combination of psychological techniques encouraging human development and methadone maintenance (p. 164).

One of the current controversies about the methadone patient revolves around two theoretical positions in regard to the personality characteristics of those in the program. Faigel (1968) maintains that since methadone is an addictive drug like heroin, the methadone patient and the heroin addict have similar personality characteristics. Mc Dermott (1970), Denman (1969), Senay & Renault (1971), Pearson (1969), Ramer, Zaslove and Langan, (1971), and Waldorf (1969) maintain that because the life style of the heroin addict changes once he is on methadone that these changes are reflected in the patient's personality characteristics. Both sides of this controversy make their claims based on little external evidence but on personal experiences with the addicts. As long as such a situation exists, confusion will result since no supportive evidence is available to substantiate the claims of either position.

The only author who offers support for his claim that methadone patients have different personality characteristics is Denman (1969). In his unpublished study, he administered the 16 PF to 30 methadone patients, 24 males and 6 females and contrasted their scores with the 16 PF scores from a 1968 study

of addicts by Phillips and Delhees. He reports that the methadone group is more emotionally stable (Factor C), more realistic (Factor M), more confident (Factor O), and more dominant (Factor E) than the drug addicts of the Phillips and Delhees study. Although the Ss of the Phillips and Delhees study were not operationally defined as belonging to a specific drug group, Denman's study does suggest certain variables on the 16 PF as being more important than others in deliniating methadone patients from other addicts. Other studies using operationally defined addict groups would be a natural extension of this study. Despite the lack of operationally defined groups, and small sample size, which prevents generalizability, the Denman study is an attempt to determine with hard data the personality characteristics of methadone patients and lays the groundwork for other studies to be done with the 16 PF on the methadone patient.

Based on their working experience with methadone patients, Senay and Renault (1971) and Mc Dermott (1970) hold that a person in a methadone maintenance program has a better self concept and more self esteem than those still on heroin. In their opinion, they claim that because the methadone patient has changed his life style a resultant change for the better takes place in his self concept.

Also from their personal experiences, Pearson (1971) and Ramer, Zaslove and Langan (1971) claim that other life style changes in methadone patients are evident. These authors hold that the heroin addict's life style necessitates that his approach to people demands on his part relative standards of behavior because craftiness and slyness are important components of the heroin addict's daily life. The methadone patient, on the other hand, would not have to rely on such qualities to maintain himself socially and economically and would tend to exhibit more absolute standards of behavior since his life style has also changed.

Waldorf (1970) also in opposition to the opinion of Faigel (1968) holds that those who are in a rehabilitation program such as methadone programs have better attitudes towards their parents than heroin addicts, and that such a positive attitude in this area is a prognostic sign of successful rehabilitation. This contention, however, is not supported by research data (Cameron, 1963; Torda, 1960).

From the above, it is evident that there are many opinions and assumptions about the personality characteristics of methadone patients which have not been researched. Such a situation leads to confusion and to the proliferation of other opinions and assumptions. Emperical research in this area is of utmost importance if scientific knowledge is to advance. The

leaders in the field such as Dole and Nyswander (1967), Sola (1970), Wieland and Tislow (1970), Jaffe (1970), Pittel (1972), Davis (1970) and Waddell, Smith and Stewart (1972) have recognized this point and have called for extensive research on the methadone personality since programing and rehabilitative services need a solid research foundation upon which to function.

To this author's knowledge, only a few published studies have been done on the personality characteristics of the methadone patient. Levin, Levine, Sloan and Chappel (1972) studied the personality correlates of 30 black male heroin addicts who were in an out-patient methadone treatment program by means of a psychiatric interview. They concluded that personality disorders were found in 77 per cent of the subjects, neurosis in 17 per cent and 3 per cent manifested psychotic disorders. However, since the terms of the study were never operationalized, the conclusions of this study should be viewed with caution.

In Pittel's (1972) study on the MMPI of 51 male and 15 female out-patients in methadone treatment, he, too, did not operationalize what he meant by "success" when he stated that successful methadone patients in terms of the MMPI profile were 1. less complaining (Hs), 2. more adequate (Si) and 3. have

better judgment (Sc, Ma). The apparent methodological weaknesses in these studies obviates their contribution to scientific knowledge in the area and again points to the need of sound methodological studies on the methadone personality.

In one of the better methodological studies in the area, Wieland and Sola (1970) studied depression in 196 out-patients in a methadone clinic by administering to the patients the Zung Self-Rating Depression Scale, the Beck Depression Scale and Beck Depression Inventory. They conclude from this study that on the Zung Self-Rating Depression Scale, methadone patients are significantly more depressed than normals ($P = < .005$), despite the fact that they are in treatment with methadone and counseling. However, according to the Beck Depression Inventory, methadone patients are not as depressed as hospitalized patients judged as "mildly" depressed ($P = < .005$) or "moderately" depressed ($P = < .005$). The authors view this study only as a preliminary step in understanding this aspect of a methadone patient's personality, and state that other studies in this area as well as in the other areas of personality are direly needed because of the lack of scientific information.

Looking at this lack of information about the meahadone patient from another point of view, Sells and Watson (1970) argue

strongly that the predominant source of information which is available about the methadone patient is for the most part in the form of demographics and which, in reality, only represents partial information. These authors maintain that Overall program statistics and univariate relationships are too gross to analyze the unique effects of age, sex, race, ethnic background and other patient variables. It seems clear that sophisticated multivariate methodologies are needed to answer many of the currently urgent questions related to demographics and to patient personality characteristics (p. 18). To this date, no such multivariate research has yet been undertaken, which, according to these authors, would contribute very important information to the whole area of methadone maintenance programs and to the rehabilitation of the methadone patient.

Another major issue of any drug rehabilitation program, such as a methadone program, is that of the "drop out" (Einstein, 1971). In comparison to other drug rehabilitation programs whose drop out rate is as high as one in ten (Dederich, 1971), results from the major methadone programs indicate that there is a two out of three chance that methadone maintenance is effective in helping to rehabilitate voluntary patients, but even then the drop out problem is a serious cause of concern (Patch, 1972; Ramer, Zaslove and Langan, 1971).

Perkins and Block (1970) in a study of a methadone maintenance program drop-outs claim that the highest percentages of discharge occurred among the unemployed, the criminally involved, multiple substance users, and the physically and mentally ill. Regarding program variables, the lower the methadone dosage, the higher the proportion of discharge. They also infer that patients are at a greater risk of discharge during the earlier part of the six-week period for stabilization than later in the program. Similarly, Babst, Chambers and Warner (1971) concluded that the rate of retention was lower for patients who had longer conviction records, were multiple drug users, abused alcohol, were not employed at the time of admission, were older, and were not married, but Sells, Person and Joe (1972) claimed in their study of methadone drop-outs that age, race, ethnic status, early daily use of heroin or other opiates, and failure to complete high school, were not significant predictors of early drop out once the patient had completed a minimum of two months in treatment.

In another study on drop-outs, Williams and Johnston (1972) state: The data presented in this paper are in conflict with the findings of other researchers. The relevant factors appear to be 1. age: older patients stay in treatment, 2. addiction

history: the longer a patient has been addicted, the longer he stays in treatment, 3. age started heroin use: patients who began heroin use at a later age stay longer in treatment, 4. previous treatment: the more treatment attempts a patient has made, the better are his results in the present sequence, 5. criminal history: the higher the proportion of time spent in jail during addiction, the better are treatment results, 6. patterns of drug use: the less involvement with drugs other than opiates indicates better results in treatment, 7. marital status: married patients, especially those with dependent children, stay longer in treatment (p. 440).

Although these studies have provided valuable information about one aspect of the methadone drop-out, there are also other aspects of such a patient which warrent examination. Recently, Einstein (1972) pointed out one such area when he stated: "In addition to variables in demographic and addiction history, attention needs to be directed towards psychological variables of the drop-out (p. 515)." Levine, Levin, Sloan, and Chappel (1972), Williams and Johnston (1970), and Perkins & Richman (1972) also have asserted that information about the personality characteristics on the drop-out is needed and that studies involving such research are critical to the whole maintenance program.

At this time, however, no such research has yet been reported in the literature, indicating that such studies have not yet been done and that this area is a fertile one to research.

From this review of the literature, it is apparent that although the methadone treatment modality is now a recognized treatment for heroin addiction, much research is now needed to study some theoretical issues concerning the personality characteristics of the methadone patient, not only of those in the program but also those who have dropped out. As these programs become numerous across the country, and more people use methadone, such information will become vital if this treatment modality is to continue to be a viable one. Those working in this area recognize that continuing research is the key by which such information is obtained even though in the past such research has not kept pace with the expansion of this treatment modality. For this reason, a research project which focuses upon psychological aspects of the methadone user would be of great importance to the whole program not only to obtain needed information about the psychological characteristics of the methadone user, but also to help to evaluate present program status, to shape and define future program directions, and to help train professionals and para professionals who are in the field and

those who will enter the field in the future.

The following statement made by the American Psychological Association Committee on Alcohol and Drug Dependence (1967) seems to best summarize the present status of methadone maintenance programs and for the need for research: The Dole-Nyswander program raises several questions as to whether this maintenance method offers a reasonable solution, in total or in part, to the national heroin problem. For example, in view of the known resistance of "hard-core" dependent persons to seek and accept programs of rehabilitation, what fraction of the drug-dependent population would voluntarily enter such a treatment program? Most important of all, does methadone maintenance actually provide the mechanism for the physical, psychological and sociological rehabilitation for the average hard-core dependent person? Controversy and emotion can be overcome and truth made known only by application of the most rigid research controls to this difficult medical and social problem (p. 136).

Objectives

The objectives of this study are:

1. to compare the personality characteristics between: a. heroin addicts, b. stabilized methadone patients from the Stone-Lindbergh Clinic, c. stabilized methadone patients from the Miami V.A. Hospital and d. those who were former methadone patients and are now methadone free.

2. to determine the relationships among the demographic variables and the personality characteristics within the following groups: a. heroin addicts, b. stabilized methadone patients, and c. those who are methadone free.

3. to compare the demographic and psychological variables between a. those who drop out of the methadone program in the first six weeks of the program, b. those who drop out of the program after at least six weeks in the program, and c. those who are in the program 12 weeks or longer.

Since research on the personality characteristics of the methadone patient has been so minimal, this study will be considered exploratory in nature. According to Kerlinger (1964), exploratory studies have three purposes: 1. to discover significant variables in the field situation, 2. to discover relations among variables and 3. to lay the groundwork for later, more systematic and rigorous testing of hypothesis. These three purposes, then, will be the focus of this research project.

Chapter Three

Method

Subjects

Methadone subjects were obtained from the Methadone Clinic operated by Drs. Stone and Lindbergh in Hollywood, Florida, and the Veteran Administration Hospital in Miami, Florida. In total, there were 186 methadone patients in the study, of whom 143 came from the Stone-Lindbergh Methadone Clinic and 43 from the Miami V.A. Hospital. Another 40 Ss from the Stone-Lindbergh Clinic who have completed the program and are methadone free were also used in the study. These Ss were obtained through the help of a social worker who is in the employ of the Stone-Lindbergh Clinic. Thirty-nine heroin addicts from the street have also filled out the questionnaire. These Ss were obtained through the contact of a social worker who knew these addicts and who volunteered to go with the researcher to help obtain these subjects.

Facilities

The Stone-Lindbergh out-patient methadone Clinic resembles a large doctor's office with one large room for the dispensing of the methadone, a waiting room, a group conference room and four smaller rooms used for administrative or individual counseling

services. The staff includes two physicians, an administrative director, eight nurses, one social worker, two counselors and secretarial help. In addition, volunteers who are professionals (M.A.) are also associated with the Clinic helping obtain jobs for the patients and in running the group therapy sessions.

The doctors oversee the program, make decisions about the amount of methadone to be dispensed to the individual patient and periodically physically examine the patients especially those with physical problems or who need special medications.

The nurses dispense the methadone to each patient individually according to the doctor's recommendations by diluting the methadone dosage with a sweet juice. Each patient must drink his medication in the presence of the nurse to make sure that the medication is ingested by the patient and not "sold" or given away to others not in the program. Each patient visits the Clinic daily to obtain his medication. The Clinic is open from 7 a.m. to 10 a.m. and from 4 p.m. to 8 p.m. for dispensing of methadone for five days a week. On Saturday it is open from 6 a.m. to 10 p.m. and on this day, each patient receives a one day supply for Sunday since the Clinic is not open on Sunday. There is a $3.00 fee charged for each dose of methadone dispensed.

This is to cover not only the cost of the methadone itself but the ancillary services as well.

Urine samples are taken at least weekly and in some cases bi-weekly if there is a suspicion of heroin usage along with the methadone. Those whose urine indicate heroin usage are seen by one of the counselors to determine what action should be taken. For repeated "dirty urines", based on a staff decision, a patient may be asked to leave the program.

Group therapy sessions run by a social worker are held twice weekly and attendance is optional. Problems revolving around court cases, jobs, schooling, take home methadone dosages and similar areas are discussed with the counselors in the program.

Of the approximately two hundred patients in the Clinic, one hundred and forty-three consented to be part of the study. Most are residents of Broward and Dade Counties in Florida, although many travel from Palm Beach County and Okeechobee Counties to obtain their methadone.

Most of the subjects are predominantly white with a minority of blacks in the program and there are more males, black and white, in the program than females.

The Veteran's Administration Miami Hospital out-patient methadone clinic is located in a separate building about four blocks from the main hospital itself. Its staff includes an executive administrator, a doctor, four nurses, three counselors, a social worker, and secretarial help all of whom are under the Director of the Methadone program who is a psychologist (Ph.D.).

The building itself has a waiting room, dispensing room, five offices, and a conference room. Since this clinic is connected with a hospital, the purely medical aspects of the program such as physicals, medications etc. are taken care of in the hospital itself while the clinic staff concerns itself more with the dispensing of methadone and with counseling the patients. The dispensing procedures consist of the patient signing a form which serves as a daily attendance check and then waiting for his methadone. The methadone is mixed with a sweet juice which must be drunk before the nurse dispensing the medication. Because this is a governmental program, there is no fee charged to the patient either for the methadone or for the other services which are provided.

Urine samples are required at least weekly to help determine if the patient is also using heroin in addition to the methadone. For dirty urine, a counseling session is mandatory at which this

issue is discussed. At this clinic, each of the approximately eighty patients have an appointment to see a counselor every two to three weeks to discuss problem areas ranging from job situation to family problems, but psychotherapy as such is not offered.

All the patients are males with almost an equal representation of black and white. Most patients live in the Miami area and are required to come daily for their methadone. The clinic is open seven days a week from 10 a.m. to 6 p.m. from Monday through Saturday and on Sunday from 10 p.m. to 12 p.m. Also, at the time of this study, the clinic was in the process of working out a program for take-home doses for certain patients but was not yet initiated.

Instruments

1. A demographic form of 17 items was constructed after reviewing the studies on methadone drop-outs, since these studies dealt essentially with demographic variables. In this demographic instrument, most of the more important variables found in the literature are included plus some new items which are at least implicitly mentioned in other studies (See Appendix A).

2. The personality instruments to be used are: (1) The

16 PF Form C: This test was chosen because: A. the instrument measures the stable traits of a person in distinction to the state traits (Cattell, 1970), B. it has a reliability range from .71 to .93 and validity coefficients range from .66 to .73, C. the reading level is at the sixth grade level, D. the factors are well documented and are considered as a good measure of personality (Buros, 1965), and E. the time needed to complete the questionnaire is about 30 to 40 minutes (See Appendix B).

(2) The Tennessee Self Concept Scale (TSCS): This scale consists of 100 self-description items, of which 90 assess the self concept and 10 assess self criticism (the self-criticism items are all MMPI Lie Scale items). Benton, the reviewer for Buros (1969), states that in comparison to the Taylor Anxiety Scale and the MMPI "It seems safe to conclude that the scale overlaps sufficiently with well known measures to consider it a possible alternative for these measures in various applied situations (p. 366)." He also states that retest reliability while varying for differences scores is in the high 80's and is sufficiently large to warrant confidence in individual measurement. The reading level is geared to the sixth grade and the test "may be given to normal or severely disturbed patients (p. 366)."

The Tennessee Self Concept Scale has 118 references in Buros (1969), and has been used in many different kinds of studies, including many dissertations. Suinn (1969), another reviewer in Buros states, "In summary, the TSCS ranks among the better measures combining group discrimination with self-concept information (p. 369)."

Even though, fourteen possible scores are available on this instrument, for the purpose of this study one score, the total P score which reflects the overall level of esteem will be used in the study, since self esteem is that variable in which the experimenter is most interested (See Appendix C).

3. The additional measures that will be used are:

(1) The Family Scale: This test was developed by Lundquist and Sletto (1936). It consists of 22 items on a 1 to 5 point scale designed to measure the attitude of a person toward the members of his family. The scale yields one score which if high indicates an unfavorable attitude toward the family and if low a favorable attitude. Split half reliabilities were found to be .84 for men and .82 for women. Test-retest reliability was .83. Commenting on this scale, Shaw and Wright (1967) state, "The Family Scale was designed to reflect parent-child relations and

family tensions and the items appear to reflect this interest." In addition, these authors also state, "Although this scale was constructed many years ago, the items are still useful (p.419" (See Appendix D).

(2) The Machiavellianism Scale (Mach): This scale was constructed by Christie and others (1969), and it attempts to tap a person's general strategy for dealing with people. The scale has 20 items ranging from 1 (agree very much) to 5 (disagree very much). The Mach Scales differentiates high and low Machiavellianism by the extent to which they endorse Machiavellianism rules of conduct in interpersonal relations. In effect, the scales distinguish between persons with relative standards of behavior at one end of the continuum (high scores), and persons with absolute standards at the other (low scores). Split-half reliability coefficients for this form of the scale range from .70 to .90 (Bogart, & Scoles, 1971).

Christie, et.al. (1969) also report split-half reliability as .79 and they also claim construct validity for the items in the test itself. They also maintain that various field studies using the Mach have established the validity of the Mach (See Appendix E).

4. Since reading level was a crucial variable in such a study, another instrument was added to the study to determine the reading level of the addict subjects. This instrument was

the Gates Reading Survey Form M 1 from which one subtest consisting of 60 items, each presenting a key work accompanied by five other words from which the one whose meaning is nearest that of the key word is chosen. The vocabulary exercises are arranged in the order of difficulty and the test measures the range of the person's ability to comprehend the meaning of words. The correlation between vocabulary subtest of this test and the Comprehension subtest are .88 at the 6-8 grade level, .81 at the 4-8 grade level and .87 for the 3-8 grade level. The reliability coefficients are from .85 to .89 in correlating alternate forms of the test, while the split-half reliabilities range from .85 to .97. This vocabulary subtest, then, would give a good indication of reading abilities (See Appendix F).

The comprehension subtest was not used because of the length of time involved in administering such a test which would be about 45 minutes and would excessively extend the total time involved for the Ss to complete all the instrument. Any protocol of a methadone patient that cannot read at the sixth grade level was eliminated from the study because of the danger of spurious answers on the other instruments used in this study.

Operational Definitions

The following subjects and variables used in the study are operationally defined as follows:

1. a stabilized methadone patient is one who has been in a methadone maintenance program for at least two weeks.

2. an off-methadone patient is one who with the consent of the methadone maintenance clinic staff has been weaned from methadone and who has been off methadone for at least one month.

3. the heroin addict is a person who is actively taking heroin on a daily basis.

4. a drop-out from the methadone program is defined as one who has not taken his methadone at the clinic for five consecutive days.

5. psychotherapy is defined in this context as the treatment of emotional and personality problems and disorders by psychological means (Noyes & Kolb, 1968). As defined above, group therapy as conducted in the Stone-Lindbergh Clinic would fall under this definition. However, since the V.A. Clinic in their sessions discuss a much broader base of issues such as job counseling, vocational counseling as well as help in solving practical day-to-day problems, the above definition of

psychotherapy does not apply.

6. The demographic variable "length of time working" is defined as the length of continuous employment in months a Subject has been employed while a member of a specific group, i.e. the heroin group, the methadone groups or the off-methadone group.

Procedure

Each of the 143 Ss in the methadone program, 43 Ss from the Miami V.A. outpatient methadone clinic, 40 off methadone, and 39 heroin addicts from the streets were administered: 1. a demographic questionnaire, 2. the Gates vocabulary test, 3. the 16 PF, 4. the Tennessee Self Concept Scale, 5. the Family Scale, and 6. the Machiavellianism Scale. For those in the methadone program the instruments were administered in the Clinics themselves, while for those on heroin and those off methadone, the instruments were administered in the homes of the participating Ss, or in the home of the social worker by the researcher himself. In all, three methadone patients from the Stone-Lindbergh Clinic failed to obtain a sixth grade reading level and for that reason were dropped from the study.

Research Questions and Data Analysis

The first question is: Are any differences present: between a. heroin addicts, b. stabilized methadone patients from the Stone-Lindbergh Clinic, c. stabilized methadone patients from the Miami V.A. Hospital Clinic and d. those who have completed

the program and are off methadone on the Factors C, M, O, and E of the 16 PF, the Tennessee Self Concept Scale, the Family and Machiavellianism Scales?

The choice of variables to be studied in this question was made as a result of the contrasting positions about the personality characteristics of patients in a methadone group as was seen in the review of the literature, and to this author's knowledge, this was the first study to obtain a sample of active heroin addicts from the street since most heroin addicts have been studied primarily in hospital settings (Hill, & Haertzen, 1969; Haertzen, & Hooks, 1969). The use of active heroin addicts as well as those Ss off-methadone add a dimension to this study which has not been found in other studies in this area and, therefore, adds a special uniqueness to this particular study.

A discriminant function analysis was used to statistically analyze the data of this question. This technique may be conceptualized as an extention of a single-classification analysis of variance to include simultaneously a group of dependent variables (Veldman, 1967), and which determines the extent and manner in which two or more groups of Ss may be differentiated by a set of dependent variables operating together. According to

Cooley and Lohnes (1971) the discriminant model may be interpreted as a special type of factor analysis that extracts orthogonal factors from the dependent variables for the specific task of capitalizing upon differences among the sample groups. In essence, discriminant analysis produces the best reduced-rank madel for parsimoniously but effectively describing the measured differences in groups.

Tatsuoka (1971) states: The situation here is reminiscent of principal components analysis. There, the dimension corresponding to the first component had maximum variance; the second component dimension had maximum variance among those uncorrelated with the first; and so on. In discriminant analysis, the ratio of between- to within-groups sums-of-squares merely takes the place of variance as the criterion in determining the successive dimensions... Just as in component analysis, the dimensions represented by the discriminant functions may be susceptible to meaningful interpretation. Even if they are not, we shall still have achieved parsimony by having reduced the dimensionality of the space in which to describe group differences. In seeking to interpret the discriminant functions, we would want to know which of the original P variables contribute most to each function (loadings) (p. 163).

The F-ratio provides the normally used statistical test of the stability of difference between group means by determining the ratio of the among group variance to the within group variance. The multivariate F-ratio as used in discriminant analysis is computed from the Wilks (Lambda) criterion and tests for the significance of the overall difference among several group centroids, and constitutes a multivariate extension of the F-ratio test as found in simple analysis of variance. However, Tatsuoka (1970) states: To measure the extent of differentiation, or the total discriminatory power, we need a statistic other than the overall F-ratio. Although no multivariate statistic for this purpose seems to have appeared in the literature to date, it should be appropriate to define a multivariate analogue to the "estimated ω^2 which gives of the "true" variability of a test score that can be attributed to group differences. By "true" here is meant the proportion in the population as against the particular sample at hand (p. 48). The multivariate ω^2 shows in percentages how much of the total variability of the discriminant functions is attributable to group differences. Therefore, this percentage is used as a measure of total discriminatory power residing in the discriminant function, or equivalently, in the predictor battery as a whole (Tatsuoka, 1970). In addition, this analysis also

provides an univariate F-ratio on the individual variables which is as in a single classification analysis of variance. Although a significant univariate F-ratio indicates that an association exists between the variables, it says nothing about the strength of the association of the variables in question. Hays and Winkler (1971) and others have proposed the index ω^2 (Greek omega square) in addition to the F-ratio to determine the degree of association between the variables. The index ω^2 represents the strength of association between the independent and dependent variables which represents the meaningfulness of the association in addition to the significance indicated by the F-ratio. The value of this index can vary from zero to 1.00 and reflects the degree to which the knowledge of the dependent variable aides in the prediction of the independent variable or in the special case of the discriminant function analysis, the degree to which knowledge of a discriminating dependent variable helps in the prediction of a subject belonging to a group formed on the basis of the independent variable. In terms of prediction, an ω^2 of zero would mean no prediction and a value of 1.00 would mean perfect prediction.

Since this first question focuses on basic contrasting

opinions of the personality characteristics of methadone patients, in which group differences are most relevant, the multivariate F-ratio and univariate F-ratio will be accepted at the .05 level of significance, while the univariate ω^2 index will be considered as significant if the values are 5 percent or more. The criterion that the ω^2 must show ω^2 values of 5 percent or more was arbitrarily chosen by the investigator. Therefore, unless a variable would fulfill these conditions, it would not be considered "significant".

After the statistical analysis of the 4 factors of the 16 PF and the 3 other personality measurements was completed, the other 12 variables from the 16 PF were also subjected to a discriminant function analysis. This analysis was made so that additional information would be gathered about these variables in relationship to the four sample groups.

However, the discriminant function analysis was not used in the sense of providing significant multivariate and univariate F-ratios, but was used to provide the ω^2 index on the strength of the association between a particular variable and the groups. Since the groups were not randomized and the question is seeking "a posteriori" relationships, the ω^2 index was considered an appropriate statistical procedure to use. In addition, this index

enables each variable to be studied individually, while correlated F-ratios are not descriptive of themselves therefore of little value in a study of this nature. Variables showing an ω^2 value less than .05 were considered unimportant and were not discussed since their predictive power was considered as minimal.

The second question was formulated in reference to the stated importance of the multivariate relationships between the demographic and personality variables of addict groups as noted by Sells and Watson (1970) in the review of the literature.

Although each of the groups in the study came initially from a heroin population, the demographic variables were subjected to a canonical correlational approach to discriminant function analysis to determine if these groups were significantly different on these variables. If significant differences were not found, the second question would include all the groups in one statistical analysis with the demographics as one domain and the personality variables as the other domain.

If this was the case, the second question would be worded: Using one domain of demographic variables and another domain of personality variables (16 PF, TSCS, the Family and Mach Scales) what relationships are present in the following pooled groups, heroin addicts, stabilized methadone patients and those off methadone?

If significant differences were found in the demographic variables, then the second question will be worded: Using one domain of demographic variables and another domain of personality variables (16 PF, TSCS, the Family and Mach Scales) what relationships are present within each of the following groups: a. heroin addicts, b. stabilized methadone patients from the Stone-Lindbergh Clinic, c. stabilized methadone patients from the V.A. Clinic and d. those off methadone.

A canonical correlation approach to the discriminant analysis (Tatsuoka, 1971) was used to determine if the various groups were different on the dichotomous and continuous demographic variables because this technique allows for the use of a domain of continuous variables and for a domain of dichotomous variables. In this analysis, a set of "dummy criterion variables" was used and the predictor and criterion sets then are treated by the method of canonical correlation analysis (Tatsuoka, 1971), to determine if the domains were significantly different for the various groups. A methematical proof that the discriminant criterion and canonical correlation approaches yield indentical results have been shown by Tatsuoka in 1953.

After determining whether the groups were significantly different by the above statistical analysis, a canonical correlation

approach was used to seek the relationships between the demographic set of variables and the personality variables. According to Veldman (1967) the goal of canonical analysis is to define the primary independent dimensions which relate one set of variables to another set of variables. This technique is primarily descriptive, although the method used involves finding sets of weights which will yield two composite variables (one for each set of original variables) which will correlate maximally (p. 282). A restriction to this technique is that each composite be independent of previously derived composites which requires the number of composites to be equal to the variables in the smaller set.

Since canonical correlation represents a relationship between two weighted linear composites, it cannot be interpreted in the same manner as a zero-order correlation between variables. Interpretation must take into account that linear composites are what have been correlated and not individual variables. To help solve this problem of interpretation, Love and Stewart (1968) developed an index of redundancy which is a summary measure of the proportion of the variance of one set of variables shared by the other set of variables. Used in this way, the index of redundancy is the proportion of the variance of the variable set containing the smaller number of variables that is predictable from

the variable set which contains the larger number of variables, that is the redundancy in the criterion set given the predictor set and vice versa.

In addition, it should be noted that the redundancy index need not have the same predictive power for each domain since the variance extracted from each of the individual domains is unique to that domain. Therefore, the predictive power of each domain would also be unique to that domain and would not have to be equal to the predictive power of the other domain.

The third question was: Are any differences present on certain questions from a demographic questionnaire, the 16 PF, the Tennessee Self Concept Scale, the Family Scale and the Machiavellianism Scale between: a. those who drop out of the methadone program in the first 6 weeks, b. those who drop out after at least 6 weeks in the program, and c. those who have been in the program 12 weeks or longer?

The time period for this question has spanned a three month period and the drop-outs were divided into under and over six weeks as suggested by Dole and Nyswander (1965) and Jaffe (1968).

A discriminant function analysis was used to analyze the continuous demographic variables as well as the personality variables by means of the ω^2 index, the rationale of such a

procedure was explained previously in question one.

In addition, in order to obtain more personal information from the drop-outs, a telephone interview was made to as many of these drop-outs as was possible. In this informal conversation essentially, two interview questions were asked: 1. What did you like or dislike about the methadone program, 2. What was it that played the major part in your decision to drop out of the program? Information not gathered from the demographic survey and personality tests was gathered through the use of such an interview to help determine more precisely what factors influenced the patient's decision to drop out of the methadone maintenance program. Of necessity, this data was interpreted qualitatively.

Chapter Four

Results

Before attending to the statistical analysis of each question as presented in Chapter 3, the first part of this section will deal with descriptive statistics of the demographic and persoanality variables in order to provide general information about the groups used in this study. The statistical analyses of the research questions will then follow.

DESCRIPTIVE ANALYSIS

Means and standard deviations of all the variables on each of the groups used in the study appear in Table 1. In terms of the dichotomous variables, percentages will be used to show the existing proportions.

Examination of Table 1 shows that all the groups were relatively of the same age level, all groups have a higher percentage of males to females, except the 1-6 week drop-out group. There also is a higher percentage of whites to blacks in all groups.

The greatest proportion of Ss in the methadone Stone-Lindbergh Clinic, the methadone V.A. Clinic, heroin addicts, those off methadone, and drop-outs 1-6 weeks were single while the greatest proportion of the drop-outs 7-12 weeks were married. The

TABLE 1

	Methadone (S-L) N = 143		Methadone (V.A.) N = 43		Heroin Addicts N = 39		Off-methadone N = 40		Drop-outs (1-6) N = 28		Drop-outs (7-12) N = 26	
	M.	S.D.	M.	S.D.	M.	S.D.	M.	S.D.	M.	S.D.	M.	S.D.
1. Age	25.44	5.39	28.02	7.57	23.89	3.21	22.19	2.31	23.71	2.90	23.61	2.00
2. No. of years of educ.	12.03	1.75	11.65	1.41	12.23	1.81	11.67	1.80	12.45	2.03	11.73	1.11
3. Age of drug use onset	17.16	3.27	18.83	5.44	19.17	4.23	14.22	1.71	18.82	3.12	17.80	2.62
4. Age of heroin use	19.30	3.52	20.09	5.07	21.35	6.25	16.80	2.85	20.80	3.60	16.60	2.50
5. Length of heroin use mo.	61.00	61.38	72.97	69.02	48.74	32.18	63.40	73.33	32.91	20.31	35.13	19.53
6. Total No. of drug related arrests	2.48	4.74	2.27	2.74	1.58	2.95	3.47	5.17	0.09	1.13	0.81	1.58
7. Longest period of time heroin free	7.13	14.03	6.62	12.26	8.53	7.88	3.42	3.85	4.53	4.90	9.83	8.12
8. Length of time on methadone in weeks	13.88	14.08	17.79	16.41	-----	----	11.50	10.21	3.61	2.34	9.61	2.04
9. Length of time in psychotherapy in weeks	1.22	3.69	0	0	-----	----	6.45	9.04	1.20	2.40	4.12	11.20
10. Length of time working mo.	19.02	26.77	14.18	25.19	8.40	16.05	15.12	6.83	16.05	28.21	21.25	33.43
11. If off methadone, what length of time	-----	-----	-----	-----	-----	-----	13.70	9.35	N.A.		N.A.	
12. Grade reading level	11.03	1.61	10.99	1.48	10.02	1.74	10.48	1.31	10.63	1.53	11.50	0.61
13. Family scale	60.61	9.02	61.67	7.18	65.07	10.62	60.70	8.87	63.01	18.11	65.42	15.65
14. Mach Scale	59.14	10.27	59.72	8.32	57.89	10.44	56.65	13.27	60.54	11.62	58.51	11.33
15. Tennessee Self-Concept Scale	303.30	40.51	298.51	38.78	310.58	30.76	293.14	35.90	296.83	33.36	313.33	23.11
16. 16 PF												
Factor A	4.47	1.74	4.37	1.54	5.43	2.15	5.75	1.69	5.21	1.38	5.42	1.31
Factor B	5.02	1.44	4.41	1.52	5.69	1.45	5.03	1.37	4.21	2.02	5.50	1.61
Factor C	4.41	1.58	4.88	1.76	4.69	1.50	4.22	1.40	3.82	1.03	3.91	1.32
Factor E	6.95	2.06	6.30	1.67	6.51	1.48	6.26	1.66	7.10	1.61	6.30	1.54
Factor F	5.05	1.76	5.30	1.30	5.89	1.51	6.15	1.69	6.32	1.73	6.08	1.28
Factor G	5.36	1.58	4.93	1.30	4.94	1.17	5.20	1.83	5.40	1.75	5.00	1.43
Factor H	5.95	1.83	5.32	1.69	5.64	1.31	5.97	1.85	5.60	1.62	6.01	1.81
Factor I	4.79	1.57	5.16	1.29	5.07	1.20	5.20	1.71	6.32	2.05	5.30	1.80
Factor L	6.46	1.88	6.81	2.13	5.30	0.96	7.57	1.46	6.21	1.63	6.68	1.72
Factor M	5.60	1.57	5.81	1.75	6.23	1.22	6.07	1.90	5.92	1.01	6.52	1.13
Factor N	5.90	1.76	6.41	1.55	7.12	1.82	6.30	2.07	6.10	1.94	5.92	1.91
Factor O	5.13	1.52	5.41	1.28	4.30	1.39	5.87	1.53	6.03	1.83	5.92	1.45
Factor Q1	5.87	1.88	6.18	1.61	7.02	0.86	6.27	1.13	6.10	1.20	6.72	1.26
Factor Q2	6.97	1.55	6.53	1.26	6.35	1.51	6.55	1.48	5.41	1.42	7.04	1.33
Factor Q3	4.54	2.14	4.81	2.27	5.61	1.44	4.12	1.67	4.64	1.25	4.20	2.62
Factor Q4	5.90	1.73	5.90	1.97	6.41	0.70	7.00	1.48	6.10	1.33	7.00	1.90
17. Male %	88.2		100		69.24		87.50		39.29		68.00	
Female %	11.18		N.A.		30.76		12.50		60.71		32.00	
18. White %	87.51		53.14		75.80		72.50		75.00		88.00	
Black %	12.59		41.86		25.00		7.50		25.00		12.00	
19. Single %	55.25		46.51		48.70		80.00		39.32		32.00	
Married %	34.27		39.54		30.76		20.00		32.14		52.00	
Divorced %	10.43		13.95		20.54		0.00		28.54		16.00	
20. Drop-outs from the methadone program %												
Yes	60.13		72.03		N. A.		N. A.		N. A.		N. A.	
No	39.87		27.98		N. A.		N. A.		N. A.		N. A.	
21. Full time work %	65.03		46.51		40.25		30.00		67.86		72.00	
Part time work %	15.39		10.94		7.50		40.00		-----		28.00	

drop-outs 1-6 weeks and 7-12 weeks had the least number of arrests while the other groups were relatively close on this variable. The age of onset of drug use was the lowest in the off-methadone group while the earliest age of heroin usage was reported by those who dropped out of the methadone program after attending the program from 7-12 weeks. This same group of drop-outs were also the ones who have worked the longest time span.

In addition, the grade reading level for all groups was between 10.02 to 11.50 indicating that these sample groups were fairly highly educated.

Histograms of those variables which are greatly skewed, such as age of heroin use, length of time on heroin, number of arrests, length of time working and reading level are found in Appendix G. The distributions of the other variables used in the study are close to normal distributions and, therefore, were not plotted. In addition Appendix H contains the zero-order correlations of the personality and continuous demographic variables for all the groups used in the study.

RESULTS OF THE ANALYSIS TO ANSWER THE RESEARCH QUESTIONS

A discriminant function analysis was used to examine the relationships between Factors C, E, M, and O of the 16 PF and the Family, Mach and Tennessee Self Concept Scales between the heroin,

methadone (Stone-Lindbergh Clinic), the methadone (V.A. Clinic) and off methadone groups. The overall F-test was significant and, as shown in Appendix I, the analysis yielded three discriminant roots, two of which reached statistical significance. The two significant roots collectively extracted 83 percent of the discriminating or information power of the 7 variables on the four groups (Table 2).

Using a cut off loading of .35, the first root was defined by two variables:

1. how a person perceives his relationship with his parents (Family Scale).

2. self assured, placid, serene, and complacent versus apprehensive, worried, depressive and troubled (16 PF Factor O).

Table 2 shows loadings of the variables on the root, group centroids and group means. The first root was determined by a moderate negative loading on Factor O (placid, self-assured, confident, serene) and a low positive loading on the Family Scale (high scores indicating negative feelings). This root might be best described as the qualities of a person who is self confident but has negative feelings for his parents.

The greatest differences on these centroids occurs between the heroin group and the other groups since the heroin group

TABLE 2

Loadings of the Variables on the First Discriminating Root

Variable	Loading on Root
1. Family Scale	.40
2. 16 PF Factor O	-.72

Group Centroids

1. Heroin	13.76
2. Methadone (Stone-Lindbergh)	11.86
3. Methadone (Miami V.A. Clinic)	11.75
4. Off Methadone	11.10

Group Means on the Family Scale From High (Negative Feelings) to Low (Positive Feelings)

Group	Mean
1. Heroin Addicts	65.07
2. Methadone (V.A. Clinic)	61.67
3. Off Methadone Group	60.70
4. Methadone (Stone-Lindbergh Clinic)	60.61

Group Means on 16 PF Factor O From Low (Secure, Placid, Self Confident Complacent) to High (Insecure, Depressive, Worrying, and Apprehensive)

Group	Mean
1. Heroin Addicts	4.30
2. Methadone (Stone-Lindbergh Clinic)	5.13
3. Methadone (V.A. Clinic)	5.14
4. Off Methadone Group	5.87

centroid was the highest of the four groups and the other three group centroids were relatively equal. This suggests that although the heroin addicts are not only more self confident about themselves, but they also perceive their parents in a more negative way than the other three groups

The second root, which extracted 22 percent of the discriminating power of the 7 variables, was composed of three variables (loading above .35) all of which were from the 16 PF. However, neither of the three variables loadings were much above .35 indicating that the correlations of the variables with this root are small and, therefore, the interpretative power of the variables' loadings was limited. A summary of the results is found in Table 3. Using these three variables, the second root was difined as:

1. humble, mild, obedient, and conforming versus assertive, independent, aggressive and stubborn (16 PF Factor E).

2. practical, careful, conventional, regualted by external realities and proper versus imaginative, wrapped up in inner energies, careless of practical matters, bohemian (16 PF Factor M).

3. placid, self assured, confident, serene versus apprehensive, worrying, depressive and troubles (16 PF Factor O).

The second root might be named a self assured, practical-aggressive factor.

TABLE 3

Loadings of the Variables on the
Second Discriminating Root

Variable	Loading on Root
1. 16 PF Factor E	.52
2. 16 PF Factor M	- .49
3. 16 PF Factor O	- .35

Group Centroids

1. Methadone (Stone-Lindbergh)	- 4.54
2. Heroin Addicts	- 5.15
3. Methadone (Miami V.A. Clinic)	- 5.40
4. Off Methadone Group	- 5.44

Group Means on the 16 PF Factor E from High (Assertive, Independent, Aggressive and Stubborn) to Low (Humble, Mild, Obedient and Conforming)

Group	Mean
1. Methadone (Stone-Lindbergh Clinic)	6.95
2. Heroin Addicts	6.51
3. Methadone (Miami V.A. Clinic)	6.30
4. Off Methadone Group	6.26

Group Means of 16 PF Factor M from Low (Practical, Careful, Conventional, Regulated by External Realities and Proper) to High (Imaginative, Wrapped in Inner Urgencies, Careless of Practical Matters and Bohemian)

Group	Mean
1. Methadone (Stone-Lindbergh Clinic)	5.60
2. Methadone (Miami V.A. Clinic)	5.81
3. Heroin Addicts	6.23
4. Off Methadone Group	6.07

TABLE 3 cont.

Group Means on 16 PF Factor O from Low (Placid, Self Assured, Confident and Serene) to High (Apprehensive, Worrying, Depressive and Troubled)

Group	Mean
1. Heroin Addicts	4.30
2. Methadone (Stone-Lindbergh Clinic)	5.13
3. Methadone (Miami V.A. Clinic)	5.41
4. Off Methadone Group	5.87

The group centroids show that the Methadone Stone-Lindbergh patients ranked highest on this factor while the other groups were relatively the same.

Factor O accounted for more variance (ω^2 = 7 percent) than any other variable, and therefore had the highest degree of association and predictive power of all the other variables in relationship to the groups in the study.

A descriptive use of the discriminant analysis was used to study the 12 remaining Factors of the 16 PF on the same four groups by means of the ω^2 index (Table 4).

According to the standards proposed in the Method section of taking into account those variables whose ω^2 index was 5 percent or more, only 3 of the 12 variables used in this question attained to this criterion.

The ^{2} index for Factor L (trusting, adaptable, free of jealousy, easy to get on with versus suspicious, self-opinionated, hard to fool) was 10 percent.

On Factor L, the following group mean ranking from high (suspicious, self-opinionated, hard to fool) to low (trusting, adaptable, free of jealousy, easy to get on with) were:

TABLE 4

OMEGA SQUARE INDEXES OF THE TWELVE OTHER FACTORS OF THE 16 PF

Multivariate Probability (P) level of F-ratio = < 0.01 *
Multivariate Omega Square = 0.42

VARIABLE		UNIVARIATE P LEVEL	OMEGA SQUARE
1. Factor A	=	< 0.01	0.07
2. Factor B	=	< 0.01	0.04
3. Factor F	=	< 0.01	0.05
4. Factor G	=	0.26	0.00
5. Factor H	=	0.18	0.00
6. Factor I	=	0.27	0.00
7. Factor L	=	< 0.01	0.10
8. Factor N	=	< 0.01	0.04
9. Factor Q1	=	< 0.01	0.04
10. Factor Q2	=	0.05	0.01
11. Factor Q3	=	< 0.01	0.03
12. Factor Q4	=	< 0.01	0.04

*NOTE Since the groups used in this study were not randomized, the multivariate P levels cannot be interpreted in the sense of giving statistical probability.

Group	Mean
1. Off-methadone	7.57
2. Methadone (V.A. Clinic)	6.81
3. Methadone (Stone-Lindbergh Clinic)	6.46
4. Heroin addicts	5.03

The off-methadone group was the most suspicious, while the heroin addicts were the most trusting.

The second Factor which reached the criterion was Factor A which had an ω^2 index of 7 percent.

On Factor A, the following group mean rankings from high (out-going, warmhearted, easy-going and participating) to low (reserved, detached, critical and cool) were:

Group	Mean
1. Off-methadone	5.75
2. Heroin addicts	5.43
3. Methadone (Stone-Lindbergh Clinic)	4.47
4. Methadone (V.A. Clinic)	4.37

The methadone groups were the most reserved and detached while the off-methadone group was the most out-going and warmhearted.

Factor F also achieved the criterion (ω^2 = 5 percent).

This factor showed mean rankings from high (happy-go-lucky, heedless, gay and enthusiastic) to low (sober, prudent, serious and taciturn) as follows:

Group	Mean
1. Off-methadone group	6.15
2. Heroin addicts	5.89
3. Methadone (V.A. Clinic)	5.30
4. Methadone (Stone-Lindbergh Clinic)	5.05

The off-methadone group in general was more happy-go-lucky and enthusiastic than the heroin addicts while those still on methadone are the most sober and taciturn.

QUESTION 2

This question examined the relationship between the demographic and the personality variables of the: 1. Methadone Stone-Lindbergh Clinic patients, 2. Methadone V.A. Clinic patients, 3. Off-methadone group and 4. the heroin addicts. It was decided that if the groups were shown to be significantly different on the demographic variables through a canonical correlation approach to a discriminant function analysis, each group would be studied individually; and if the groups did not differ, then the groups were to be pooled and a canonical correlation would be used to show the relationships between the personality and demographic variables.

Since the groups were significantly different on the demographic variables ($P < 0.01$) (Appendix J) the relationship between the demographic and the personality variables for each of the groups was analyzed by a canonical correlation.

Twenty-nine demographic and personality variables were used in the canonical correlation. There were 143 Ss from the Methadone Stone-Lindbergh Clinic, 43 Ss from the Methadone V.A. Clinic, 40 Ss from the off-methadone group and 39 heroin Ss.

Since the ratio of subjects to variables was small in the

Methadone V.A., Off-methadone, and Heroin groups, a decision had to be made as whether to use all the variables as planned or to reduce the number of variables.

If option one were chosen, the data would be overfitted because of the nearly one to one relationship between variable and subjects in the smaller groups, and, therefore, no meaningful interpretation of the results could be made. If option two were chosen, then, there would be a loss of information, but the results obtained would be more apt to be replicated in a similar study.

Under these conditions, a decision was made to choose option two and reduce the 29 variables to give about a 5:1 ratio of subjects to variables, thereby making the results more stable. Using this criterion, 8 variables were used in the canonical correlation. Four demographic variables: 1. age of strating heroin use, 2. length of time on heroin, 3. number of arrests, and 4. length of time working and four personality variables, the second order factors from the 16 PF were chosen to be analyzed. The rationale for choosing these variables is contained in the following paragraphs.

Since the primary interest of this study was the overall personality characteristics of methadone patients, a decision was

made to use the second order factors from the 16 PF (Appendix K) in this analysis. These four factors are a combination of the 16 PF factors and provide a general description of personality characteristics and for that reason were chosen to be analyzed. The Family, Mach, and the TSCS measure specific aspects of personality and, therefore, did not seem appropriate to use to obtain a global description of personality characteristics. For this reason they were not chosen to be used in this part of the study.

In explaining the meaning of second order factors, Cattell (1970) states: When we begin a factor analysis with a set of variables consisting of ratings of specific behavior, we first reach what we may call primary-stratum factors like the 16 factors of the 16 PF. If we now made a scale for each, these scales scores (each covering many items) would themselves be correlated (even if factor pure) and the correlation matrix could, in turn, be factored. From this process, we get a smaller number of broader, second-order, or stratum factors...Psychologically, the second-stratum factors may be viewed as broader influences or organizers contributing to the primaries and accounting for their being correlated (p. 112). Cattell names four such second order factors as follows: 1. adjustment (low score) versus anxiety (high score), 2. introversion, shy (low score) versus extroversion, socially out-going, and uninhibited (high score),

3. responsive emotionality, deeply emotionally sensitive, guided by emotions, liable to frustration and depression (low score) versus tough poise, enterprising, decisive, unperturable personality (high score) and 4. dependence, group dependent, aggreable, passive (low score) versus independence, aggressive, self directing (high score).

The second order factors, therefore, reduce the number of the original variables of the 16 PF while at the same time provide an overall general description of personality which the TSCS, the Family and Mach Scales, taken singly or in combination were not able to provide. Using second order factors, then, provided the most information about the personality of the Ss in the most parsimonious manner.

Four demographic variables were also chosen to be analyzed. These variables were: 1. age of starting heroin use, 2. length of time on heroin, 3. number of arrests and 4. length of time working. These variables were chosen because Sells, Joe, Pearson (1972), Williams & Johnston (1972), Bloom and Sudderth (1971) and Westman (1973, Miami, V.A., Private communication) emphasize these demographics as variables which seem to be related to progress in treatment in a methadone program, and are important variables in heroin addiction itself.

The results of the canonical correlation for each group of Ss will be discussed individually in the following order: 1. Heroin addicts, 2. Off-methadone group, 3. Methadone V.A. patients and 4. Methadone Stone-Lindbergh Clinic.

From the heroin addicts two canonical roots were extracted and both achieved statistical significance.

TAble 5 presents the canonical correlations, probability values, canonical loadings, R^2 and redundancies for these two roots. The first canonical root had a canonical correlation of .82 and the second canonical root had a canonical correlation of .55. This first root might be labeled a good adjustment-length of addiction factor; the second canonical root was labeled an employment-independence factor. This was done on the basis of the correlations (.35 or over) of the eight variables with the canonical roots. The index of redundancy as defined by Stewart and Love (1968) is the product of the proportion of variance extracted by a canonical root and R^2, which is the squared canonical correlation that provides the proportion of variance of a specific variable of the criterion set predicted by the canonical composite of the predictor set. In the heroin group, therefore, by knowing the demographic variables, it is possible to predict for 45 % of the variance on the personality variable and by knowing the personality variable it is possible to

TABLE 5

Heroin Addicts
Canonical Correlations, Probability Values, Canonical Loadings, R^2, and Redundancies for the Roots Extracted

	Root 1	Root 2	R^2
	$R_c = 0.82$	$R_c = 0.55$	
	$P = < 0.01$	$P = 0.02$	
1. Age of starting heroin	-0.87	-0.04	0.52
2. Months of heroin addiction	0.74	-0.49	0.46
3. No. of drug related arrests	-0.93	-0.19	0.61
4. Length of time working	0.75	0.74	0.19
Redundancy of the demographics given the second order factors	0.37	0.06	
Total Redundancy	0.45		
1. Introversion vs. Extroversion	0.63	-0.50	0.36
2. Adjustment vs. Anxiety	-0.95	-0.21	0.63
3. Responsive Emotionality vs. Tough Poise	0.24	0.85	0.27
4. Subduedness vs. Independence	0.15	0.98	0.39
Redundancy of the second order factors given the demographics	0.23	0.15	
Total Redundancy	0.40		

predict for 40 % of the variance associated with the demographic variables, indicating that a fair degree of dependence exists between the two sets of variables. While the overlap between the two domains is approximately 40 percent, the R^2 for each variable indicates that the area of overlap tends to be the result of all the variables in the personality domain and all the variables in the demographic domain. The least predictable variable, a demographic variable, was the length of time working (R^2 = 0.19), the most predictable variable number was the number of drug related arrests (R^2 = 0.61). For the personality variables, the least predictable contributor was responsive emotionality versus tough poise (0.27), the most predictable was adjustment versus anxiety (0.63).

For the off-methadone group, two statistically significant canonical roots were extracted (Table 6). On the first root, the age of starting heroin, length of time working, second-order factor subduedness versus independence and anxiety versus adjustment had high negative loading, while the second-order factor had a high negative loading. Although a construct does underlie these variables, it defies description and for that reason no attempt, therefore, was made to label this construct.

The second root had high negative loadings on the variables months of heroin addiction and number of drug related arrests,

TABLE 6

Off-Methadone Group
Canonical Correlations, Probability Values, Canonical Loadings, R^2, and Redundancies for the Roots Extracted

	Root 1	Root 2	R^2
	R_c = 0.71	R_c = 0.50	
	P = 0.02	P = 0.04	
1. Age of starting heroin	0.76	-0.13	0.32
2. Months of heroin addiction	0.01	-0.70	0.18
3. No. of drug related arrests	-0.16	-0.76	0.21
4. Length of time working	0.83	-0.19	0.38
Redundancy of the demographics given the second order factors	0.17	0.07	
Total Redundancy	0.27		
1. Introversion vs. Extroversion	-0.65	0.66	0.34
2. Adjustment vs. Anxiety	0.47	0.24	0.21
3. Responsive Emotionality vs. Tough Poise	-0.33	0.11	0.10
4. Subduedness vs. Independence	0.56	0.69	0.29
Redundancy of the second order factors given the demographics	0.14	0.06	
Total Redundancy	0.24		

while introversion versus extroversion and subduedness versus independence had high positive loadings. This factor was labeled independence extroversion-drug history factor.

For this group, the demographic variables can predict 27 % of the variance of the personality variables, and the personality variables can predict 24 % of the demographic variables, indicating a slight dependence between the two domains. Examination of the R^2 for each of the variables in the two domains indicate that each variable in both domains contributes to the area of overlap. On the demographic domain, the variable months of heroin addiction was the least predictable from the personality domain (R^2 = 0.18) and the variable length of time working was the most predictable (R^2 = 0.38). In the personality domain, the least predictable variable from the demographic domain was responsive emotionality versus tough poise (R^2 = 0.10) while most predictable was introversion versus extroversion (R^2 = 0.34).

Only one canonical root achieved statistical significance for the methadone V.A. patients. Table 7 presents the canonical correlations, probability values, canonical loadings, R^2 and redundancies for this root. The canonical correlation for this root was .74 and the root might be labeled a social independence-heroin free factor. The index of redundancy showed that the demographics variables can predict 24 % of the variance

TABLE 7

Methadone V.A. Patients
Canonical Correlations, Probability Values, Canonical Loadings, R^2, and Redundancies for the Roots Extracted

	Root 1	R^2
	R_c = 0.74	
	P = < 0.01	
1. Age of starting heroin	0.06	0.15
2. Months of heroin addiction	-0.88	0.46
3. No. of drug related arrests	0.10	0.22
4. Length of time working	0.45	0.15
Redundancy of the demographics given the second order factors	0.13	
Total Redundancy	.24	
1. Introversion vs. Extroversion	0.46	0.23
2. Adjustment vs. Anxiety	0.49	0.23
3. Responsive Emotionality vs. Tough Poise	-0.39	0.16
4. Subduedness vs. Independence	0.70	0.36
Redundancy of the second order factors given the demographics	0.15	
Total Redundancy	.25	

of the personality variables and that the personality variables can predict 25% of the variance of the demographic variables, indicating a slight dependence between the two domains. While the overlap between the two domains was approximately 25 percent, the area of overlap was the result of the relationship between all the demographic and personality variables since all variables were contributors to the overlap. The range of the R^2 for the demographic variables was from 0.15 (length of time working) to 0.46 (months of heroin addiction) and 0.16 (responsive emotionality versus tough poise) to 0.36 (subduedness versus independence) for the personality variables.

For the Methadone Stone-Lindbergh patients, one statistically significant canonical root was extracted with a canonical correlation of 0.37 (Table 8). This root was labeled a work adjustment-anxiety free independence factor.

For this group, the demographic variables could predict 5 % of the variance of the personality variables and the same percentages of predictive power was achieved when predicting from the personality variables to the demographics indicating a strong independence between the two domains. Examination of the R^2 indicate that in the demographic domain the major contributor to the variance extracted was the variable length of time working

TABLE 8

Methadone Stone-Lindbergh Patients
Canonical Correlations, Probability Values, Canonical Loadings, R^2, and Redundancies for the Roots Extracted

	Root 1	R^2
	R_c = 0.37	
	P = < 0.01	
1. Age of starting heroin	0.18	0.02
2. Months of heroin addiction	-0.39	0.03
3. No. of drug related arrests	-0.56	0.04
4. Length of time working	0.80	0.09
Redundancy of the demographics given the second order factors	0.04	
Total Redundancy	0.05	
1. Introversion vs. Extroversion	0.37	0.03
2. Adjustment vs. Anxiety	-0.78	0.09
3. Responsive Emotionality vs. Tough Poise	0.38	0.02
4. Subduedness vs. Independence	0.61	0.06
Redundancy of the second order factors given the demographics	0.04	
Total Redundancy	0.05	

(0.09) and in the personality domain, the variable adjustment versus anxiety (0.09).

Since this study is mainly concerned with obtaining as much information as possible about the personality characteristics of the Stone-Lindbergh methadone patients, an additional analysis using all the demographic and personality variables was made by means of a canonical correlation analysis. This analysis provided more specific information than the four demographic variables and the four second-order factors, used in the first analysis, since 19 personality variables made up one domain and 15 demographic variables made up the other domain.

In this analysis, fifteen canonical roots were extracted, seven of which achieved significance. Table 8.1 presents the canonical correlations, probability values, canonical loadings, R^2 and redundancies for these seven roots.

Although statistical significance was obtained on seven roots, no patterns of loadings were clear enough to label or name, and, therefore, no attempt was made to label these factors.

The personality domain predicted 20 percent of the variance of the demographic domain, while the demographic domain predicted 27 percent of the variance of the personality domain. Examination of the R^2 of the personality variables indicates that the Family

Methadone Stone-Lindbergh Clinic
Canonical Correlations, Probability Values, Canonical Loadings
R^2, and Redundancies for the Roots Extracted

	Root 1	Root 2	Root 3	Root 4	Root 5	Root 6	Root 7	R^2
Rc	0.76	0.753	0.72	0.68	0.56	0.55	0.48	
P	0.00	0.000	0.00	0.00	0.00	0.00	0.04	
1. Family Scale	-0.21	-0.13	-0.18	-0.66	-0.36	-0.42	-0.13	0.37
2. Mach Scale	-0.20	-0.40	-0.10	-0.08	-0.18	-0.00	-0.00	0.16
3. TSCS	0.17	0.07	-0.13	0.54	-0.19	-0.16	0.04	0.23
4. Factor A	0.05	0.02	0.00	-0.13	0.13	0.49	0.08	0.11
5. Factor B	-0.05	0.20	-0.58	-0.10	0.09	0.18	0.10	0.26
6. Factor C	0.34	-0.54	-0.08	0.06	-0.18	-0.11	0.16	0.28
7. Factor E	0.26	-0.16	-0.24	-0.03	0.07	0.04	0.30	0.13
8. Factor F	0.09	-0.11	0.04	-0.24	0.43	0.47	0.13	0.20
9. Factor G	-0.25	0.21	0.51	0.29	-0.03	-0.11	-0.26	0.28
10. Factor H	0.28	-0.11	-0.23	-0.06	0.15	0.11	-0.34	0.16
11. Factor I	0.27	0.14	0.22	-0.17	0.21	0.06	0.13	0.18
12. Factor L	-0.24	0.13	0.10	0.17	-0.53	0.15	0.23	0.21
13. Factor M	0.23	0.26	-0.13	-0.10	0.36	0.03	0.04	0.14
14. Factor N	0.11	-0.06	0.27	0.26	0.12	0.03	-0.18	0.12
15. Factor O	-0.17	-0.00	0.46	-0.20	-0.01	-0.18	0.30	0.21
16. Factor Q1	-0.14	0.17	-0.35	0.03	0.29	-0.09	0.47	0.19
17. Factor Q2	-0.42	0.04	0.02	0.15	0.17	-0.38	0.18	0.20
18. Factor Q3	0.48	-0.03	0.15	0.04	0.05	0.34	0.12	0.22
19. Factor Q4	-0.41	0.03	-0.04	-0.14	0.19	0.25	-0.15	0.16
Redundancy	0.04	0.02	0.03	0.02	0.01	0.01	0.01	
Total Redundancy	0.20							
20. sex	0.59	-0.35	-0.47	0.04	-0.06	-0.17	0.03	0.43
21. race	0.16	0.18	-0.10	0.00	0.00	0.18	0.62	0.16
22. marital status	-0.09	0.41	-0.07	-0.39	0.16	-0.08	0.16	0.23
23. psychotherapy	0.17	0.38	0.42	0.35	-0.29	0.04	-0.17	0.30
24. employed	0.02	0.02	0.27	-0.22	0.63	-0.17	-0.01	0.23
25. present age	0.50	-0.11	0.25	0.65	0.24	0.04	-0.14	0.44
26. years of education	0.06	0.13	-0.30	0.12	0.33	0.38	0.19	0.20
27. age of starting drugs	0.13	-0.04	0.02	0.46	-0.17	-0.03	-0.60	0.22
28. age of starting heroin	0.03	0.00	-0.04	0.46	-0.11	-0.26	-0.37	0.18
29. how long addicted	0.60	-0.07	0.34	0.26	0.14	0.11	0.13	0.37
30. no. of arrests	0.45	-0.20	0.30	-0.04	0.28	0.44	0.21	0.34
31. longest period of time not taking drugs	0.41	0.12	0.20	0.23	0.22	0.09	0.20	0.22
32. time on methadone	0.12	0.45	0.33	0.14	0.49	0.33	-0.19	0.34
33. time in therapy	0.06	-0.01	0.08	-0.43	0.42	0.08	-0.11	0.20
34. time employed	-0.11	0.19	0.02	0.39	-0.22	-0.28	0.31	0.22
Redundancy	0.05	0.031	0.03	0.05	0.02	0.01	0.02	
Total Redundancy	0.27							

Scale was the most predictable from the demographic domain (R^2 = 0.37), while the least predictable (R^2 = 0.12) was Factor A (reserved versus out-going). In the demographic domain, the most predictable variables from the personality domain were the present age of the patients (R^2 = 0.44) and sex (R^2 = 0.43) while the least predictable was race (R^2 = 0.16).

QUESTION 3

A discriminant function analysis was used to study the demographic and personality variables (Family, Mach, TSCS, and the 16 PF Factors) for those in the Stone-Lindbergh Clinic for more than 12 weeks, those who had dropped out of the Clinic after being in it from 7-12 weeks and those who had dropped out from the Clinic after being in it from 1-6 weeks.

A summary of the ω^2 indexes, resulting from the discriminant function analysis, is shown in Table 9, and an examination of these indices indicate that only 3 variables, Factors Q2, Factor I and Factor F reached the stated criterion of accounting for more than 5 percent of the variance.

On Factor Q2, which accounted for 10 percent of the discriminating information, the mean group rankings from high (self-sufficient, prefers own decisions, resourceful) to low (group dependent, a "joiner", good follower) were:

	Group	Mean
1.	Drop-outs 7-12 weeks	7.04
2.	Methadone (Stone-Lindbergh Clinic)	6.97
3.	Drop-outs 1-6 weeks	5.39

The drop-outs (1-6 weeks) were more group dependent while drop-outs (7-12 weeks) and those still in the methadone program were relatively the same in relationship to self sufficiency and

TABLE 9

OMEGA SQUARE INDEXES OF THE PERSONALITY AND DEMOGRAPHIC VARIABLES OF THE STONE-LINDBERGH CLINIC; DROP-OUTS 7-12 WEEKS; DROP-OUTS 1-6 WEEKS

Multivariate Probability (P) level of F-ratio = < 0.01 *
Multivariate Omega Square = 0.57

VARIABLE		UNIVARIATE P LEVEL	OMEGA SQUARE
1. Family Scale	=	0.12	0.01
2. Mach Scale	=	0.77	0.00
3. TSCS	=	0.29	0.00
4. Factor A	=	< 0.01	0.04
5. Factor B	=	0.01	0.03
6. Factor C	=	0.06	0.01
7. Factor E	=	0.24	0.00
8. Factor F	=	< 0.01	0.07
9. Factor G	=	0.50	0.00
10. Factor H	=	0.05	0.01
11. Factor I	=	0.00	0.08
12. Factor L	=	0.65	0.00
13. Factor M	=	0.01	0.03
14. Factor N	=	0.90	0.00
15. Factor O	=	< 0.01	0.04
16. Factor Q1	=	0.07	0.01
17. Factor Q2	=	< 0.01	0.10
18. Factor Q3	=	0.66	0.00
19. Factor Q4	=	0.01	0.03
20. Age	=	0.06	0.01
21. No. of years of educ.	=	0.29	0.00
22. Age at starting drugs	=	0.04	0.02
23. Age of heroin use	=	0.12	0.01
24. How long addicted to heroin	=	< 0.01	0.03
25. No. of drug related arrests	=	0.04	0.02
26. Length of time working	=	0.79	0.00

*NOTE Since the groups used in this study were not randomized, the multivariate P values cannot be interpreted in the sense of giving statistical probability.

and resourcefulness.

Eight percent of the variance was accounted for by Factor I and the group rankings from high (tender-minded, dependent, over protective, sensitive) to low (tough minded, self reliant, realistic, no nonsense) were as follows:

Group	Mean
1. Drop-outs 1-6 weeks	6.32
2. Drop-outs 7-12 weeks	5.28
3. Methadone (Stone-Lindbergh Clinic)	4.79

Those who were still taking methadone were more self-reliant and realistic in their viewpoints than those who drop out (7-12 weeks) and the drop-outs (1-6 weeks) were the most dependent and sensitive.

Factor F which accounted for 7 percent of the discriminating variance, had the following mean rankings from high (happy-go-lucky, heedless, gay, enthusiastic) to low (sober, prudent, serious, taciturn).

Group	Mean
1. Methadone (Stone-Lindbergh Clinic)	6.32
2. Drop-outs 7-12 weeks	6.08
3. Drop-outs 1-6 weeks	5.05

Those still on methadone were the most enthusiastic while drop-outs (1-6 weeks) were the most sober and serious.

Attempts were made to contact by telephone each of the 53 drop-outs in order to ask them personally what played the major part in their decision to drop out and what they liked or disliked about the program. Of the 53 drop-outs, 12 or 24 % were contacted, and for those not able to be contacted, the major reason was their transient status (Table 10).

Ten of the twelve contacted who had left the methadone program gave the reason that methadone made them "sick" (7), or that the methadone dosages were too low (3), and two went to different programs because of financial reasons. Eleven of the twelve stated that they have no major complaints against the Clinic and one complained of "bad service". This complaint was a result of a difference of opinion about the dosage of methadone prescribed.

TABLE 10

A Summary Table of the Personal Communication with the Drop-outs from the Methadone Stone-Lindbergh Program

Total Number of Drop-outs = 53

	Weeks 1-6	Weeks 7-12
1. No. of those contacted	8	4
2. No. of those contacted who refused to answer questions	3	6
3. No. of those not able to be located because of change in residence or telephone disconnected	5	27

Reasons Given for Dropping out of the Methadone Program

1. Methadone made them sick	7	0
2. Dosages of Methadone too small	1	2
3. Financial reasons	0	2

Chapter Five

Discussion and Implications of the Study

Discussion of Question 1

The discriminant analysis showed that a linear combination of the seven personality variables resulted in group differences. The first root was determined by two variables Factor O and the Family Scale, and more specifically, a moderate negative loading on Factor O (placid, self-assured, confident, serene) and a low positive loading on the Family Scale (high scores indicating negative feelings). This root was described qualitatively as those who were self confident, but yet had negative feelings for their parents. However, in relation to the Family Scale, caution should be exercised in interpretation since its loading on the root is small indicating its contribution to the root is trivial. Examination of the group centroids showed that the heroin addict group had the highest ranking on this root while the other group centroids were relatively the same. This suggests that the differentiation on this root is between the heroin group and the other three groups.

That the heroin addict group has negative feelings toward their parents is consistent with the findings of Torda (1968),

Nyswander (1956) and Murray (1967) who maintain that one of the distinguishing marks of the heroin addict is his poor family relations and perhaps is even a causal factor in the Ss drug addiction.

The finding that the heroin addict group was the most self assured and self confident was in opposition to most of the literature on heroin addiction (Kolb, 1925; Olson, 1964; Zimmering, 1952; and Laskowitz, 1962). Since the above studies have taken place either in a hospital or clinic setting where the heroin addicts were in the process of detoxing or have already been detoxed and, in reality, were not functioning as active heroin addicts, these results may be a function of studies done in a specific situation. Because the heroin addict Ss in this study would only cooperate during the testing when he was not craving heroin, it does not seem unreasonable that the heroin addict, because of the drug, would feel secure and not apprehensive during the testing and such a state would be reflected in the test results. A confirmation of this finding comes from Dr. Westman (Miami, V.A. Hospital, 1973, personal communication) who stated that one of the characteristics of a person on heroin is a bravado and an exaggerated sense of self confidence. Whether such a self-assured, self-confident state is considered normal for a

heroin addict or not seems to be an important question, since both sides of such an issue would have many adherents and would be a specific area to be researched. In any case, when the heroin addict is not craving for heroin, he feels secure and confident in himself more so than those on methadone or even those who have completed the program.

The off-methadone group had the lowest group centroid on this particular root (self confident-negative feelings towards parents) which might be explained by the fact that they no longer rely on drugs, whether heroin or methadone, and are presently facing the world without the help of narcotic drugs. In such a situation, the off-methadone group is forced to fact reality "head-on" which for one who has used drugs as an escape would engender feelings of apprehension and insecurity. However, a speculated reason why they would have less negative views about their parents may be because, in general, they feel better towards other persons since they are no longer addicted. This speculation has some support from the fact that the off-methadone group had the lowest score on the Mach Scale which suggests that their approach to people in general is less manipulative than the other group (Table 1). In addition, Appendix H shows that the correlation between the Mach Scale and the 16 PF Factor L (trusting) was 0.69

lending support to this contention. They, therefore, seem to view people, including parents, in a slightly different context than the other groups.

The opinion of Waldorf (1970) who holds that those addicts who have better feelings and attitudes towards their parents make better candidates for rehabilitation could not be tested. This is stated because a determination of whether having better feelings towards one's parents was a cause or result of either being in a methadone program or of completing such a program was not able to be made in this study. Further research on this question would be needed to establish Waldorf's hypothesis.

The finding that both Methadone Clinic groups' centroids were in between the highest group (heroin) and the lowest group (the off-methadone group) suggests a rank ordering of these groups on this root. Although no causal relationship is implied by this ordering, such a progression on these variables might be subjected to further research to determine if causal relationships are present.

The second root whose interpretative power is limited by the rather small loadings of the variables on this root was described as a self-assured, practical-independent factor. The Methadone Stone-Lindbergh Clinic group ranked a little higher on this factor than

the other groups. However, the difference in all the rankings of the centroids was small, indicating that group differences were slight, especially for the heroin group, Methadone V.A. group and the off-methadone group.

The finding that the Methadone Stone-Lindbergh group was the most independent, self assured and practical is corroborated in the literature by Mc Dermott (1970) and Kromberg (1970). The security and protection that a methadone program provides may be the reason for this group's ranking since their drug supply (methadone) is assured, giving them more time for living "normal" lives. The reason why the Methadone V.A. group did not have a ranking very close to the Methadone Stone-Lindbergh group is conjectured to be the result of the sample itself or even perhaps the specific characteristics of V.A. patients.

The off-methadone group had the lowest group centroid on this factor. This may be the result of having no supportive drugs, whether heroin or methadone, or a program upon which they can rely, and, therefore, they may feel that the best and safest way to adapt is to take a more passive and conforming role. This lack of self assuredness may even be a reason for the relapse of some of those who have completed a methadone program and subsequently have returned to heroin. Such relapses of those off methadone are a

concern (Pearson and Block, 1970) and in light of this, the above hypothesis would be a suggested area of research.

The results of this analysis indicate Faigel's (1968) hypothesis that heroin and methadone users have similar personality characteristics does not hold for roots one and two described above. On root one, (Factor O and the Family Scale), the heroin addicts were the most different than the other groups while on root two (Factors E, M, and O), the Methadone Stone-Lindbergh group was differentiated the most from the other groups. From Faigel's article it is not clear what specific personality characteristics he meant when discussing the heroin and methadone populations. The present findings suggest that the groups are different on the above mentioned factors. Since neither the Mach Scale nor the TSCS contributed to these differences, these variables may not be as important as indicated in the literature (Mc Dermott, 1970; Senay and Renault, 1971; Ramer, Zaslove and Langan, 1971).

For the second part of question one, the other 12 factors of the 16 PF were studied by means of the ω^2 index taken from the discriminant analysis. Of the 12 variables on the 16 PF, three (Factor L, A, and F) attained the criterion of accounting for more than 5 percent of the variance.

The heroin group was the most trusting and adaptable while

the off-methadone group was the most suspicious and self-opinionated. This finding is surprising in that the heroin addicts would be expected to be the most suspicious of all the groups since they must be in constant vigilance about being arrested or of being sought after by the law authorities. Perhaps the heroin addict is in such a position that he must trust others, especially comrades in order to obtain his drug supplies. However, this still does not seem logical in terms of his law-breaking activities where he would be forced to be suspicious of everyone.

Other possible explanations may be that those heroin addicts who agreed to partake in the study were a self-selected group since they had to have a certain amount of trust to take part in the study. Another partial explanation may be that 48 percent of this group was employed full or part time (Table 1) which may not be a "normal" heroin sample. This discrepancy between logic and data will have to be resolved through further research and further probing into this specific question.

Even though the off-methadone group was the most suspicious, they were the most happy-go-lucky of all the groups. This suggests that even though they are cautious with people, they tend to be friendly and out-going. The rationale for such a combination of factors is difficult to assertain especially since these two

variables have a zero-order correlation of 0.05 (Appendix H).

Both groups in the methadone programs were the most reserved and detached as well as the most sober and serious. This finding seems to indicate that the methadone patients do not wish to get involved with people and, therefore, remain aloof. However, since heroin addicts' mean scores indicated that they were almost as serious as the methadone patients, this finding may be interpreted as meaning all those who are taking addictive drugs, whether heroin or methadone, are more serious than those off methadone and drug free.

In summary, the heroin addict group was the most confident, had the most negative feelings towards their parents, and was the most trusting and adaptable of all the groups. These findings may be the result of being "high" on heroin and different characteristics may emerge when the heroin addict is in the process of being detoxed in a clinic or hospital setting. This suggests that the heroin addict may have to be treated differently depending upon the situation he is in. In a hospital setting, he is unsure of himself and does not trust people, whereas when under the influence of heroin, he then becomes more self confident and trusting. This finding would have practical implications for those who are working with heroin addicts in that different approaches to heroin addicts

would be appropriate depending upon the situation of the heroin addict.

However, the heroin addict whether "high" on heroin or being detoxed in a hospital has the common trait of having negative feelings towards his parents. This suggests that in a hospital or clinic setting, one of the aspects of counseling or psychotherapy be directed at this important area.

The off-methadone group was one which, in general, had the least self-confidence, was the most suspicious, but yet tended to be warm hearted and happy-go-lucky. An interpretation of such a combination of variables is difficult to explain, but perhaps their happy-go-lucky feelings and warmheartedness may be a psychological defense mechanism for their feelings of lack of confidence in themselves and their suspicious feelings about others. The insecurity of not having a methadone program upon which to rely for assistance, the starting of a new life style without being drug dependent and making new acquaintances may all be factors in the off-methadone patient's feelings of insecurity and suspicion. Because of these findings, perhaps some type of program should be initiated for those who have completed a methadone program in order to help them through this transition period in their

own lives. Such programs could include group meetings on a scheduled basis with group or individual counseling and psychotherapy abailable to help these patients adjust to their new life style. In addition, such a program may also be a deterrent for recedivism which is a growing concern for workers in the field.

The Methadone Stone-Lindbergh group was the most independent and practical and had better feelings towards their parents than any of the other groups. This feeling of independence may be the result of not only being in a methadone program where their drug supply is assured, but also may be the result of over 80 percent of these patients being employed full or part time. This finding also adds weight to the opinion of Dole and Nyswander (1968) that being in a methadone program does foster productive employment and can help patients to become socially rehabilitated in this respect.

Since this group is practical in outlook, in terms of guidance, counseling or psychotherapy, practicality would seem to be a good approach to use. Glaser's reality therapy approach in psychotherapy would seem to be more appropriate to use than a psychotherapy based on insights.

The Methadone V.A. Clinic patients were relatively like the Methadone Stone-Lindbergh Clinic patients in terms of their group

centroid on the first root which qualitatively described persons who were self confident, but who had negative feelings for their parents. However, the V.A. patients did have more negative feelings about their parents than the Stone-Lindbergh patients which suggests that this would be an important area to emphasize in the area of guidance, counseling, and psychotherapy with this group. In addition, the V.A. Clinic patients were more conforming and obedient than the Stone-Lindbergh group, but this may be the result of being in a program in a V.A. Hospital. Such characteristics may be fostered as part of the regime of such a hospital setting or they may be a result of the specific type of patient who seeks treatment at the V.A. Hospital. Whatever the reason, this finding has implications for programming and treatment of these patients in that resourcefulness and independence of action would be appropriate to emphasize.

In contrast to the Stone-Lindbergh Clinic, only 47 percent of V.A. patients were working, but it was not possible to relate this finding to a specific characteristic of this group because of sample bias. This Clinic was only open from 10 a.m. to 6 p.m., the usual working hours of the day which may in fact prevent the working patient from attending this Clinic. Perhaps if the Clinic were open for a short period of time during the evening, those who

are employed during the day would be more apt to come to the Clinic. Perhaps another reason why this group has a moderate percentage of those working is that the methadone is free at this clinic or even possibly because a number of patients are receiving monetary benefits from the Government and are not in great financial need.

Discussion of Question 2

Four personality factors and four demographic variables were used in a canonical correlation for each group as explained in Chapter 5 (p.52). For the heroin addict group the demographic and personality variables overlap about 40 percent indicating that the linear composite of the four personality variables could predict about 40 percent of the composite of the demographic variables and vice versa. This percentage was fairly substantial suggesting that these two domains are somewhat dependent and are in fact measuring similar domains of variables.

On this first root it appeared that the heroin addicts' social adjustment tended to be negatively related to the other variables in the personality domain. In the demographic domain, age of starting heroin and number of drug related arrests were negatively related while months of heroin addiction and length of time working were positively related. This suggests that an inverse relationship exists between length of employment and age of starting heroin and

number of drug arrests. The reason for the positive relationship between length of heroin addiction and length of time working may be a result of this sample of heroin addicts, since they were, as explained previously, a self selected group.

From this analysis a fairly distinct profile of the heroin addict emerges: If a heroin addict starts to take heroin at an early age, had few drug related arrests, had a fairly stable employment record and has been on heroin for a good length of time, he tends to be more extroverted and adjusted. This suggests that for this kind of profile, being on heroin does not imply a person is maladjusted either socially or as an individual which runs counter to some of the literature in the area (Torda, 1968). On the other hand, if the heroin addict starts taking heroin at a later age, has a poor employment record, had many drug related arrests, and has been on heroin for a short time, he tends to be more introverted and maladjusted.

On root two, for the personality domain independence and tough poise were positively related while introversion and adjustment were nagatively related. The literature supports the finding of introversion (Kolb, 1927), but does not support the finding that heroin addicts were independent, decisive and fairly well adjusted (Nyswander, 1965). This finding may be a result of a selected

sample or perhaps may even be a more up-dated view of heroin addicts than the previous studies which were done about ten years ago.

The number of arrests that a heroin addict has had accounted for the largest single amount of variance (61%) in the personality domain indicating that number of arrests was best predicted by the personality domain. The second order Factor QII (adjustment versus anxiety) accounted for the highest amount of variance (63%) in the demographic domain suggesting that anxiety was the best predicted by the demographic domain. In view of an addict's life style, such a finding is not remarkable.

For the off-methadone group, the domains of demographic and personality variables overlap about 25 percent indicating that the demographic and personality variables have a slight relationship with each other. For the first root, on the demographic domain, the age of starting heroin and length of employment tended to be associated positively while number of drug related arrests had a slight negative relationship suggesting that the older the person was and the longer he worked, the fewer arrests he had. On the personality domain, independence and anxiety were positively related while introversion and emotional sensitivity were negatively related a finding which was consistent with the results of question one.

The demographic variable which was accounted for best by the

domain of personality factors was length of time of employment (R^2 = .38). This may be the result of their being heroin and methadone free and, therefore, more willing and able to enter and remain in productive employment. Factor QI (introversion versus extroversion) had 34 percent of its variance accounted for by the demographic domain. This indicated that social inhibition was the variable most closely associated with the demographic variables of the off-methadone person. A profile of the off-methadone group that emerges from the first root on this question was as follows: If the off-methadone person started taking drugs at a later age, and had a fairly stable employment record, he tended to be introverted and independent or vice versa while a profile from the second root was: If the off-methadone patient was addicted only a few months and had few arrests, he tended to be extroverted and independent or vice versa. Starting age of heroin addiction as well as length of employment, therefore, tend to be related to the variables introversion-extroversion and subduedness and independence for this group.

For the Methadone V.A. patients, the demographic and personality domains overlap about 24 percent indicating that if

the domain of personality variables were known one could predict about 24 percent of the demographic domain of variables and vice versa.

For the V.A. patients, the domain of personality variables accounted for 46 percent of the variance in the variable months of heroin addiction. This is not remarkable since the person's personality might affect his drug taking behavior, perhaps because of specific emotional needs. Of all the personality variables, the one that accounted for the highest amount of variance (36%) in the demographic variable domain was Factor IV (independence). This appears logical because for a patient to begin taking heroin, be employed for a length of time, decide to indulge in criminal action or not, he would have to make an independent decision in these matters.

For the Methadone Stone-Lindbergh patients, the overlap between the demographic and personality domains was 5 percent and this same percentage of overlap also held true for the overlap between the personality domain and the demographic domain indicating a relative independence between the two domains. Only one root was extracted and no one demographic or personality variable extracted a significant amount of variance from the opposite domain suggesting that these variables are operating independently in each

domain, and no one variable would be considered very important. The profile of the Stone-Lindbergh patient based on this root was: If the patient had only a few arrests and was fairly steadily employed, then he tended to be adjusted and independent.

In relationship to the analysis of the four demographics and second order factors of the 16 PF, the expanded analysis of the 19 personality and 10 demographic variables for the methadone Stone-Lindbergh patients obtained a greater amount of overlap between the personality and demographic domains (20 percent for all the 16 PF Factors and 5 percent for the 4 second order factors). The personality variable that had the best predictive power was the Family Scale (37%) which may not be surprising since etiology of heroin addiction has often been assigned to family relationships (Fort, 1954; Nyswander, 1965).

The demographic variable that was predicted best (44%) from the personality domain was the person's present age which was not a remarkable finding since personality factor scores have been demonstrated to be related with differences in age (Cattell, 1970).

The other demographic variable that was predicted well (43%) from the personality domain was sex which may suggest that the

methadone users' sex is important in describing the personality characteristics of those in such a program. This finding would give support to the contention that sex characteristics of methadone users are more heterogeneous than homogeneous (Williams, 1970).

Since sex seemed to be an important variable in this group, an additional discriminant analysis was performed on the sex variable using the 16 PF factor scores. In this analysis, there were 127 male Ss and 16 female Ss. The overall F-test was significant and the analysis yielded one significant root (Table 11). Using a cut off .35, this root was defined by four variables:

1. affected by feelings, emotionally less stable, easily upset versus emotionally stable, faces reality, calm (16 PF Factor C).
2. expedient, a law to himself, by passes obligations versus conscientious, persevering, staid, rule bound (16 PF Factor G).
3. placid, self assured, confident, serene versus apprehensive, worrying, depressive, troubled (16 PF Factor Q2).
4. relaxed, tranquil, torpid, unfrustrated versus tense, driven, overwrought, fretful (16 PF Factor Q4).

This root was described as a conscientious-worried factor and the group centroids show that the methadone females ranked higher on this factor than the methadone males, but whether a

TABLE 11

DISCRIMINANT ANALYSIS PERFORMED ON THE MALE AND FEMALE GROUPS OF THE STONE-LINDBERGH CLINIC ON THE 16 PF FACTOR SCORES

Multivariate Probability (P) level of F-ratio = 0.01*
Multivariate Omega Square = 0.40

Variable	Loading on Root
1. Factor C	-0.49
2. Factor G	0.52
3. Factor O	0.38
4. Factor Q4	0.35

Group Centroids

1. Female	2.69
2. Male	- 0.53

Group Means on Factor C From Low (Affected by Feelings, Emotionally Less Stable, Easily Upset) to High (Emotionally Stable, Faces Reality, Calm)

Group	Mean
1. Female	3.00
2. Male	4.59

Group Means on Factor G From High (Conscientious, Persevering, Staid, Rule Bound) to Low (Expedient, a Law to Himself, By-passes Obligations)

Group	Mean
1. Female	6.87
2. Male	5.17

TABLE 11 cont.

Group Means on Factor O From High (Apprehensive, Worrying, Depressive, Troubled) to Low (Placid, Self Assured, Confident, Serene)

Group	Mean
1. Female	6.18
2. Male	5.00

Group Means on Factor Q4 From High (Tense, Driven, Overwrought, Fretful) to Low (Relaxed, Tranquil, Torpid, Unfrustrated)

Group	Mean
1. Female	7.00
2. Male	5.76

* NOTE Since the groups used in this analysis were not randomized the multivariate P level cannot be interpreted in the sense of giving statistical probability.

similar finding would also be found in a normal population is not known. This suggests that female methadone patients are different from the males at least on this root, but the reason for such a difference is open to conjecture.

The difference in the amount of overlapping variance (about 20 percent) in this analysis and the analysis of the four demographic and the second order factor (5 percent) may be explained by the fact of the greater number of variables used which statistically means that more variance from the variables could be accounted for. This statement, however, does not imply that in every case where more variables are added to an analysis more variance is obtained, but this seems to be the case in this particular analysis.

The practical implications of this question for each group is that in general little predictive information is had about the personality domain variables given the demographic domain variables and vice versa since the redundancy indexes were low to moderate. Practically, this means that each individual in each of the groups needs to be studied in regard to each of these domains of variables. This is especially true for the Stone-Lindbergh Clinic patients whose overlap was only 5 percent. Even when using all the 16 PF factor scores and 19 demographic variables for the Stone-Lindbergh

group, there was only about a 20 percent overlap between the domains from which minimal predictive information was available.

Even though predictive information was minimal, other useful findings were found. A profile obtained on the heroin addicts showed that if the heroin addict started to take heroin at an early age, had few drug related arrests, had a fairly stable employment record, and had been on heroin for a length of time, he tended to be an adjusted person who was extroverted. Such a description would seem to run counter to most popular opinions about heroin addicts and suggests that under these special conditions heroin addicts can function fairly well in society using the drug. This finding is similar to that of Brecher (1972) who maintains that heroin addicts can function well in society even when using heroin. Perhaps, then, Brecher's (1972) contention that heroin clinics should be started to dispense heroin to heroin addicts warrants greater study and investigation as a possible method to help solve the drug problem.

The profile of the Methadone V.A. Clinic group was: If the person was only addicted to heroin for a short time, he tends to be independent, while the Methadone Stone-Lindbergh Clinic patients profile was: If the person had few drug related arrests and had a steady employment record, he tended to be adjusted and

independent and, in general, such profiles are consistent with logical inferences. This finding suggests that if these combinations of variables are present, counseling, programming, and treatment procedures would best be adopted to meet these specific needs.

Discussion of Question 3

A descriptive use of the discriminant analysis index ω^2 was utilized to study the demographic and personality variables of the Methadone Stone-Lindbergh patients, those who dropped out in the weeks 7-12 of this program and those who dropped out in the weeks 1-6 of this program. According to the criterion of accepting only those variables which accounted for at least 5 percent of the variance, three variables, 16 PF Factors, Q2 (group dependent versus self sufficient), I (self reliant versus dependent), and F (sober versus happy-go-lucky) will be discussed.

The methadone patients were more self reliant, happy-go-lucky and enthusiastic than both drop-out groups. However, self-reliance was the variable which separated the methadone patients from the drop outs the most, but a causal connection between self reliance and continuance in the methadone program cannot be made. Whether self reliance is a cause or a result of patients remaining in the program would need to be answered through further research on this point.

The drop-outs 1-6 weeks were the most serious, sensitive and group dependent than any other group. This was not remarkable since they were just starting a new program and were in the midst of changing a whole life style. Seven of those who were personally contacted by phone in this group stated that methadone made them sick and that they felt so physically uncomfortable that they could not take methadone as a medication while one stated that the methadone dosages were too low "to hold" him and that he needed more of the drug to satisfy his craving.

The drop-outs 7-12 weeks were the most self sufficient in that they preferred to make their own decisions but in this variable they were only slightly higher than the Methadone Stone-Lindbergh patients. The 7-12 week drop-outs were not as serious as the 1-6 week drop outs or realistic as the methadone patients. In order to make a decision to leave a methadone program, it was logical to assume that such a person would have to be self willed, but somewhat impractical since his addicting habit would necessitate his returning to heroin.

Of the four drop-outs contacted by phone in this group, two stated that the methadone dosage was too small and because more was not given they left the program while two left because they could not meet their financial obligations to the program.

However, this writer had the impression in talking with both groups of drop-outs that there was a hidden agenda and felt that

these people were just not "feeling high" on methadone and therefore returned to heroin to achieve such a feeling.

In the 12 week period of looking at the drop-outs, there were 103 new patients who applied for admittance to the Stone-Lindbergh program. Fifty-four Ss dropped out (52%) and 49 (48%) remained in the program. Of the 49 patients that remained 31 were males and 18 were females.

In addition, the 1-6 week drop-outs had a higher proportion of females dropping out than males while 7-12 weeks drop-outs had a higher proportion of males than females (Table 1). This suggests that the female drop-outs were more apt to drop out during the initial phase of the program, while more males tended to drop out after they have been in the program for at least 7 weeks. The reasons for such a finding are speculative, but this finding suggests that future investigations in this area with a large sample size is needed.

A summary of question three shows that the methadone Stone-Lindbergh patients were more self-reliant and happy-go-lucky than the 1-6 week and 7-12 week drop-outs while the 1-6 week drop-outs were the most serious, sensitive and group dependent. This finding suggests that for patients who are in the first to the twelfth week in the methadone program special programming and treatment

procedures are more appropriate than others.

Instead of dealing with each individual as an individual when they first enter a methadone program, it may be more appropriate to deal with these patients in a group. Since these particular patients are group dependent, dealing with them as a group in terms of orientation, procedures as well as group counseling or psychotherapy may help to meet their dependency needs and perhaps reduce the drop-out rate in the 1-6 week period. In addition, in relationship to the telephone interview, the major complaint of the drop-out 1-6 weeks was that methadone made them "sick". This information may be of help to the Methadone physicians to make the judgments in terms not only of the amount of methadone dosages, but also in terms of other medications which may relieve this "sick" feeling of the 1-6 week drop-outs. Of even greater importance is the determination whether this symptom of sickness is frequently found.

For the 7-12 week drop-outs, a little different picture emerges. They were a little more independent in thought than the methadone patients, but were less serious and less sensitive than the 1-6 week drop-outs. The implication of this finding is difficult to interpret since this group is fairly similar to the methadone patients themselves. This suggests that other variables not used in this study

should be used in future studies on this particular group to determine their unique personality characteristics.

In general, the results of question three showed that personality variables are more important indicators of drop-outs than are demographic variables. Since the research on drop-outs has only considered the demographic variables (Williams and Johnston, 1972; Sells, Person and Joe, 1972; Babst, Chambers and Warner, 1971), the results of this question add new dimensions to the understanding of drop-outs and points the way to more research on this point.

Summary

On the first question of this study, active heroin addicts, methadone patients from the Stone-Lindbergh Clinic, Methadone patients from the Miami V.A. Hospital Clinic and Off-methadone Ss were shown to be significantly different in terms of a linear combination of personality variables.

The heroin addicts ranked the highest on root one which was described as qualities of a group which was self confident but had negative feelings towards their parents, while the other three groups' rankings were relatively the same. The second root was labeled a self assured, practical-independent factor with the methadone Stone-Lindbergh group ranking the highest. The overall differences between all groups was small, indicating that groups differences are relatively the same.

Other descriptive analyses done on the other 12 Factors of the 16 PF for these same groups showed that Factor L (trusting versus suspicious), A (out going versus detached) and F (happy-go-lucky versus taciturn) were also important variables in describing the groups.

A summary of those variables which best describe how one group compares to the other group is as follows:

The heroin addict group was:

1. the most unfavorably disposed towards their parents (Family Scale).
2. the most self assured and confident (low Factor O).
3. the most imaginative and careless of practical matters (high Factor M).
4. the most trusting (low Factor L).

The off-methadone group was:

1. the most insecure and apprehensive (high Factor O).
2. the most conforming (low Factor E).
3. the most suspicious (high Factor L).
4. the most out going and warmhearted (high Factor A).
5. the most happy-go-lucky and enthusiastic (high Factor F).

The methadone groups were:

1. the most independent and assertive (high Factor E).
2. the most practically minded (low Factor M).
3. the most reserved and detached (low Factor A).
4. the most sober and serious (low Factor F).

The findings of this question have important effects not only on some of the theoretical issues concerning personality characteristics, but also on some of the practical issues. On the practical side, specific personality characteristics have been shown to be

more or less associated with members of a specific group, thereby giving indications of the best personality orientation approach to group members. In relationship to the methadone patients, better programs and services may now be adopted as well as guidelines for instructing those who wish to enter the field of methadone maintenance rehabilitation field whether as professionals or para-professionals. In addition, this question also points to the fact that other research studies are needed in this area.

In terms of the relationships of four personality and four demographic variables in the different groups, multivariate statistical approach was used as suggested by Sells and Watson (1970) in order to obtain a better understanding of the relationships between the domains of these two sets of variables.

For the heroin addict group, the overlap between the personality and demographic domains was about 40 percent indicating a fair degree of dependence, while for the off-methadone group, the overlap was about 23 percent. The overlap between the personality and demographic domains of the Methadone V.A. patients was about 25 percent, while the overlap for the Methadone Stone-Lindbergh patients was only 5 percent. These findings suggest that the heroin group is the most homogeneous and that the methadone Stone-Lindbergh patients are the most heterogeneous in relationship

to these two domains. Practically, in relationship to a methadone program like the Stone-Lindbergh program, this indicates that knowing the domain of personality or demographic variables gives little predictive information about their methadone patients.

In expanding the number of personality variables to 19 and the demographic variables to 15 for the methadone Stone-Lindbergh patients results showed that these two domains overlapped about 23 percent. This result may be explained by the use of additional variables, and, therefore, more variance was able to be accounted for. However, this is not true in every case where additional variables are used in an analysis, but seems to be true in this specific analysis.

The descriptive analysis done on the demographic and personality variables of the methadone Stone-Lindbergh patients, those who dropped out in the weeks 7-12 and those who dropped out in the weeks 1-6 showed that Factors Q2 (self sufficient versus group dependent), I (over protective versus self reliant) and F (happy-go-lucky versus sober) were the most important.

A summary of those variables which best describe how one group compares to the other groups is as follows:

The drop out group 7-12 weeks was:

1. the most self sufficient (high Factor Q2).

The drop out group 1-6 weeks was:

1. the most sensitive (high Factor I).

2. the most sober (low Factor F).

This finding suggests those variables which are the most prominent in each individual group but does not provide causal relationships. The next logical step would be to use the above mentioned variables in a predivtive study of drop-outs as an extension of this question. In addition, more personal follow up contact with the drop-out needs to be done in depth so that this valuable avenue of information could be used to help reduce the number of drop-outs from methadone programs.

Some of the major practical implications derived from this study are:

1. Heroin addicts who are still on heroin have more confidence in themselves than those heroin addicts who were in hospital settings being detoxed. Different practical approaches to heroin addicts, therefore, would be appropriate depending upon the situation.

2. Of all the groups in the study, the heroin addicts had the most negative feelings towards their families. This suggests that in an hospital or clinical setting, one of the aspects of counseling or psychotherapy is directed in this important area.

3. If an heroin addict has a profile of starting heroin at

an early age, having few drug related arrests, has a fairly stable employment record and has been on heroin for a good length of time, he tends to be extroverted and adjusted. For such an heroin addict, perhaps Brecher's (1972) opinion of initiating heroin clinics would be another appropriate method of dealing with such an heroin addict.

4. The off methadone group was the least self confident and most suspicious of all the groups. Perhaps, a program should be initiated for those who have completed the methadone program to help them to adjust to their new life style and to prevent recidivism to heroin addiction.

5. The Methadone Stone-Lindbergh patients were more practical in outlook of all the groups. Since this group is practical in outlook, in terms of guidance, counseling or psychotherapy, practicality would seem to be a good approach to use. Glaser's reality therapy approach in psychotherapy would seem to be more appropriate to use than a psychotherapy based on insights.

6. The V.A. methadone group was like the Stone-Lindbergh methadone group with the exception that they had more negative feelings towards their parents, and were more conforming and obedient. These characteristics have important implications for programming, treatment and counseling of these patients.

7. The 1-6 week drop outs were very group dependent. Perhaps, if initially methadone programs emphasized group processes more, a smaller number of those just entering a methadone program would drop out.

8. There is little predictive information in terms of the personality domain variables and demographic domain variables used in this study on the four groups. Practically, this means that each individual in each of the groups needs to be studied in regard to each of these domains of variables.

Since this study was exploratory in nature, it is viewed only as a start in studying the personality characteristics of those involved in hard drugs. The results obtained would have to be replicated by other similar studies in order for the inferences and conclusions to have generalizability.

Future areas of research center on the following:

1. to use these same variables to replicate this study on a different sample.
2. to investigate the personality characteristics of active heroin addicts and those who are being detoxed in an hospital setting.
3. to study in depth the off-methadone Ss, and especially those who relapse into heroin use.

4. to study the sex variable further in methadone maintenance clinics.
5. to study the differences in personality characteristics of Ss in different methadone maintenance programs.
6. to investigate in depth the drop-outs from methadone maintenance clinics especially in regards to the sex variable.
7. to initiate tightly controlled experimental research based on the results of this present study in each of the groups to determine cause and effect relationships.

APPENDIX A

The Demographic Data Form

Please answer every item in this questionnaire as truthfully as possible. The items of this questionnaire will be held in strict confidence. It should be noted that this questionnaire is not for federal, state or local governmental agencies which includes the police force and NARC. This questionnaire is to be used in a project which has as its goal the rehabilitation of those on drugs as well as the prevention of these from becoming involved with drugs.

Thank you for your time and courtesy.

1. Age: _____ Date: _____

2. Sex: ( ) Male ( ) Female

3. Race: ( ) White ( ) Negro ( ) Other

4. Your marital status:

   ( ) Single

   ( ) Married

   ( ) Divorced

   ( ) Other

5. Number of years of Education:

   _____

6. At what age did you start taking drugs?

   _____

7. At what age did you start using heroin?

   _____

8. How long have you been addicted to heroin?

   _____

9. What is your total number of arrests that are drug related?

_____

10. What was the longest period of time you have not taken heroin (outside an institution or program) since you started using it?

_____

11. How long have you been on methadone?

_____

12. Are you presently in:

( ) group therapy

( ) individual therapy

( ) no therapy

13. If in therapy, how long have you been in therapy?

_____

14. Are you presently:

( ) working in a full time job

( ) working a part time job

( ) not working

15. If working, how long have you been working?

_____

16. Have you ever been in another methadone program or ever dropped out of this program?

( ) Yes

( ) No

17. If off methadone, how long have you been off?

In months _____

APPENDIX B

16 PF Personality Test

16 P.F. TEST PROFILE

111.

LOW SCORE DESCRIPTION	STANDARD TEN SCORE (STEN)	HIGH SCORE DESCRIPTION
ESERVED, DETACHED, CRITICAL, ALOOF (Sizothymia)	A	**OUTGOING,** WARMHEARTED, EASY-GOING, PARTICIPATING (Affectothymia, formerly cyclothymia)
LESS INTELLIGENT, CONCRETE-THINKING (Lower scholastic mental capacity)	B	**MORE INTELLIGENT,** ABSTRACT-THINKING, BRIGHT (Higher scholastic mental capacity)
CTED BY FEELINGS, EMOTIONALLY LESS STABLE, EASILY UPSET (Lower ego strength)	C	**EMOTIONALLY STABLE,** FACES REALITY, CALM, MATURE (Higher ego strength)
HUMBLE, MILD, ACCOMMODATING, CONFORMING (Submissiveness)	E	**ASSERTIVE,** AGGRESSIVE, STUBBORN, COMPETITIVE (Dominance)
R, PRUDENT, SERIOUS, TACITURN (Desurgency)	F	**HAPPY-GO-LUCKY,** IMPULSIVELY LIVELY, GAY, ENTHUSIASTIC (Surgency)
EXPEDIENT, DISREGARDS RULES, FEELS FEW OBLIGATIONS (Weaker superego strength)	G	**CONSCIENTIOUS,** PERSEVERING, STAID, MORALISTIC (Stronger superego strength)
SHY, RESTRAINED, TIMID, THREAT-SENSITIVE (Threctia)	H	**VENTURESOME,** SOCIALLY BOLD, UNINHIBITED, SPONTANEOUS (Parmia)
TOUGH-MINDED, SELF-RELIANT, REALISTIC, NO-NONSENSE (Harria)	I	**TENDER-MINDED,** DEPENDENT, OVER-PROTECTED, SENSITIVE (Premsia)
TRUSTING, ADAPTABLE, FREE OF JEALOUSY, EASY TO GET ALONG WITH (Alaxia)	L	**SUSPICIOUS,** SELF-OPINIONATED, HARD TO FOOL (Protension)
CTICAL, CAREFUL, CONVENTIONAL, REGULATED BY EXTERNAL REALITIES, PROPER (Praxernia)	M	**IMAGINATIVE,** WRAPPED UP IN INNER URGENCIES, CARELESS OF PRACTICAL MATTERS, BOHEMIAN (Autia)
FORTHRIGHT, NATURAL, ARTLESS, UNPRETENTIOUS (Artlessness)	N	**SHREWD,** CALCULATING, WORLDLY, PENETRATING (Shrewdness)
SELF-ASSURED, CONFIDENT, SERENE (Untroubled adequacy)	O	**APPREHENSIVE,** SELF-REPROACHING, WORRYING, TROUBLED (Guilt proneness)
NSERVATIVE, RESPECTING ESTABISHED IDEAS, TOLERANT OF TRADIONAL DIFFICULTIES (Conservatism)	Q_1	**EXPERIMENTING,** LIBERAL, ANALYTICAL, FREE-THINKING (Radicalism)
UP-DEPENDENT, A "JOINER" AND SOUND FOLLOWER (Group adherence)	Q_2	**SELF-SUFFICIENT,** PREFERS OWN DECISIONS, RESOURCEFUL (Self-sufficiency)
ISCIPLINED SELF-CONFLICT, FOLLOWS OWN URGES, CARELESS OF PROTOCOL (Low integration)	Q_3	**CONTROLLED,** SOCIALLY PRECISE, FOLLOWING SELF-IMAGE (High self-concept control)
RELAXED, TRANQUIL, UNFRUSTRATED (Low ergic tension)	Q_4	**TENSE,** FRUSTRATED, DRIVEN, OVERWROUGHT (High ergic tension)

A sten of	1	2	3	4	5	6	7	8	9	10	*is obtained*
by about	2.3%	4.4%	9.2%	15.0%	19.1%	19.1%	15.0%	9.2%	4.4%	2.3%	*of adults*

APPENDIX C

The Tennessee Self Concept Scale

(TSCS)

	Item No.
1. I have a healthy body	1
3. I am an attractive person	3
5. I consider myself a sloppy person	5
19. I am a decent sort of person	19
21. I am an honest person	21
23. I am a bad person	23
37. I am a cheerful person	37
39. I am a calm and easy going person	39
41. I am a nobody	41
55. I have a family that would always help me in any kind of trouble	55
57. I am a member of a happy family	57
59. My friends have no confidence in me	59
73. I am a friendly person	73
75. I am popular with men	75
77. I am not interested in what other people do	77
91. I do not always tell the truth	91
93. I get angry sometimes	93

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

	Item No.
2. I like to look nice and neat all the time	2
4. I am full of aches and pains	4
6. I am a sick person	6
20. I am a religious person	20
22. I am a moral failure	22
24. I am a morally weak person	24
38. I have a lot of self-control	38
40. I am a hateful person	40
42. I am losing my mind	42
56. I am an important person to my friends and family	56
58. I am not loved by my family	58
60. I feel that my family doesn't trust me	60
74. I am popular with women	74
76. I am mad at the whole world	76
78. I am hard to be friendly with	78
92. Once in a while I think of things too bad to talk about	92
94. Sometimes, when I am not feeling well, I am cross	94

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

	Item No.
7. I am neither too fat nor too thin	7
9. I like my looks just the way they are	9
11. I would like to change some parts of my body	11
25. I am satisfied with my moral behavior	25
27. I am satisfied with my relationship to God	27
29. I ought to go to church more	29
43. I am satisfied to be just what I am	43
45. I am just as nice as I should be	45
47. I despise myself	47
61. I am satisfied with my family relationships	61
63. I understand my family as well as I should	63
65. I should trust my family more	65
79. I am as sociable as I want to be	79
81. I try to please others, but I don't overdo it	81
83. I am no good at all from a social standpoint	83
95. I do not like everyone I know	95
97. Once in a while, I laugh at a dirty joke	97

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

		Item No.
8.	I am neither too tall nor too short	8
10.	I don't feel as well as I should	10
12.	I should have more sex appeal	12
26.	I am as religious as I want to be	26
28.	I wish I could be more trustworthy	28
30.	I shouldn't tell so many lies	30
44.	I am as smart as I want to be	44
46.	I am not the person I would like to be	46
48.	I wish I didn't give up as easily as I do	48
62.	I treat my parents as well as I should (Use past tense if parents are not living).	62
64.	I am too sensitive to things my family say	64
66.	I should love my family more	66
80.	I am satisfied with the way I treat other people	80
82.	I should be more polite to others	82
84.	I ought to get along better with other people	84
96.	I gossip a little at times	96
98.	At times I feel like swearing	98

Responses -	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

		Item No.
14.	I feel good most of the time	14
16.	I do poorly in sports and games	16
18.	I am a poor sleeper	18
32.	I do what is right most of the time	32
34.	I sometimes use unfair means to get ahead	34
36.	I have trouble doing the things that are right	36
50.	I solve my problems quite easily	50
52.	I change my mind a lot	52
54.	I try to run away from my problems	54
68.	I do my share of work at home	68
70.	I quarrel with my family	70
72.	I do not act like my family thinks I should	72
86.	I see good points in all the people I meet	86
88.	I do not feel at ease with other people	88
90.	I find it hard to talk with strangers	90
100.	Once in a while I put off until tomorrow what I ought to do today	100

Responses-	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

		Item No.
13.	I take good care of myself physically.....	13
15.	I try to be careful about my appearance.....	15
17.	I often act like I am "all thumbs".....	17
31.	I am true to my religion in my everyday life.....	31
33.	I try to change when I know I'm doing things that are wrong.....	33
35.	I sometimes do very bad things.....	35
49.	I can always take care of myself in any situation.....	49
51.	I take the blame for things without getting mad.....	51
53.	I do things without thinking about them first.....	53
67.	I try to play fair with my friends and family.....	67
69.	I take a real interest in my family.....	69
71.	I give in to my parents. (Use past tense if parents are not living).....	71
85.	I try to understand the other fellow's point of view.....	85
87.	I get along well with other people.....	87
89.	I do not forgive others easily.....	89
99.	I would rather win than lose in a game.....	99

Responses -	Completely false	Mostly false	Partly false and partly true	Mostly true	Completely true
	1	2	3	4	5

APPENDIX D

The Family Scale

READ EACH ITEM CAREFULLY AND UNDERLINE QUICKLY THE PHRASE WHICH BEST EXPRESSES YOUR FEELING ABOUT THE STATEMTNT. Whenever possible, let your own personal experience determine your answer. Do not spend much time on any item. If in doubt, underline the phrase which seems most nearly to express your present feeling about the statement. WORK RAPIDLY. Be sure to answer every item.

KEY (1) Strongly agree (2) Agree (3) Undecided (4) Disagree (5) Strongly Disagree

Using the above key, underline the number that corresponds.

1. Home is the most pleasant place in the world. (1) (2) (3) (4) (5)
2. Parents expect too much from their children. (1) (2) (3) (4) (5)
3. One ought to discuss important plans with the members of his family. (1) (2) (3) (4) (5)
4. In making plans for the future, parents should be given first consideration. (1) (2) (3) (4) (5)
5. A man should be willing to sacrifice anything for his family. (1) (2) (3) (4) (5)
6. Parents too often expect their grown-up children to obey them. (1) (2) (3) (4) (5)
7. One cannot find as much understanding at home as elsewhere. (1) (2) (3) (4) (5)
8. One owes his greatest obligation to his family. (1) (2) (3) (4) (5)
9. It is hard to keep a pleasant disposition at home. (1) (2) (3) (4) (5)
10. People in the family can be trusted completely. (1) (2) (3) (4) (5)
11. One becomes nervous at home. (1) (2) (3) (4) (5)

12. The joys of family life are much over-rated. (1) (2) (3) (4) (5)

13. One's parents usually treat him fairly and sensibly. (1) (2) (3) (4) (5)

14. One should confide more fully in members of his family. (1) (2) (3) (4) (5)

15. One feels most contented at home. (1) (2) (3) (4) (5)

16. Family ties are strengthened when times are hard. (1) (2) (3) (4) (5)

17. Parents are inclined to be too old-fashioned in their ideas. (1) (2) (3) (4) (5)

18. Members of the family are too curious about one's personal affairs. (1) (2) (3) (4) (5)

19. Parents keep faith in their children even though they cannot find work. (1) (2) (3) (4) (5)

20. Parents are too particular about the kind of company one keeps. (1) (2) (3) (4) (5)

21. Obligations to one's family are a great handicap to a person today. (1) (2) (3) (4) (5)

22. So far as ideas are concerned, parents and children live in different worlds. (1) (2) (3) (4) (5)

APPENDIX E

The Machiavellianism Scale

(Mach)

On the next two pages are some sentences. Each sentence says something about the world or about people. There are no right or wrong answers. You will probably agree with some of the sentences and disagree with others. We want to know how much you agree or disagree. You can show how much you agree or disagree with each sentence by circling one of the answers next to each sentence.

If you agree very much with the sentence, put a circle around: (1)
Agree very much
If you agree a little with the sentence, put a circle around: (2)
Agree a little
If you disagree a little with the sentence, put a circle around: (4)
Disagree a little
If you disagree very much with the sentecne, put a circle around: (5)
Disagree very much
Read each sentence, decide whether you agree or disagree and how much. Then you will put a circle around the answer that best tells how you feel about the sentence.

1. Never tell anyone why you did something unless it will help you. (1) (2) (4) (5)
2. Most people are good and kind. (1) (2) (4) (5)
3. The best way to get along with people is to tell them things that make them happy. (1) (2) (4) (5)

4. You should do something only when you are sure it is right. (1) (2) (4) (5)

5. It is smartest to believe that all people will be mean if they have a chance. (1) (2) (4) (5)

6. You should always be honest, no matter what. (1) (2) (4) (5)

7. Sometimes you have to hurt other people to get what you want. (1) (2) (4) (5)

8. Most people won't work hard unless you make them do it. (1) (2) (4) (5)

9. It is better to be ordinary and honest than famous and dishonest. (1) (2) (4) (5)

10. It's better to tell someone why you want him to help you than to make up a good story to get him to do it. (1) (2) (4) (5)

11. Successful people are mostly honest and good. (1) (2) (4) (5)

12. Anyone who completely trusts anyone else is asking for trouble. (1) (2) (4) (5)

13. A criminal is just like other people except that he is stupid enough to get caught. (1) (2) (4) (5)

14. Most people are brave. (1) (2) (4) (5)

15. It is smart to be nice to important people even if you don't like them. (1) (2) (4) (5)

16. It is possible to be good in every way. (1) (2) (4) (5)

17. Most people can not be easily fooled. (1) (2) (4) (5)

18. Sometimes you have to cheat a little to get what you want. (1) (2) (4) (5)

19. It is never right to tell a lie. (1) (2) (4) (5)

20. It hurts more to loose money than to loose a friend. (1) (2) (4) (5)

APPENDIX F

Gates Reading Survey Form M 1

READING VOCABULARY TEST

ctions: Look at the first word in sample line 39. n find another word in the same line that means same or nearly the same as the first word. Notice letter in front of this word. Now find the place *on the answer sheet* for line 39. The space under the letter of the right word is marked. Go over this mark with your pencil. Then mark the right space for sample line 40.

mples:

39. dog	A cloud	B bird	C animal	D dress	E fish	
40. red	F man	G song	H tree	I sit	J color	

w read each line on this and the next page and the word that means the same or nearly the e as the first word in each line. Mark the space *on the answer sheet* under the letter of the right word. If you skip a line, skip its place on the answer sheet.

41. baby	A color	B book	C child	D hat	E song	
42. rain	F wood	G water	H color	I bird	J food	
43. play	A seat	B angry	C game	D food	E farm	
44. wood	F water	G tree	H color	I food	J bird	
45. ten	A number	B end	C men	D top	E this	
46. sing	F son	G long	H music	I fruit	J drink	
47. penny	A heavy	B fence	C shell	D coin	E soft	
48. step	F talk	G farm	H girl	I strike	J walk	
49. roof	A water	B cover	C bottom	D shout	E cloud	
50. above	F over	G under	H table	I inside	J after	
51. ill	A strong	B cold	C bitter	D well	E sick	
52. nickel	F metal	G injury	H plant	I bird	J break	
53. ninety	A building	B money	C large	D number	E unsteady	
54. curtain	F number	G song	H food	I bird	J cloth	
55. rise	A before	B catch up	C fall under	D get up	E anger	
56. mischief	F trouble	G mistake	H master	I clothing	J confusion	
57. reply	A swim	B lift	C speak	D food	E house	
58. onion	F stream	G bird	H metal	I plain	J vegetable	
59. injury	A question	B building	C interest	D hurt	E mark	
60. scamper	F fill up	G sweep	H run	I scrub	J stumble	
61. quarrel	A fight	B pail	C question	D bottle	E shape	
62. flattery	F light	G bird	H dress	I attack	J praise	
63. reliable	A helpless	B dependable	C dishonest	D stormy	E stern	
64. gallant	F swift	G brave	H ugly	I hard	J watery	
65. suitable	A garment	B cottage	C cheap	D proper	E durable	

GO RIGHT ON TO NEXT PAGE

66. overlook F cheapen G miss H deceive I scorn J leap
67. execute A kill B excuse C examine D preserve E shout
68. linger F hurry up G plant H trade I broaden J stay on
69. slacken A wash B whip C cool off D slow up E accuse
70. plough F bread G bird H implement I illness J book

71. regulate A decide B count C control D assemble E divide
72. minuet F comb G clock H weapon I boat J dance
73. extinguish A enter B contest C divide D put out E leave
74. recollect F numbers G remember H add up I demand J steal
75. obvious A cloudy B secret C tasty D selfish E apparent

76. scurvy F seaweed G overcoat H hurrying I disease J food
77. charitable A stingy B boisterous C constructive D vicious E generous
78. accurate F correct G polite H clean I machine J measure
79. gondola A pole B animal C boat D engine E gardener
80. hideous F noisy G stormy H selfish I ugly J shiny

81. flank A company B fence C fresh D side E honest
82. passionate F feel strongly G full H confused I stick to J dirty
83. meditate A color B model C argue D deceive E think
84. jeopardy F freedom G flower H danger I wonder J debt
85. righteous A homely B just C smart D sunny E old

86. potent F powerful G showy H thug I humble J sad
87. tantalize A dance B confine C oppress D tease E transform
88. luminous F foolish G delicate H shining I round J dangerous
89. remorse A recover B regret C redesign D move E defy
90. savory F pleasing G savage H stingy I unclean J shining

91. rapture A injury B noise C joy D break E shame
92. hallucination F anteroom G federation H trap I delusion J weapon
93. transcend A excel B sail C twist D slide E falsify
94. modulation F engraving G modification H modernize I moulding J repair
95. pertinacious A smooth B complicated C precious D tenacious E gracious

96. compulsory F ordinary G required H costly I voluntary J uncertainty
97. tribulation A trouble B stream C tribal D taxes E celebration
98. bequeath F flowers G curse H give I decorate J bless
99. precocious A expensive B prepared C unwise D excellent E advanced
100. confiscate F construct G confide H flatter I imprison J seize

STOP HERE

APPENDIX G

Histograms

HISTOGRAM OF THE VARIABLE ONSET AGE OF HEROIN USE FOR THE METHADONE STONE-LINDBERGH Ss, THE METHADONE V.A. Ss, HEROIN ADDICT Ss, OFF-METHADONE Ss, DROP-OUT 7-12 WEEKS, AND DROP-OUT 1-6 WEEKS

1. Methadone Stone-Lindbergh Ss N = 143

CUM FREQ	FREQ	RANGE	
4	4	12.50 - 14.50	XXXX
23	19	14.50 - 16.50	XXXXXXXXXXXXXXXXXX
69	46	16.50 - 18.50	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
102	33	18.50 - 20.50	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
118	16	20.50 - 22.50	XXXXXXXXXXXXXXXX
131	13	22.50 - 24.50	XXXXXXXXXXXXX
140	9	24.50 - 26.50	XXXXXXXXX
141	1	28.50 - 30.50	X
142	1	32.50 - 34.50	X
143	1	36.50 - 38.50	X

2. Veteran Administration Ss N = 43

CUM FREQ	FREQ	RANGE	
10	10	13.50 - 16.50	XXXXXXXXXX
24	14	16.50 - 19.50	XXXXXXXXXXXXXX
32	8	19.50 - 22.50	XXXXXXXX
39	7	22.50 - 24.50	XXXXXXX
42	3	32.50 - 35.50	XXX
43	1	38.50 - 40.50	X

3. Off-Methadone Ss N = 40

CUM FREQ	FREQ	RANGE	
1	1	12.50 - 14.50	X
23	22	14.50 - 16.50	XXXXXXXXXXXXXXXXXXXXX
34	11	16.50 - 18.50	XXXXXXXXXX
39	5	18.50 - 20.50	XXXXX
40	1	30.50 - 32.50	X

4. Heroin Ss N = 39

CUM FREQ	FREQ	RANGE	
9	9	15.50 - 16.50	XXXXXXXXX
13	4	16.50 - 17.50	XXXX
21	8	17.50 - 18.50	XXXXXXXX
25	4	19.50 - 20.50	XXXX
28	3	20.50 - 21.50	XXX
34	6	26.50 - 27.50	XXXXXX
35	1	27.50 - 28.50	X
39	4	35.50 - 36.50	XXXX

5. Drop-Outs 7-12 Weeks N = 26

CUM FREQ	FREQ	RANGE	
4	5	15.50 - 16.50	XXXXX
9	5	16.50 - 17.50	XXXXX
13	4	19.50 - 20.50	XXXX
18	5	20.50 - 21.50	XXXXX
23	5	21.50 - 22.50	XXXXX
26	2	22.50 - 23.50	XX

6. Drop-Outs 1-6 Weeks N = 28

CUM FREQ	FREQ	RANGE	
7	7	15.50 - 16.50	XXXXXXX
8	1	16.50 - 17.50	X
10	2	18.50 - 19.50	XX
12	2	19.50 - 20.50	XX
14	2	20.50 - 21.50	XX
19	5	21.50 - 22.50	XXXXX
21	2	22.50 - 23.50	XX
24	3	23.50 - 24.50	XXX
26	2	24.50 - 25.50	XX
28	2	26.50 - 27.50	XX

HISTOGRAM OF THE VARIABLE LENGTH OF TIME ON HEROIN IN MONTHS FOR THE METHADONE STONE-LINDBERGH Ss, THE METHADONE V.A. Ss, HEROIN ADDICT Ss, OFF-METHADONE Ss, DROP-OUT 7-12 WEEKS, AND DROP-OUT 1-6 WEEKS

1. Methadone Stone-Lindbergh Ss N = 143

CUM FREQ	FREQ	RANGE	
109	143	109	7.50 - 70.50 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
129	34	20	70.50 - 133.50 XXXXXXXXXX
133	14	4	133.50 - 196.50 XX
141	10	8	196.50 - 259.50 XXXX
141	2	0	259.50 - 322.50
143	2	2	322.50 - 385.50 X

2. Veteran Administration Ss N = 43

CUM	FREQ	FREQ	RANGE
22	43	22	11.50 - 43.50 XXXXXXXXXXXXXXXXXXXXXX
31	21	9	43.50 - 75.50 XXXXXXXXX
32	12	1	75.50 - 107.50 X
35	11	3	107.50 - 139.50 XXX
40	8	5	139.50 - 171.50 XXXXX
42	3	2	235.50 - 267.50 XX
43	1	1	299.50 - 331.50 X

3. Off-Methadone Ss N = 40

CUM	FREQ	FREQ	RANGE
34	40	34	11.50 - 104.50 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
39	6	5	104.50 - 197.50 XXXXX
39	1	0	197.50 - 290.50
39	1	0	290.50 - 383.50
39	1	0	383.50 - 476.50
40	1	1	476.50 - 569.50 X

4. Heroin Ss N = 39

CUM	FREQ	FREQ	RANGE
30	39	30	17.50 - 49.50 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
34	9	4	49.50 - 81.50 XXXX
38	5	4	81.50 - 113.50 XXXX
38	1	0	113.50 - 145.50
38	1	0	145.50 - 177.50
39	1	1	177.50 - 209.50 X

5. Drop-Outs 7-12 Weeks N = 26

CUM	FREQ	FREQ	RANGE
6	26	6	11.50 - 20.50 XXXXXX
12	19	6	20.50 - 29.50 XXXXXX
17	13	5	29.50 - 38.50 XXXXX
22	8	5	47.50 - 56.50 XXXXX
24	3	2	56.50 - 65.50 XX
26	1	1	92.50 - 101.50 X

6. Drop-Outs 1-6 Weeks N = 28

CUM	FREQ	FREQ	RANGE
6	28	6	11.50 - 18.50 XXXXXX
17	22	11	18.50 - 25.50 XXXXXXXXXXX
19	11	2	25.50 - 32.50 XX
20	9	1	32.50 - 39.50 X
23	8	3	39.50 - 46.50 XXX
24	5	1	46.50 - 53.50 X
26	4	2	67.50 - 74.50 XX
28	2	2	74.50 - 81.50 XX

HISTOGRAM OF THE VARIABLE NUMBER OF ARRESTS FOR THE METHADONE STONE-LINDBERGH Ss, THE METHADONE V.A. Ss, HEROIN ADDICT Ss, OFF-METHADONE Ss, DROP-OUT 7-12 WEEKS, AND DROP-OUT 1-6 WEEKS

1. Methadone Stone-Lindbergh Ss N = 143

CUM FREQ	FREQ	RANGE	
111 143	111	-0.50 - 2.50	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
129 32	18	2.50 - 5.50	XXXXXXXXX
132 14	3	5.50 - 8.50	X
138 11	6	8.50 - 11.50	XXX
140 5	2	17.50 - 20.50	X
142 3	2	29.50 - 32.50	X

2. Veteran Administration Ss N = 43

CUM FREQ	FREQ	RANGE	
23 43	23	-0.50 - 1.50	XXXXXXXXXXXXXXXXXXXXXXX
29 20	6	1.50 - 2.50	XXXXXX
33 14	4	2.50 - 3.50	XXXX
37 10	4	3.50 - 4.50	XXXX
39 6	2	4.50 - 5.50	XX
40 4	1	7.50 - 8.50	X
43 3	3	9.50 - 10.50	XXX

3. Off-Methadone Ss N = 40

CUM FREQ	FREQ	RANGE	
17 40	17	-0.50 - 1.50	XXXXXXXXXXXXXXXXX
33 23	16	1.50 - 3.50	XXXXXXXXXXXXXXXX
36 7	3	3.50 - 5.50	XXX
37 4	1	9.50 - 11.50	X
40 3	3	19.50 - 21.50	XXX

4. Heroin Ss N = 39

CUM FREQ	FREQ	RANGE	
19 39	19	-0.50 - 0.50	XXXXXXXXXXXXXXXXXXX
31 20	12	0.50 - 1.50	XXXXXXXXXXXX
34 8	3	1.50 - 2.50	XXX
35 5	1	3.50 - 4.50	X
39 4	4	9.50 - 10.50	XXXX

5. Drop-Outs 7-12 Weeks N = 26

CUM FREQ	FREQ	RANGE	
17 26	18	-0.50 - 0.50	XXXXXXXXXXXXXXXXXX
19 8	2	0.50 - 1.50	XX
23 6	4	1.50 - 2.50	XXXX
26 2	2	4.50 - 5.50	XX

6. Drop-Outs 1-6 Weeks N = 28

CUM FREQ	FREQ	RANGE	
15 28	15	-0.50 - 0.50	XXXXXXXXXXXXXXX
20 13	5	0.50 - 1.50	XXXXX
24 8	4	1.50 - 2.50	XXXX
28 4	4	2.50 - 3.50	XXXX

HISTOGRAM OF THE VARIABLE LENGTH OF TIME WORKING IN MONTHS FOR THE METHADONE STONE-LINDBERGH Ss, THE METHADONE V.A. Ss, HEROIN ADDICT Ss, OFF-METHADONE Ss, Drop-Out 7-12 WEEKS, AND DROP-OUT 1-6 WEEKS

1. Methadone Stone-Lindbergh Ss N = 143

CUM	FREQ	FREQ	RANGE	
77	143	77	-0.50 - 9.50	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
106	66	29	9.50 - 19.50	XXXXXXXXXXXXXXXXXXXXXXXXXXXXX
112	37	6	19.50 - 29.50	XXXXXX
117	31	5	29.50 - 39.50	XXXXX
120	26	3	39.50 - 49.50	XXX
123	23	3	49.50 - 59.50	XXX
134	20	11	59.50 - 69.50	XXXXXXXXXXX
143	9	9	89.50 - 99.50	XXXXXXXXX

2. Veteran Administration Ss N = 43

CUM	FREQ	FREQ	RANGE	
30	43	30	-0.50 - 10.50	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
32	13	2	10.50 - 21.50	XX
39	11	7	21.50 - 32.50	XXXXXXX
40	4	1	32.50 - 43.50	X
43	3	3	98.50 - 109.50	XXX

3. Off-Methadone Ss N = 40

CUM	FREQ	FREQ	RANGE	
21	40	21	-0.50 - 2.50	XXXXXXXXXXXXXXXXXXXXX
26	19	5	2.50 - 5.50	XXXXX
31	14	5	5.50 - 8.50	XXXXX
34	9	3	8.50 - 11.50	XXX
37	6	3	11.50 - 14.50	XXX
38	3	1	17.50 - 20.50	X
39	2	1	20.50 - 23.50	X
40	1	1	29.50 - 32.50	X

4. Heroin Ss N = 39

CUM	FREQ	FREQ	RANGE	
20	39	20	-0.50 - 0.50	XXXXXXXXXXXXXXXXXXXX
27	19	7	0.50 - 1.50	XXXXXXX
31	12	4	1.50 - 2.50	XXXX
38	8	7	35.50 - 36.50	XXXXXXX
39	1	1	60.50 - 61.50	X

5. Drop-Outs 7-12 Weeks N = 26

CUM	FREQ	FREQ	RANGE	
18	26	19	-0.50 - 10.50	XXXXXXXXXXXXXXXXXXX
19	7	1	21.50 - 32.50	X
21	6	2	54.50 - 65.50	XX
23	4	2	65.50 - 76.50	XX
25	2	2	98.50 - 109.50	XX

6. Drop-Outs 1-6 Weeks N = 28

CUM	FREQ	FREQ	RANGE	
20	28	20	-0.50 - 10.50	XXXXXXXXXXXXXXXXXXXX
22	8	2	10.50 - 21.50	XX
23	6	1	21.50 - 32.50	X
25	5	2	32.50 - 43.50	XX
26	3	1	54.50 - 65.50	X
28	2	2	98.50 - 109.50	XX

HISTOGRAM OF THE VARIABLE GRADE READING LEVEL FOR THE METHADONE STONE-LINDBERGH Ss, THE METHADONE V.A. Ss, HEROIN ADDICT Ss, OFF-METHADONE Ss, DROP-OUT 7-12 WEEKS, AND DROP-OUT 1-6 WEEKS

1. Methadone Stone-Lindbergh Ss N = 143

CUM FREQ	FREQ		RANGE	
7	143	7	5.50 - 6.50	XXXXXXX
14	136	7	6.50 - 7.50	XXXXXXX
19	129	5	7.50 - 8.50	XXXXX
20	124	1	8.50 - 9.50	X
36	123	16	9.50 - 10.50	XXXXXXXXXXXXXXXX
118	107	82	10.50 - 11.50	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
143	25	25	11.50 - 12.50	XXXXXXXXXXXXXXXXXXXXXXXXX

2. Veteran Administration Ss N = 43

CUM FREQ	FREQ		RANGE	
1	43	1	6.50 - 7.50	X
2	42	1	7.50 - 7.50	X
3	41	1	7.50 - 8.50	X
4	40	1	8.50 - 9.50	X
8	39	4	9.50 - 9.50	XXXX
16	35	8	9.50 - 10.50	XXXXXXXX
22	27	6	10.50 - 11.50	XXXXXX
31	21	9	11.50 - 11.50	XXXXXXXXX
36	12	5	11.50 - 12.50	XXXXX
43	7	7	12.50 - 13.50	XXXXXXX

3. Off-Methadone Ss N = 40

CUM FREQ	FREQ		RANGE	
2	40	2	5.70 - 6.70	XX
5	38	3	7.70 - 8.70	XXX
12	35	7	8.70 - 9.70	XXXXXXX
30	28	18	9.70 - 10.70	XXXXXXXXXXXXXXXXXX
37	10	7	10.70 - 11.70	XXXXXXX
40	3	3	11.70 - 12.70	XXX

4. Heroin Ss N = 39

CUM FREQ	FREQ		RANGE	
5	39	5	6.00 - 7.00	XXXXX
10	34	5	7.00 - 8.00	XXXXX
12	29	2	8.00 - 9.00	XX
17	27	5	9.00 - 10.00	XXXXX
30	22	13	10.00 - 11.00	XXXXXXXXXXXXX
39	9	9	11.00 - 12.00	XXXXXXXXX

5. Drop-Out 7-12 Weeks N = 26

CUM FREQ	FREQ		RANGE	
14	26	15	10.10 - 11.10	XXXXXXXXXXXXXXX
22	11	8	11.10 - 12.10	XXXXXXXX
26	3	3	12.10 - 13.10	XXX

6. Drop-Out 1-6 Weeks N = 28

CUM FREQ	FREQ		RANGE	
4	28	4	7.20 - 8.20	XXXX
8	24	4	8.20 - 9.20	XXXX
11	20	3	9.20 - 10.20	XXX
22	17	11	10.20 - 11.20	XXXXXXXXXXX
28	6	6	11.20 - 12.20	XXXXXX

APPENDIX H

Intercorrelations of the Demographic and Personality Variables for All the Groups in the Study

Matrix of Intercorrelations for the Methadone Stone-Lindbergh Clinic Patients

THE NUMBER OF SUBJECTS IS 143
THE NUMBER OF VARIABLES IS 29

VARIABLE NUMBER 1 IS THE AGE
VARIABLE NUMBER 2 IS THE NUMBER OF YEARS OF EDUCATION
VARIABLE NUMBER 3 IS THE AGE OF DRUG USE ONSET
VARIABLE NUMBER 4 IS THE AGE OF ONSET OF HEROIN USE
VARIABLE NUMBER 5 IS THE LENGTH OF HEROIN ADDICTION IN MONTHS
VARIABLE NUMBER 6 IS THE TOTAL NUMBER OF ARRESTS
VARIABLE NUMBER 7 IS THE LONGEST PERIOD OF TIME HEROIN FREE
VARIABLE NUMBER 8 IS THE LENGTH OF TIME ON METHADONE IN WEEKS
VARIABLE NUMBER 9 IS THE LENGTH OF TIME IN THERAPY
VARIABLE NUMBER 10 IS THE LENGTH OF TIME WORKING IN MONTHS
VARIABLE NUMBER 11 IS THE FAMILY SCALE SCORE
VARIABLE NUMBER 12 IS THE MACH SCALE SCORE
VARIABLE NUMBER 13 IS THE TENNESSEE SELF CONCEPT SCALE
VARIABLE NUMBER 14 IS THE FACTOR A
VARIABLE NUMBER 15 IS THE FACTOR B
VARIABLE NUMBER 16 IS THE FACTOR C
VARIABLE NUMBER 17 IS THE FACTOR E
VARIABLE NUMBER 18 IS THE FACTOR F
VARIABLE NUMBER 19 IS THE FACTOR G
VARIABLE NUMBER 20 IS THE FACTOR H
VARIABLE NUMBER 21 IS THE FACTOR I
VARIABLE NUMBER 22 IS THE FACTOR L
VARIABLE NUMBER 23 IS THE FACTOR M
VARIABLE NUMBER 24 IS THE FACTOR N
VARIABLE NUMBER 25 IS THE FACTOR O
VARIABLE NUMBER 26 IS THE FACTOR Q1
VARIABLE NUMBER 27 IS THE FACTOR Q2
VARIABLE NUMBER 28 IS THE FCATOR Q3
VARIABLE NUMBER 29 IS THE FACTOR Q4

Matrix of Intercorrelations for the Methadone Stone-Lindbergh Clinic Patients cont.

	1	2	3	4	5	6	7	8	9	10
1	1.0000	0.0057	0.4912	0.3943	0.7422	0.3795	0.5727	0.1653	-0.1170	0.0061
2	0.0057	1.0000	0.0270	0.0683	-0.0713	-0.1077	0.0146	0.1155	-0.0249	-0.2096
3	0.4912	0.0270	1.0000	0.8224	-0.0379	-0.1399	-0.0219	0.0092	-0.1530	0.0916
4	0.3943	0.0683	0.8224	1.0000	-0.2325	-0.1806	-0.1346	-0.0152	-0.1243	0.1946
5	0.7422	-0.0713	-0.0379	-0.2325	1.0000	0.5505	0.6730	0.0578	-0.1042	-0.1415
6	0.3795	-0.1077	-0.1399	-0.1806	0.5505	1.0000	0.2649	0.1492	0.0109	-0.1030
7	0.5727	0.0146	-0.0219	-0.1346	0.6730	0.2649	1.0000	-0.0351	-0.0489	-0.0671
8	0.1653	0.1155	0.0092	-0.0152	0.0578	0.1492	-0.0351	1.0000	0.1854	0.1628
9	-0.1170	-0.0249	-0.1530	-0.1243	-0.1042	0.0109	-0.0489	0.1854	1.0000	-0.0531
10	0.0061	-0.2096	0.0916	0.1946	-0.1415	-0.1030	-0.0671	0.1628	-0.0531	1.0000
11	-0.4340	-0.1948	-0.1732	-0.1394	-0.2953	-0.2224	-0.2971	-0.2364	0.1218	-0.1331
12	-0.1964	-0.0422	0.0053	0.0020	-0.2256	-0.0828	-0.2271	-0.1823	-0.0723	-0.0028
13	0.3312	0.0388	0.2162	0.2524	0.1759	0.0174	0.1363	0.0702	-0.2981	0.1437
14	-0.0007	0.1817	-0.0501	-0.1010	0.0779	0.1415	0.0394	0.0148	0.0431	-0.2054
15	-0.0641	0.2038	0.0005	0.0203	-0.1250	-0.0816	-0.0416	0.1962	-0.1138	-0.0805
16	0.1395	0.0024	0.0196	0.0223	0.1744	0.0959	0.0516	-0.2069	-0.0742	-0.0838
17	0.0230	0.1451	-0.0714	-0.0098	0.0454	0.0641	0.0289	0.0340	-0.0235	-0.0377
18	0.0473	0.1054	-0.1491	-0.1960	0.1513	0.2087	0.1727	0.0239	0.1834	-0.2650
19	0.0957	-0.1277	0.0884	0.0788	0.0382	-0.0804	0.0682	-0.0789	-0.0401	0.0216
20	0.1053	0.1591	0.1503	0.0737	0.0469	-0.0061	0.0940	0.0501	0.0490	-0.1859
21	0.0656	0.0860	-0.0462	-0.1066	0.2244	0.1921	0.1270	0.0036	0.0656	-0.1506
22	-0.1447	0.0459	0.0220	-0.0299	-0.1082	-0.1875	-0.0513	-0.1687	-0.2039	0.0766
23	0.0654	0.1438	-0.0041	0.0066	0.0771	0.0667	0.1267	0.2099	0.0965	-0.0319
24	0.1946	-0.0713	0.1176	0.0743	0.1259	0.0964	0.0610	0.0652	-0.0076	-0.0120
25	-0.1220	-0.2367	-0.1849	-0.1223	-0.0145	0.1266	-0.0159	-0.2080	0.0836	0.0112
26	-0.0617	0.1279	-0.1731	-0.0435	-0.1160	-0.0602	0.0075	0.1819	-0.0300	0.1626
27	-0.0589	-0.0049	-0.0571	0.0076	-0.1283	-0.2679	-0.0249	-0.0762	-0.0272	0.0979
28	0.2599	0.0526	0.0014	-0.0889	0.3710	0.3184	0.2933	0.0397	0.0349	-0.0610
29	-0.1954	-0.0012	-0.0292	-0.0499	-0.2246	-0.0315	-0.1952	0.0633	0.0274	-0.0660

Matrix of Intercorrelations for the Methadone Stone-Lindbergh Clinic Patients cont.

	11	12	13	14	15	16	17	18	19	20
1	-0.4340	-0.1964	0.3312	-0.0007	-0.0841	0.1595	0.0230	0.0473	0.0957	0.1053
2	-0.1948	-0.0422	0.0388	0.1817	0.2038	0.0024	0.1451	0.1054	-0.1277	0.1591
3	-0.1732	0.0033	0.2162	-0.0501	0.0005	0.0196	-0.0714	-0.1491	0.0884	0.1503
4	-0.1394	0.0020	0.2524	-0.1010	0.0203	0.0223	-0.0098	-0.1960	0.0788	0.0737
5	-0.2953	-0.2256	0.1759	0.0779	-0.1250	0.1744	0.0454	0.1513	0.0382	0.0469
6	-0.2224	-0.0828	0.0174	0.1415	-0.0816	0.0959	0.0641	0.2087	-0.0804	-0.0061
7	-0.2971	-0.2271	0.1363	0.0394	-0.0416	0.0516	0.0289	0.1727	0.0682	0.0940
8	-0.2364	-0.1823	0.0702	0.0148	0.1962	-0.2069	0.0340	0.0239	-0.0789	0.0501
9	0.1218	-0.0723	-0.2981	0.0431	-0.1138	-0.0742	-0.0235	0.1834	-0.0401	0.0490
10	-0.1331	-0.0028	0.1437	-0.2054	-0.0805	-0.0838	-0.0377	-0.2650	0.0216	-0.1859
11	1.0000	0.3977	-0.3439	-0.0674	-0.0470	0.0713	0.0701	-0.1379	-0.0563	-0.1441
12	0.3977	1.0000	-0.2028	-0.1509	0.0813	-0.0785	0.1246	-0.1246	-0.2069	-0.1329
13	-0.3439	-0.2028	1.0000	0.1360	0.1353	0.1428	0.0857	0.0023	0.0986	0.1273
14	-0.0674	-0.1509	0.1360	1.0000	0.0863	0.1896	0.1569	0.3863	0.2257	0.3591
15	-0.0470	0.0813	0.1353	0.0863	1.0000	-0.0968	0.3336	0.1449	-0.2124	0.1961
16	0.0713	-0.0785	0.1428	0.1896	-0.0968	1.0000	0.2833	0.0068	0.1046	0.2358
17	0.0701	0.1246	0.0857	0.1569	0.3336	0.2833	1.0000	0.1772	-0.2988	0.1639
18	-0.1379	-0.1246	0.0023	0.3863	0.1449	0.0068	0.1772	1.0000	0.0052	0.1824
19	-0.0563	-0.2069	0.0986	0.2257	-0.2124	0.1046	-0.2988	0.0052	1.0000	0.0663
20	-0.1441	-0.1329	0.1273	0.3591	0.1961	0.2358	0.1639	0.1824	0.0663	1.0000
21	-0.0081	0.0334	-0.2234	0.0642	0.1347	-0.0661	-0.0199	0.0821	-0.1122	0.0303
22	0.0814	0.0997	-0.0271	0.0929	0.0803	0.0300	0.2752	0.0365	0.0962	-0.0604
23	-0.1511	-0.1099	-0.1575	0.1438	0.1583	-0.2963	-0.3527	0.1133	-0.0409	0.0611
24	-0.0761	0.0251	-0.0242	-0.2634	0.0010	-0.1896	-0.1414	-0.0996	0.0068	-0.1876
25	0.1522	0.0116	-0.0459	-0.1404	0.0458	-0.3392	-0.0469	0.1009	0.0686	-0.3449
26	-0.0533	-0.1652	0.2184	0.0394	0.1553	0.0712	-0.0085	0.0105	-0.0431	0.0023
27	0.0608	0.2176	-0.1467	-0.3575	0.1687	-0.3405	-0.0657	-0.1118	0.0372	-0.2017
28	-0.3346	-0.2341	0.1674	0.3666	-0.1158	0.1089	-0.0407	0.3121	0.0961	0.2277
29	0.1526	0.0953	-0.1784	0.1262	0.2608	-0.4713	-0.0226	0.1410	-0.0023	-0.1466

Matrix of Intercorrelations for the Methadone Stone-Lindbergh Clinic Patients cont.

	21	22	23	24	25	26	27	28	29
1	0.0856	-0.1447	0.0654	0.1946	-0.1220	-0.0817	-0.0589	0.2599	-0.1954
2	0.0360	0.0459	0.1438	-0.0713	-0.2367	0.1279	-0.0049	0.0526	-0.0012
3	-0.0462	0.0220	-0.0041	0.1176	-0.1849	-0.1731	-0.0571	0.0014	-0.0292
4	-0.1066	-0.0299	0.0066	0.0743	-0.1223	-0.0435	0.0076	-0.0889	-0.0499
5	0.2244	-0.1082	0.0771	0.1259	-0.0145	-0.1160	-0.1283	0.3710	-0.2246
6	0.1921	-0.1875	0.0667	0.0964	0.1266	-0.0602	-0.2679	0.3184	-0.0315
7	0.1270	-0.0513	0.1267	0.0610	-0.0159	0.0075	-0.0249	0.2933	-0.1952
8	0.0036	-0.1687	0.2099	0.0652	-0.2080	0.1819	-0.0762	0.0397	0.0633
9	0.0656	-0.2039	0.0965	-0.0076	0.0836	-0.0300	-0.0272	0.0349	0.0274
10	-0.1506	0.0766	-0.0319	-0.0120	0.0112	0.1626	0.0979	-0.0610	-0.0660
11	-0.0081	0.0814	-0.1511	-0.0761	0.1522	-0.0833	0.0808	-0.3346	0.1526
12	0.0394	0.0997	-0.1099	0.0251	0.0116	-0.1652	0.2176	-0.2341	0.0953
13	-0.2234	-0.0271	-0.1575	-0.0242	-0.0459	0.2184	-0.1467	0.1674	-0.1784
14	0.0642	0.0929	0.1438	-0.2634	-0.1404	0.0394	-0.3575	0.3666	0.1262
15	0.1347	0.0803	0.1583	0.0010	0.0458	0.1553	0.1687	-0.1158	0.2608
16	-0.0661	0.0300	-0.2963	-0.1896	-0.3392	0.0712	-0.3405	0.1089	-0.4713
17	-0.0199	0.2752	-0.3527	-0.1414	-0.0469	-0.0085	-0.0657	-0.0407	-0.0226
18	0.0821	0.0365	0.1133	-0.0996	0.1009	0.0105	-0.1118	0.3121	0.1410
19	-0.1122	0.0962	-0.0409	0.0068	0.0686	-0.0431	0.0372	0.0961	-0.0023
20	0.0303	-0.0604	0.0611	-0.1876	-0.3449	0.0023	-0.2017	0.2277	-0.1466
21	1.0000	-0.0829	0.3407	0.1039	0.0906	-0.0089	0.0439	0.1644	0.0410
22	-0.0829	1.0000	-0.3492	-0.0042	0.0311	-0.2161	0.0488	-0.1407	0.0589
23	0.3407	-0.3492	1.0000	0.0526	0.0285	0.3003	0.0822	0.1978	0.2490
24	0.1039	-0.0042	0.0526	1.0000	0.3688	-0.1275	0.1731	-0.1333	0.1366
25	0.0906	0.0311	0.0285	0.3688	1.0000	0.0668	0.2343	-0.1218	0.3563
26	-0.0089	-0.2161	0.3003	-0.1275	0.0668	1.0000	0.0086	0.0585	0.1521
27	0.0439	0.0488	0.0822	0.1731	0.2343	0.0086	1.0000	-0.2279	0.0434
28	0.1644	-0.1407	0.1978	-0.1333	-0.1218	0.0585	-0.2279	1.0000	-0.0214
29	0.0410	0.0589	0.2490	0.1366	0.3563	0.1521	0.0434	-0.0214	1.0000

Matrix of Intercorrelations for the Methadone V.A. Clinic Patients cont.

	1	2	3	4	5	6	7	8	9	10
1	1.0000	-0.1094	0.5758	0.5827	0.6388	0.0854	0.6355	0.2078	-0.0166	0.5168
2	-0.1094	1.0000	0.2919	0.2380	-0.1101	-0.1787	-0.0692	-0.1777	0.2939	0.2305
3	0.5758	0.2919	1.0000	0.9516	0.1208	-0.2331	0.4585	-0.1590	-0.0674	0.3757
4	0.5827	0.2380	0.9516	1.0000	0.1480	-0.1991	0.5312	-0.1288	-0.1339	0.3764
5	0.6388	-0.1101	0.1208	0.1480	1.0000	0.0886	0.5619	0.1983	0.1956	0.3593
6	0.0854	-0.1787	-0.2331	-0.1991	0.0886	1.0000	-0.0528	0.5504	-0.2136	0.1776
7	0.6355	-0.0692	0.4585	0.5312	0.5619	-0.0528	1.0000	-0.0239	-0.0200	0.1105
8	0.2078	-0.1777	-0.1590	-0.1288	0.1983	0.5504	-0.0239	1.0000	-0.0231	0.2284
9	-0.0166	0.2939	-0.0674	-0.1339	0.1956	-0.2136	-0.0200	-0.0231	1.0000	-0.1530
10	0.5168	0.2305	0.3757	0.3764	0.3593	0.1776	0.1105	0.2284	-0.1530	1.0000
11	-0.3384	0.0782	-0.2719	-0.3088	-0.1042	-0.2017	0.0485	0.0503	0.1448	-0.4632
12	-0.1709	-0.0676	-0.2670	-0.2708	-0.2239	0.1243	-0.0791	0.3970	-0.0275	-0.4465
13	0.0341	0.0784	0.0915	0.0869	0.0930	0.0482	0.0040	-0.5013	-0.0327	0.2150
14	0.2038	-0.1327	0.2539	0.2767	0.2166	0.0469	0.1365	-0.0245	0.1517	0.0665
15	-0.2287	0.1000	-0.0449	-0.0018	-0.1233	-0.0500	-0.1058	-0.0169	-0.2604	0.3095
16	0.0907	0.3563	0.0898	0.1234	0.1301	0.0928	0.1406	-0.2973	0.2163	0.1127
17	0.2954	-0.1714	0.1352	0.2207	0.2023	-0.1444	0.4054	0.1078	-0.2860	0.3166
18	0.3320	-0.0690	0.3082	0.3561	0.4330	-0.1729	0.6658	0.0040	0.0109	0.1547
19	0.0735	0.1892	0.1329	0.0385	0.1515	-0.0791	-0.0366	-0.3982	0.0922	0.0912
20	0.0768	0.1835	0.1469	0.0787	0.0709	0.1653	0.0573	-0.0611	0.0434	0.2736
21	0.2677	0.4260	0.4562	0.4302	-0.0440	-0.2419	0.2604	-0.2099	-0.0706	0.1554
22	-0.1747	-0.3296	-0.4559	-0.4298	0.0003	-0.0941	-0.0310	0.1666	-0.0714	-0.4405
23	0.4485	-0.0731	0.3714	0.4293	0.2568	-0.0567	0.3121	-0.1216	-0.0971	0.4198
24	-0.3583	-0.0604	-0.1015	-0.1588	-0.3605	-0.1630	-0.3956	-0.0220	0.0388	-0.2874
25	-0.2275	-0.0993	-0.2837	-0.2061	-0.2141	-0.2316	-0.0671	0.1813	-0.0225	-0.0940
26	-0.1716	-0.1243	-0.0256	-0.0800	-0.2178	-0.2890	-0.2602	-0.1150	-0.1008	0.0790
27	-0.0633	0.1827	-0.0752	-0.0585	-0.0508	-0.3644	0.0353	-0.3735	0.1127	-0.1185
28	0.1747	-0.2156	-0.0813	-0.0094	0.2577	-0.0177	0.3633	0.0650	-0.0645	0.0079
29	-0.1926	-0.3202	-0.1506	-0.2265	-0.1133	-0.0981	-0.2539	0.1931	0.0488	-0.3890

Matrix of Intercorrelations for the Methadone V.A. Clinic Patients

THE NUMBER OF SUBJECTS IS 43
THE NUMBER OF VARIABLES IS 29

VARIABLE NUMBER 1 IS THE AGE
VARIABLE NUMBER 2 IS THE NUMBER OF YEARS OF EDUCATION
VARIABLE NUMBER 3 IS THE AGE OF DRUG USE ONSET
VARIABLE NUMBER 4 IS THE AGE OF ONSET OF HEROIN USE
VARIABLE NUMBER 5 IS THE LENGTH OF HEROIN ADDICTION IN MONTHS
VARIABLE NUMBER 6 IS THE TOTAL NUMBER OF ARRESTS
VARIABLE NUMBER 7 IS THE LONGEST PERIOD OF TIME HEROIN FREE
VARIABLE NUMBER 8 IS THE LENGHT OF TIME ON METHADONE IN WEEKS
VARIABLE NUMBER 9 IS THE LENGHT OF TIME IN THERAPY
VARIABLE NUMBER 10 IS THE LENGHT OF TIME WORKING IN MONTHS
VARIABLE NUMBER 11 IS THE FAMILY SCALE SCORE
VARIABLE NUMBER 12 IS THE MACH SCALE SCORE
VARIABLE NUMBER 13 IS THE TENNESSEE SELF CONCEPT SCALE
VARIABLE NUMBER 14 IS THE FACTOR A
VARIABLE NUMBER 15 IS THE FACTOR B
VARIABLE NUMBER 16 IS THE FACTOR C
VARIABLE NUMBER 17 IS THE FACTOR E
VARIABLE NUMBER 18 IS THE FACTOR F
VARIABLE NUMBER 19 IS THE FACTOR G
VARIABLE NUMBER 20 IS THE FACTOR H
VARIABLE NUMBER 21 IS THE FACTOR I
VARIABLE NUMBER 22 IS THE FACTOR L
VARIABLE NUMBER 23 IS THE FACTOR M
VARIABLE NUMBER 24 IS THE FACTOR N
VARIABLE NUMBER 25 IS THE FACTOR O
VARIABLE NUMBER 26 IS THE FACTOR Q1
VARIABLE NUMBER 27 IS THE FACTOR Q2
VARIABLE NUMBER 28 IS THE FCATOR Q3
VARIABLE NUMBER 29 IS THE FACTOR Q4

Matrix of Intercorrelations for the Methadone V.A. Clinic Patients cont.

	11	12	13	14	15	16	17	18	19	20
1	-0.3384	-0.1709	0.0341	0.2038	-0.2287	0.0907	0.2954	0.3520	0.0735	0.0768
2	0.0782	-0.0676	0.0784	-0.1327	0.1000	0.3563	-0.1714	-0.0690	0.1892	0.1835
3	-0.2719	-0.2670	0.0915	0.2539	-0.0449	0.0898	0.1352	0.3082	0.1329	0.1469
4	-0.3088	-0.2708	0.0869	0.2767	-0.0018	0.1234	0.2207	0.3561	0.0385	0.0787
5	-0.1042	-0.2239	0.0930	0.2166	-0.1233	0.1301	0.2023	0.4330	0.1515	0.0709
6	-0.2017	0.1243	0.0482	0.0469	-0.0500	0.0928	-0.1444	-0.1729	-0.0791	0.1653
7	0.0485	-0.0791	0.0040	0.1365	-0.1058	0.1406	0.4054	0.4658	-0.0366	0.0573
8	0.0503	0.3970	-0.5013	-0.0245	-0.0169	-0.2973	0.1078	0.0040	-0.3982	-0.0611
9	0.1448	-0.0275	-0.0327	0.1517	-0.2604	0.2163	-0.2860	0.0109	0.0922	0.0434
10	-0.4632	-0.4465	0.2150	0.0665	0.3095	0.1127	0.3166	0.1547	0.0912	0.2736
11	1.0000	0.4526	-0.4094	-0.2644	0.1819	-0.0891	0.0738	0.0875	-0.1294	-0.0410
12	0.4526	1.0000	-0.6445	-0.3073	-0.0274	-0.3781	0.0160	-0.2878	-0.4611	-0.2276
13	-0.4094	-0.6445	1.0000	0.3277	0.1643	0.5489	-0.2315	0.0650	0.4828	0.4094
14	-0.2644	-0.3073	0.3277	1.0000	0.0622	0.1696	-0.1785	0.3377	0.1406	0.4169
15	0.1819	-0.0274	0.1643	0.0622	1.0000	-0.0853	0.1773	-0.0285	-0.1023	0.2257
16	-0.0891	-0.3781	0.5489	0.1696	-0.0853	1.0000	-0.4036	-0.0251	0.4615	0.2455
17	0.0738	0.0160	-0.2315	-0.1785	0.1773	-0.4036	1.0000	0.4792	-0.4484	0.1699
18	0.0875	-0.2878	0.0650	0.3377	-0.0285	-0.0251	0.4792	1.0000	-0.2755	0.3450
19	-0.1294	-0.4611	0.4828	0.1406	-0.1023	0.4615	-0.4484	-0.2755	1.0000	0.0314
20	-0.0410	-0.2276	0.4094	0.4169	0.2257	0.2455	0.1699	0.3450	0.0314	1.0000
21	-0.0745	0.1230	0.1124	0.1097	0.1891	0.2627	-0.0227	-0.0292	0.0344	0.0289
22	0.3051	0.4242	-0.2275	-0.0708	-0.0046	-0.2395	-0.0427	-0.0716	-0.1217	-0.3300
23	-0.6542	-0.4553	0.3526	0.2492	0.0637	-0.0744	0.2954	0.3904	-0.1890	0.1611
24	0.3675	0.2114	-0.2290	-0.3361	0.1314	-0.3115	0.0405	-0.3713	0.0373	-0.1221
25	0.2147	0.3796	-0.2840	-0.3856	0.1600	-0.2662	0.2875	0.0914	-0.5270	-0.2773
26	-0.0208	-0.0963	0.0912	0.2242	0.2225	-0.0819	0.1164	-0.0046	0.1719	0.2834
27	0.2216	0.1224	-0.0018	-0.3889	0.0165	0.2672	-0.1420	-0.2816	0.3621	-0.3745
28	-0.0051	-0.1120	-0.0179	-0.0665	-0.2384	0.0177	0.3316	0.2307	0.1763	-0.0989
29	0.2633	0.1582	-0.2761	0.2943	-0.0179	-0.4228	-0.2021	0.0200	-0.1383	-0.0048

Matrix of Intercorrelations for the Methadone V.A. Clinic Patients cont.

	21	22	23	24	25	26	27	28	29
1	0.2677	-0.1747	0.4485	-0.3583	-0.2275	-0.1716	-0.0633	0.1747	-0.1926
2	0.4260	-0.3236	-0.0731	-0.0604	-0.0993	-0.1243	0.1827	-0.2156	-0.3202
3	0.4562	-0.4559	0.3714	-0.1015	-0.2837	-0.0256	-0.0752	-0.0813	-0.1506
4	0.4302	-0.4298	0.4293	-0.1588	-0.2061	-0.0800	-0.0585	-0.0094	-0.2265
5	-0.0440	0.0003	0.2368	-0.3605	-0.2141	-0.2178	-0.0508	0.2577	-0.1133
6	-0.2419	-0.0941	-0.0567	-0.1630	-0.2316	-0.2890	-0.3644	-0.0177	-0.0981
7	0.2604	-0.0310	0.3121	-0.3956	-0.0671	-0.2602	0.0353	0.3633	-0.2539
8	-0.2099	0.1666	-0.1216	-0.0220	0.1813	-0.1150	-0.3735	0.0650	0.1931
9	-0.0706	-0.0714	-0.0971	0.0388	-0.0225	-0.1008	0.1127	-0.0645	0.0488
10	0.1554	-0.4405	0.4198	-0.2874	-0.0940	0.0790	-0.1185	0.0079	-0.3890
11	-0.0745	0.3051	-0.6542	0.3675	0.2147	-0.0208	0.2216	-0.0051	0.2833
12	0.1230	0.4242	-0.4553	0.2114	0.3796	-0.0963	0.1224	-0.1120	0.1582
13	0.1124	-0.2275	0.3826	-0.2290	-0.2840	0.0912	-0.0018	-0.0179	-0.2761
14	0.1097	-0.0708	0.2492	-0.3361	-0.3856	0.2242	-0.3889	-0.0665	0.2943
15	0.1891	-0.0046	0.0637	0.1314	0.1600	0.2225	0.0165	-0.2384	-0.0179
16	0.2627	-0.2395	-0.0744	-0.3115	-0.2662	-0.0819	0.2672	0.0177	-0.4228
17	-0.0227	-0.0427	0.2954	0.0405	0.2875	0.1164	-0.1420	0.3316	-0.2021
18	-0.0292	-0.0716	0.3304	-0.3713	0.0914	-0.0046	-0.2816	0.2307	0.0200
19	0.0344	-0.1217	-0.1890	0.0373	-0.5270	0.1719	0.3621	0.1763	-0.1383
20	0.0289	-0.3300	0.1611	-0.1221	-0.2773	0.2834	-0.3745	-0.0989	-0.0048
21	1.0000	-0.0648	0.2388	-0.1492	0.0431	-0.0145	0.1460	-0.1558	-0.2218
22	-0.0648	1.0000	-0.3810	-0.1372	0.4194	0.0773	0.3983	0.2989	0.2714
23	0.2388	-0.3810	1.0000	-0.2690	-0.0792	-0.0779	-0.4373	-0.0902	-0.1660
24	-0.1492	-0.1372	-0.2690	1.0000	0.0287	0.1905	-0.0310	0.1092	0.2620
25	0.0431	0.4194	-0.0792	0.0287	1.0000	0.1982	0.2784	0.2424	-0.2238
26	-0.0145	0.0773	-0.0779	0.1905	0.1982	1.0000	0.0309	0.2748	0.0855
27	0.1460	0.3983	-0.4373	-0.0310	0.2784	0.0309	1.0000	0.2045	-0.3062
28	-0.1558	0.2989	-0.0902	-0.1092	0.2424	0.2748	0.2045	1.0000	-0.3663
29	-0.2218	0.2714	-0.1660	0.2620	-0.2238	0.0855	-0.3062	-0.3663	1.0000

Matrix of Intercorrelations for the Heroin Addicts

THE NUMBER OF SUBJECTS IS 39
THE NUMBER OF VARIABLES IS 27

VARIABLE NUMBER 1 IS THE AGE

VARIABLE NUMBER 2 IS THE NUMBER OF YEARS OF EDUCATION

VARIABLE NUMBER 3 IS THE AGE OF DRUG USE ONSET

VARIABLE NUMBER 4 IS THE AGE OF ONSET OF HEROIN USE

VARIABLE NUMBER 5 IS THE LENGTH OF HEROIN ADDICTION IN MONTHS

VARIABLE NUMBER 6 IS THE TOTAL NUMBER OF ARRESTS

VARIABLE NUMBER 7 IS THE LONGEST PERIOD OF TIME HEROIN FREE

VARIABLE NUMBER 8 IS THE LENGTH OF TIME WORKING IN MONTHS

VARIABLE NUMBER 9 IS THE FAMILY SCALE SCORE

VARIABLE NUMBER 10 IS THE MACH SCALE SCORE

VARIABLE NUMBER 11 IS THE TENNESSEE SELF CONCEPT SCALE

VARIABLE NUMBER 12 IS THE FACTOR A

VARIABLE NUMBER 13 IS THE FACTOR B

VARIABLE NUMBER 14 IS THE FACTOR C

VARIABLE NUMBER 15 IS THE FACTOR E

VARIABLE NUMBER 16 IS THE FACTOR F

VARIABLE NUMBER 17 IS THE FACTOR G

VARIABLE NUMBER 18 IS THE FACTOR H

VARIABLE NUMBER 19 IS THE FACTOR I

VARIABLE NUMBER 20 IS THE FACTOR L

VARIABLE NUMBER 21 IS THE FACTOR M

VARIABLE NUMBER 22 IS THE FACTOR N

VARIABLE NUMBER 23 IS THE FACTOR O

VARIABLE NUMBER 24 IS THE FACTOR Q1

VARIABLE NUMBER 25 IS THE FACTOR Q2

VARIABLE NUMBER 26 IS THE FCATOR Q3

VARIABLE NUMBER 27 IS THE FACTOR Q4

Matrix of Intercorrelations for the Heroin Addicts cont.

	1	2	3	4	5	6	7	8	9	10
1	1.0000	-0.1093	0.7710	0.7118	0.1575	0.2569	-0.2191	0.1368	-0.3195	-0.1224
2	-0.1093	1.0000	-0.0026	0.0797	-0.0343	-0.0756	-0.0613	0.6310	-0.1110	-0.0512
3	0.7710	-0.0026	1.0000	0.6239	0.0150	0.1511	-0.4333	0.3879	-0.1884	0.1610
4	0.7118	0.0797	0.6239	1.0000	0.4430	0.7591	-0.0356	0.1530	0.0656	-0.0018
5	0.1575	-0.0343	0.0150	0.4430	1.0000	0.5657	0.2034	0.0910	0.2768	-0.0899
6	0.2569	-0.0756	0.1511	0.7591	0.5657	1.0000	0.2225	-0.1972	0.5624	0.1895
7	-0.2191	-0.0613	-0.4333	-0.0356	0.2034	0.2225	1.0000	-0.3260	0.2284	-0.4319
8	0.1368	0.6310	0.3879	0.1530	0.0910	-0.1972	-0.3260	1.0000	-0.2931	0.1276
9	-0.3195	-0.1110	-0.1884	0.0656	0.2768	0.5624	0.2284	-0.2931	1.0000	0.3732
10	-0.1224	-0.0512	0.1610	-0.0018	-0.0899	0.1895	-0.4319	0.1276	0.3732	1.0000
11	0.0786	0.2334	-0.0912	0.0202	0.0225	-0.2579	0.2576	0.3117	-0.6605	-0.5477
12	0.1579	0.2455	-0.0338	0.3172	0.1556	0.1043	-0.0514	-0.0140	-0.3785	-0.5965
13	-0.3030	0.1170	-0.4119	-0.1459	0.1305	-0.1188	0.0435	-0.0946	-0.2195	-0.5480
14	-0.1072	0.2346	-0.2287	-0.1000	0.1879	-0.1781	0.1155	0.4880	-0.2857	-0.0820
15	0.1454	-0.0392	0.4018	-0.0918	-0.2531	-0.3027	-0.5891	0.2970	-0.0123	0.2518
16	0.2952	0.0615	0.1564	0.7788	0.4870	0.8767	0.0767	-0.1282	0.3911	0.1144
17	0.1478	0.2576	-0.1629	-0.0324	0.0600	-0.3083	0.1136	0.3013	-0.7534	-0.4870
18	0.2406	-0.1548	0.0070	0.6572	0.5122	0.7688	0.1501	-0.1429	0.1862	0.0423
19	-0.1697	-0.2190	-0.3690	-0.1226	0.1346	0.1453	0.4590	-0.3550	-0.0225	-0.2293
20	-0.0466	0.1548	-0.1207	-0.2650	-0.1862	-0.5154	-0.0235	0.2267	-0.6076	-0.3334
21	0.2394	0.0194	0.3220	0.3061	-0.0724	0.2093	0.1776	-0.0178	0.2579	0.0378
22	0.0328	0.1749	0.0334	-0.2844	-0.2770	-0.5638	0.1108	0.3903	-0.4746	-0.1591
23	-0.2722	-0.1517	-0.4594	-0.0449	0.2877	0.2226	0.2104	-0.2773	0.0226	-0.1804
24	-0.6926	0.4040	-0.5312	-0.3633	0.0982	-0.0461	0.1790	0.2308	0.3191	0.0316
25	0.3084	0.4697	0.2063	0.1682	-0.0245	-0.2711	-0.2464	0.5394	-0.5740	-0.2886
26	-0.0037	-0.1575	0.2336	-0.1467	-0.1446	-0.0189	-0.5696	-0.0817	0.4436	0.5043
27	0.0411	-0.2812	0.1383	-0.2076	-0.1827	-0.3122	-0.0028	0.1729	-0.0145	0.0822

Matrix of Intercorrelations for the Heroin Addicts cont.

	11	12	13	14	15	16	17	18	19	20
1	0.0786	0.1579	-0.3030	-0.1072	0.1454	0.2952	0.1478	0.2406	-0.1697	-0.0466
2	0.2334	0.2455	0.1170	0.2346	-0.0392	0.0615	0.2576	-0.1548	-0.2190	0.1548
3	-0.0912	-0.0338	-0.4119	-0.2287	0.4018	0.1564	-0.1629	0.0070	-0.3690	-0.1207
4	0.0202	0.3172	-0.1459	-0.1000	-0.0918	0.7788	-0.0324	0.6572	-0.1226	-0.2650
5	0.0225	0.1556	0.1305	0.1879	-0.2331	0.4870	0.0600	0.5122	0.1346	-0.1862
6	-0.2579	0.1043	-0.1188	-0.1781	-0.3027	0.8767	-0.3083	0.7688	0.1453	-0.5154
7	0.2576	-0.0514	0.0435	0.1155	-0.5891	0.0767	0.1136	0.1501	0.4590	-0.0235
8	0.3117	-0.0140	-0.0946	0.4880	0.2970	-0.1282	0.3013	-0.1429	-0.3550	0.2267
9	-0.6605	-0.3785	-0.2195	-0.2857	-0.0123	0.3911	-0.7534	0.1862	-0.0225	-0.6076
10	-0.5477	-0.5965	-0.5480	-0.0820	0.2518	0.1144	-0.4870	0.0423	-0.2293	-0.3334
11	1.0000	0.3598	0.3431	0.5726	-0.3840	-0.1114	0.8027	0.0190	0.3004	0.5812
12	0.3598	1.0000	0.7708	-0.1245	-0.2382	0.2866	0.3424	0.3183	0.1349	0.1634
13	0.3431	0.7708	1.0000	0.0271	-0.1767	0.0425	0.3060	0.1440	0.3500	0.1274
14	0.5726	-0.1245	0.0271	1.0000	-0.1591	-0.1368	0.6289	0.1390	0.0130	0.3866
15	-0.3840	-0.2382	-0.1767	-0.1591	1.0000	-0.2398	-0.2938	-0.3803	-0.5094	0.0238
16	-0.1114	0.2866	0.0425	-0.1368	-0.2398	1.0000	-0.1177	0.7581	0.1166	-0.3832
17	0.8027	0.3424	0.3060	0.6289	-0.2938	-0.1177	1.0000	0.0713	0.2016	0.5774
18	0.0190	0.3183	0.1440	0.1390	-0.3803	0.7581	0.0713	1.0000	0.2445	-0.3498
19	0.3004	0.1349	0.3500	0.0130	-0.5094	0.1166	0.2016	0.2445	1.0000	-0.1096
20	0.5812	0.1634	0.1274	0.3866	0.0238	-0.3832	0.5774	-0.3498	-0.1096	1.0000
21	-0.3249	-0.2216	-0.4915	-0.2943	0.2587	0.1256	-0.3290	-0.1078	-0.6344	-0.0430
22	0.3661	-0.2807	-0.2458	0.5270	0.1460	-0.5669	0.4803	-0.4089	-0.3881	0.5111
23	0.3053	0.3803	0.5766	0.1546	-0.5335	0.2587	0.1811	0.4379	0.7912	-0.0945
24	0.0124	0.0629	0.3954	0.3224	-0.2310	-0.0491	0.0266	0.0762	0.1707	-0.1636
25	0.4696	0.3060	0.0737	0.4773	0.0895	-0.1412	0.5302	-0.0644	-0.4513	0.4610
26	-0.7238	-0.3084	-0.2032	-0.5150	0.5235	-0.0547	-0.6917	-0.2764	-0.1597	-0.4031
27	-0.1311	-0.4709	-0.3520	0.1188	0.4114	-0.4219	-0.0982	-0.3674	-0.2779	0.0250

Matrix of Intercorrelations for the Heroin Addicts cont.

	21	22	23	24	25	26	27
1	0.2394	0.0328	-0.2722	-0.6926	0.3084	-0.0637	0.0411
2	0.0194	0.1749	-0.1517	0.4040	0.4697	-0.1575	-0.2812
3	0.3220	0.0334	-0.4594	-0.5912	0.2063	0.2336	0.1983
4	0.3061	-0.2844	-0.0449	-0.3633	0.1682	-0.1467	-0.2076
5	-0.0724	-0.2770	0.2877	0.0982	-0.0245	-0.1446	-0.1827
6	0.2093	-0.5638	0.2226	-0.0461	-0.2711	-0.0189	-0.3122
7	0.1776	0.1108	0.2104	0.1790	-0.2464	-0.5696	-0.0028
8	-0.0178	0.3903	-0.2773	0.2308	0.5394	-0.0817	0.1729
9	0.2579	-0.4746	0.0226	0.3191	-0.5740	0.4436	-0.0145
10	0.0378	-0.1591	-0.1804	0.0316	-0.2886	0.5043	0.0822
11	-0.3249	0.3861	0.3053	0.0124	0.4696	-0.7238	-0.1311
12	-0.2216	-0.2807	0.3803	0.0629	0.3060	-0.3084	-0.4709
13	-0.4915	-0.2458	0.5766	0.3954	0.0737	-0.2032	-0.3520
14	-0.2943	0.5270	0.1546	0.3224	0.4773	-0.5150	0.1188
15	0.2587	0.1460	-0.5335	-0.2310	0.0895	0.5235	0.4114
16	0.1256	-0.5669	0.2587	-0.0491	-0.1412	-0.0547	-0.4219
17	-0.3690	0.4803	0.1811	0.0266	0.5302	-0.6917	-0.0982
18	-0.1078	-0.4089	0.4379	0.0762	-0.0644	-0.2764	-0.3674
19	-0.6344	-0.3881	0.7912	0.1707	-0.4513	-0.1597	-0.2779
20	-0.0430	0.5111	-0.0945	-0.1636	0.4610	-0.4031	0.0250
21	1.0000	0.3177	-0.8019	-0.3444	0.0659	-0.0656	0.3637
22	0.3177	1.0000	-0.5769	-0.0509	0.4755	-0.4672	0.5354
23	-0.8019	-0.5769	1.0000	0.3337	-0.2586	-0.1319	-0.4914
24	-0.3444	-0.0509	0.3337	1.0000	-0.1646	0.0079	-0.1437
25	0.0659	0.4755	-0.2586	-0.1646	1.0000	-0.4425	-0.0179
26	-0.0656	-0.4672	-0.1319	0.0079	-0.4425	1.0000	0.0290
27	0.3637	0.5354	-0.4914	-0.1437	-0.0179	0.0290	1.0000

Matrix of Intercorrelations for the Off-Methadone Group

THE NUMBER 0F SUBJECTS IS 40
THE NUMBER 0F VARIABLES IS 30

VARIABLE NUMBER 1 IS THE AGE

VARIABLE NUMBER 2 IS THE NUMBER 0F YEARS 0F EDUCATI0N

VARIABLE NUMBER 3 IS THE AGE 0F DRUG USE 0NSET

VARIABLE NUMBER 4 IS THE AGE 0F 0NSET 0F HER0IN USE

VARIABLE NUMBER 5 IS THE LENGTH 0F HER0IN ADDICTI0N IN M0NTHS

VARIABLE NUMBER 6 IS THE T0TAL NUMBER 0F ARRESTS

VARIABLE NUMBER 7 IS THE L0NGEST PERI0D 0F TIME HER0IN FREE

VARIABLE NUMBER 8 IS THE LENGTH 0F TIME 0N METHAD0NE IN WEEKS

VARIABLE NUMBER 9 IS THE LENGTH 0F TIME IN THERAPY

VARIABLE NUMBER 10 IS THE LENGTH 0F TIME w0RKING IN M0NTHS

VARIABLE NUMBER 11 IS THE IF 0FF METHAD0NE LENGHT 0F TIME IN M0NTHS

VARIABLE NUMBER 12 IS THE FAMILY SCALE SC0RE

VARIABLE NUMBER 13 IS THE MACH SCALE SC0RE

VARIABLE NUMBER 14 IS THE TENNESSEE SELF C0NCEPT SCALE

VARIABLE NUMBER 15 IS THE FACT0R A

VARIABLE NUMBER 16 IS THE FACT0R B

VARIABLE NUMBER 17 IS THE FACT0R C

VARIABLE NUMBER 18 IS THE FACT0R E

VARIABLE NUMBER 19 IS THE FACT0R F

VARIABLE NUMBER 20 IS THE FACT0R G

VARIABLE NUMBER 21 IS THE FACT0R H

VARIABLE NUMBER 22 IS THE FACT0R I

VARIABLE NUMBER 23 IS THE FACT0R L

VARIABLE NUMBER 24 IS THE FACT0R M

VARIABLE NUMBER 25 IS THE FACT0R N

VARIABLE NUMBER 26 IS THE FACT0R 0

VARIABLE NUMBER 27 IS THE FACT0R Q1

VARIABLE NUMBER 28 IS THE FACT0R Q2

VARIABLE NUMBER 29 IS THE FCAT0R Q3

VARIABLE NUMBER 30 IS THE FACT0R Q4

Matrix of Intercorrelations for the Off-Methadone Group cont.

	1	2	3	4	5	6	7	8	9	10
1	1.0000	0.2321	-0.0165	0.0550	0.1334	-0.4521	0.0827	0.0178	-0.1395	-0.0429
2	0.2321	1.0000	-0.1739	0.0077	0.0530	0.0208	-0.0581	-0.0412	-0.1313	0.2834
3	-0.0165	-0.1739	1.0000	0.9339	0.8007	0.0888	0.4481	0.6448	0.2503	0.3704
4	0.0550	0.0077	0.9339	1.0000	0.8221	0.1470	0.3169	0.5757	0.2583	0.4269
5	0.1334	0.0530	0.8007	0.8221	1.0000	0.1109	0.2577	0.4896	0.1036	0.1878
6	-0.4521	0.0208	0.0888	0.1470	0.1109	1.0000	-0.1819	-0.1963	0.2546	0.0519
7	0.0827	-0.0581	0.4481	0.3169	0.2577	-0.1819	1.0000	0.5165	0.3332	0.2705
8	0.0178	-0.0412	0.6448	0.5757	0.4896	-0.1963	0.5165	1.0000	0.1020	0.4075
9	-0.1395	-0.1313	0.2503	0.2583	0.1036	0.2546	0.3332	0.1020	1.0000	0.7597
10	-0.0429	0.2834	0.3704	0.4269	0.1878	0.0519	0.2705	0.4075	0.7597	1.0000
11	-0.2984	-0.3805	-0.2034	-0.2782	-0.1186	0.3505	0.0542	-0.1555	0.3429	-0.0954
12	0.1899	-0.0054	0.1726	0.2213	0.2642	-0.2888	-0.2651	0.1667	-0.2852	0.0109
13	0.3476	0.1300	0.0794	0.2147	0.3650	-0.2660	-0.4971	-0.1020	-0.2485	-0.0699
14	-0.3518	0.4252	-0.2109	-0.2523	-0.2658	0.3573	0.1436	0.0648	0.2201	0.4142
15	-0.0370	0.2680	-0.1445	-0.0947	-0.2781	0.0923	-0.2977	-0.1801	0.3364	0.4358
16	-0.2899	-0.1287	0.1140	0.0947	-0.1905	0.1999	0.2461	0.2247	0.2381	0.2306
17	0.1795	-0.1129	0.1582	0.0092	-0.0206	-0.0008	0.1299	-0.0987	0.0571	-0.0766
18	0.1662	0.6904	0.0449	0.1831	0.4125	0.0241	-0.1167	0.0588	-0.0957	0.2490
19	0.1724	0.5874	0.0540	0.1218	0.3200	0.1493	-0.0994	-0.1707	-0.0839	0.1291
20	-0.3234	-0.1786	0.0415	-0.0913	-0.2720	0.4122	0.4574	0.0847	0.2586	0.1273
21	-0.0740	-0.1172	-0.1125	-0.0898	-0.0724	0.4317	-0.0966	-0.5359	0.3963	-0.0177
22	-0.2670	0.4009	-0.4917	-0.4524	-0.3787	0.2212	-0.2586	-0.1180	-0.0929	0.0084
23	0.0343	-0.0816	-0.0091	0.0823	0.1543	-0.2808	-0.5895	0.0289	-0.1902	0.0541
24	0.0630	0.1870	-0.2021	-0.2005	-0.3921	-0.1337	-0.1688	-0.2288	0.1028	0.1888
25	-0.0254	0.1970	-0.0245	-0.0166	-0.0126	-0.1085	-0.1026	0.2093	-0.1854	0.1012
26	-0.2017	-0.2071	0.3536	0.3992	0.0827	0.3696	0.0401	-0.0829	0.4988	0.3873
27	-0.1323	0.2626	-0.5548	-0.4830	-0.3585	0.1531	-0.1326	-0.2753	0.0833	-0.0168
28	0.0970	0.1672	0.0772	0.1392	-0.1654	-0.1942	-0.4304	0.0107	-0.2060	0.2421
29	-0.1189	0.0588	0.0539	-0.0619	-0.0917	0.2820	0.5567	0.2044	0.0762	-0.0187
30	-0.1206	0.0320	0.0754	0.1513	-0.1454	0.0669	0.0639	0.2236	0.0086	0.1267

Matrix of Intercorrelations for the Off-Methadone Group cont.

	11	12	13	14	15	16	17	18	19	20
1	-0.2834	0.1899	0.3476	-0.3018	-0.0370	-0.2899	0.1795	0.1662	0.1724	-0.3234
2	-0.3605	-0.0054	0.1300	0.4252	0.2680	-0.1287	-0.1129	0.6904	0.5874	-0.1786
3	-0.2034	0.1726	0.0794	-0.2109	-0.1445	0.1140	0.1582	0.0449	0.0640	0.0415
4	-0.2782	0.2213	0.2147	-0.2523	-0.0947	0.0947	0.0092	0.1831	0.1218	-0.0913
5	-0.1186	0.2642	0.3650	-0.2658	-0.2781	-0.1905	-0.0206	0.4125	0.3200	-0.2720
6	0.3505	-0.2888	-0.2660	0.3573	0.0923	0.1999	-0.0008	0.0241	0.1493	0.4122
7	0.0542	-0.2651	-0.4971	0.1436	-0.2977	0.2461	0.1299	-0.1167	-0.0994	0.4574
8	-0.1555	0.1667	-0.1020	0.0648	-0.1801	0.2247	-0.0987	0.0588	-0.1707	0.0847
9	0.3429	-0.2852	-0.2485	0.2201	0.3364	0.2381	0.0571	-0.0957	-0.0839	0.2586
10	-0.0954	0.0109	-0.0699	0.4142	0.4358	0.2306	-0.0766	0.2490	0.1291	0.1273
11	1.0000	-0.1759	-0.1798	0.1480	0.1052	-0.0878	-0.1975	-0.2886	-0.3730	0.0879
12	-0.1759	1.0000	0.7692	-0.3872	-0.3374	-0.4154	-0.5378	0.3576	0.0017	-0.5725
13	-0.1798	0.7692	1.0000	-0.5320	-0.0740	-0.6116	-0.3024	0.4697	0.3067	-0.8355
14	0.1480	-0.3872	-0.5320	1.0000	0.3689	0.2723	-0.0050	0.2164	0.2706	0.5769
15	0.1052	-0.3374	-0.0740	0.3689	1.0000	0.1657	0.3322	-0.0445	0.0400	-0.0541
16	-0.0878	-0.4154	-0.6116	0.2723	0.1657	1.0000	0.2090	-0.1553	-0.3023	0.5020
17	-0.1975	-0.5378	-0.3024	-0.0050	0.3322	0.2090	1.0000	-0.3113	0.1935	0.2752
18	-0.2886	0.3576	0.4697	0.2164	-0.0445	-0.1553	-0.3113	1.0000	0.6861	-0.3416
19	-0.3730	0.0017	0.3067	0.2706	0.0400	-0.3023	0.1935	0.6861	1.0000	-0.0564
20	0.0879	-0.5725	-0.8355	0.5769	-0.0541	0.5020	0.2752	-0.3416	-0.0564	1.0000
21	0.5350	-0.3823	0.0119	0.0286	0.3841	-0.2138	0.2784	-0.1737	0.1975	0.0870
22	0.1608	-0.4419	-0.3759	0.6041	0.3455	0.0099	-0.1273	0.0121	0.0487	0.1552
23	-0.1352	0.6975	0.6955	-0.3054	0.0590	-0.1974	-0.4390	0.2953	-0.0753	-0.6654
24	-0.1672	-0.4187	-0.2664	0.2187	0.6500	0.1064	0.4577	-0.3009	-0.0436	0.1094
25	-0.1510	0.3081	0.1715	0.1497	-0.0236	-0.1345	-0.2931	0.1957	0.0992	-0.1355
26	0.0159	-0.1382	-0.0289	0.0426	0.3075	0.4399	0.2207	-0.0020	0.1294	0.2640
27	0.4844	-0.3108	-0.2992	0.4268	0.3014	-0.0814	-0.2797	-0.0910	-0.2667	0.0235
28	-0.5270	0.4513	0.3677	-0.0280	0.3295	-0.1374	-0.0303	0.0167	0.0779	-0.2108
29	0.0194	-0.5387	-0.7628	0.4197	-0.1374	0.4968	0.3611	-0.1610	-0.0182	0.6959
30	-0.3765	-0.2497	-0.1989	0.0776	-0.0702	0.1468	0.0091	-0.1438	0.0913	0.3469

Matrix of Intercorrelations for the Off-Methadone Group cont.

	21	22	23	24	25	26	27	28	29	30
1	-0.0740	-0.2870	0.0343	0.0830	-0.0254	-0.2017	-0.1323	0.0970	-0.1189	-0.1206
2	-0.1172	0.4009	-0.0816	0.1870	0.1970	-0.2071	0.2626	0.1672	0.0588	0.0320
3	-0.1125	-0.4917	-0.0091	-0.2021	-0.0245	0.3536	-0.5548	0.0772	0.0839	0.0754
4	-0.0698	-0.4524	0.0823	-0.2005	-0.0166	0.3992	-0.4830	0.1392	-0.0619	0.1513
5	-0.0724	-0.3787	0.1543	-0.3921	-0.0126	0.0827	-0.3585	-0.1654	-0.0917	-0.1454
6	0.4317	0.2212	-0.2808	-0.1337	-0.1085	0.3696	0.1531	-0.1942	0.2820	0.0669
7	-0.0966	-0.2586	-0.5895	-0.1688	-0.1026	0.0401	-0.1326	-0.4304	0.5567	0.0639
8	-0.5359	-0.1180	0.0289	-0.2288	0.2093	-0.0829	-0.2753	0.0107	0.2044	0.2236
9	0.3963	-0.0929	-0.1902	0.1028	-0.1854	0.4988	0.0833	-0.2060	0.0762	0.0086
10	-0.0177	0.0084	0.0541	0.1888	0.1012	0.3873	-0.0168	0.2421	-0.0187	0.1267
11	0.5350	0.1608	-0.1352	-0.1872	-0.1510	0.0159	0.4844	-0.5270	0.0194	-0.3785
12	-0.3623	-0.4419	0.6975	-0.4187	0.3081	-0.1382	-0.3108	0.4513	-0.5387	-0.2497
13	0.0119	-0.3759	0.6955	-0.2664	0.1715	-0.0289	-0.2992	0.3677	-0.7628	-0.1989
14	0.0286	0.6041	-0.3054	0.2187	0.1497	0.0426	0.4268	-0.0280	0.4197	0.0776
15	0.3041	0.3455	0.0590	0.6500	-0.0236	0.3075	0.3014	0.3295	-0.1374	-0.0702
16	-0.2138	0.0099	-0.1974	0.1064	-0.1345	0.4399	-0.0814	-0.1374	0.4968	0.1468
17	0.2784	-0.1273	-0.4390	0.4577	-0.2931	0.2207	-0.2797	-0.0303	0.3611	0.0091
18	-0.1737	0.0121	0.2353	-0.3009	0.1957	-0.0020	-0.0910	0.0167	-0.1610	-0.1438
19	0.1975	0.0487	-0.0753	-0.0436	0.0992	0.1294	-0.2667	0.0779	-0.0182	0.0913
20	0.0670	0.1552	-0.6654	0.1094	-0.1355	0.2640	0.0235	-0.2108	0.6959	0.3469
21	1.0000	-0.0242	-0.3064	0.1198	-0.3080	0.4581	0.1172	-0.2163	-0.1185	-0.0544
22	-0.0242	1.0000	-0.1502	0.3849	0.1284	-0.3794	0.6875	-0.0514	0.1319	0.2017
23	-0.3064	-0.1502	1.0000	-0.1424	0.2427	-0.0534	-0.1002	0.4600	-0.7396	-0.2689
24	0.1198	0.3849	-0.1424	1.0000	-0.4321	-0.0031	0.2701	0.3438	-0.0084	0.0728
25	-0.3080	0.1284	0.2427	-0.4321	1.0000	-0.2165	-0.0017	0.3032	-0.1028	0.0655
26	0.4581	-0.3794	-0.0534	-0.0031	-0.2165	1.0000	-0.4242	0.1113	-0.0402	0.2424
27	0.1172	0.6875	-0.1002	0.2701	-0.0017	-0.4242	1.0000	-0.2670	0.0363	-0.2718
28	-0.2163	-0.0514	0.4600	0.3438	0.3032	0.1113	-0.2670	1.0000	-0.4527	0.1996
29	-0.1185	0.1319	-0.7396	-0.0084	-0.1028	-0.0402	0.0363	-0.4527	1.0000	0.0481
30	-0.0544	0.2017	-0.2689	0.0728	0.0655	0.2424	-0.2718	0.1996	0.0481	1.0000

Matrix of Intercorrelations for the Drop-Outs 1-6 Weeks

THE NUMBER OF SUBJECTS IS 28
THE NUMBER OF VARIABLES IS 26

VARIABLE NUMBER 1 IS THE AGE

VARIABLE NUMBER 2 IS THE NUMBER OF YEARS OF EDUCATION

VARIABLE NUMBER 3 IS THE AGE OF DRUG USE ONSET

VARIABLE NUMBER 4 IS THE AGE OF ONSET OF HEROIN USE

VARIABLE NUMBER 5 IS THE LENGTH OF HEROIN ADDICTION IN MONTHS

VARIABLE NUMBER 6 IS THE TOTAL NUMBER OF ARRESTS

VARIABLE NUMBER 7 IS THE LENGTH OF TIME WORKING IN MONTHS

VARIABLE NUMBER 8 IS THE FAMILY SCALE SCORE

VARIABLE NUMBER 9 IS THE MACH SCALE SCORE

VARIABLE NUMBER 10 IS THE TENNESSEE SELF CONCEPT SCALE

VARIABLE NUMBER 11 IS THE FACTOR A

VARIABLE NUMBER 12 IS THE FACTOR B

VARIABLE NUMBER 13 IS THE FACTOR C

VARIABLE NUMBER 14 IS THE FACTOR E

VARIABLE NUMBER 15 IS THE FACTOR F

VARIABLE NUMBER 16 IS THE FACTOR G

VARIABLE NUMBER 17 IS THE FACTOR H

VARIABLE NUMBER 18 IS THE FACTOR I

VARIABLE NUMBER 19 IS THE FACTOR L

VARIABLE NUMBER 20 IS THE FACTOR M

VARIABLE NUMBER 21 IS THE FACTOR N

VARIABLE NUMBER 22 IS THE FACTOR O

VARIABLE NUMBER 23 IS THE FACTOR Q1

VARIABLE NUMBER 24 IS THE FACTOR Q2

VARIABLE NUMBER 25 IS THE FCATOR Q3

VARIABLE NUMBER 26 IS THE FACTOR Q4

Matrix of Intercorrelations for the Drop-Outs 1-6 Weeks cont.

	1	2	3	4	5	6	7	8	9	10
1	1.0000	-0.1116	0.7271	0.7611	-0.4611	-0.4236	0.8712	0.1798	0.1247	0.0205
2	-0.1116	1.0000	0.1038	0.0152	-0.2128	0.2138	-0.1043	-0.1040	0.1410	-0.0231
3	0.7271	0.1038	1.0000	0.8693	-0.7463	-0.6406	0.5378	0.4388	0.5966	-0.4717
4	0.7611	0.0152	0.8693	1.0000	-0.7896	-0.6230	0.6012	0.5841	0.6189	-0.2462
5	-0.4611	-0.2128	-0.7463	-0.7896	1.0000	0.6949	-0.4142	-0.6114	-0.6979	0.4802
6	-0.4236	0.2138	-0.6406	-0.6230	0.6949	1.0000	-0.4181	-0.7392	-0.5841	0.6528
7	0.8712	-0.1043	0.5378	0.6012	-0.4142	-0.4181	1.0000	0.1764	0.0233	0.0743
8	0.1798	-0.1040	0.4388	0.5841	-0.6114	-0.7392	0.1764	1.0000	0.8338	-0.2632
9	0.1247	0.1410	0.5966	0.6189	-0.6979	-0.5841	0.0233	0.8338	1.0000	-0.3926
10	0.0205	-0.0231	-0.4717	-0.2462	0.4802	0.6528	0.0743	-0.2632	-0.3926	1.0000
11	-0.6203	0.3440	-0.5277	-0.5007	0.3518	0.6228	-0.5644	-0.2643	-0.1417	0.3341
12	0.0122	-0.1105	-0.4102	-0.2177	0.3123	0.2899	0.2351	-0.0844	-0.3576	0.5666
13	0.5170	0.3185	0.5993	0.5075	-0.5228	-0.2777	0.5246	-0.1199	0.0832	-0.3750
14	0.1826	-0.1255	0.0691	0.0549	0.0104	-0.2038	0.3688	0.1103	-0.0735	-0.1600
15	-0.6189	0.3092	-0.1469	-0.1389	-0.0766	0.1423	-0.6525	0.2573	0.5046	-0.1909
16	-0.1087	-0.0973	-0.4527	-0.3341	0.5063	0.6134	-0.2323	-0.3843	-0.4143	0.7609
17	-0.0234	-0.1432	-0.3700	-0.2082	0.4038	0.4304	-0.1189	-0.1093	-0.2134	0.7827
18	-0.0654	-0.1962	-0.3690	-0.1890	0.0529	-0.1927	0.2601	0.1694	-0.2122	0.0442
19	-0.4486	0.0110	-0.7055	-0.5755	0.5757	0.5977	-0.2579	-0.3546	-0.4398	0.4428
20	-0.0665	-0.2313	-0.2685	-0.1224	0.1610	0.0959	-0.1840	0.0242	-0.1721	0.2840
21	0.1683	0.5206	0.4240	0.2573	-0.3448	-0.0967	0.1519	-0.0041	0.2511	-0.3810
22	0.0684	-0.2104	-0.3246	-0.3472	0.5754	0.5347	-0.0026	-0.6650	-0.7086	0.5060
23	-0.2600	-0.1049	-0.4855	-0.4255	0.4259	0.4967	-0.2266	-0.4030	-0.4036	0.4400
24	0.3194	0.0275	0.2388	0.1929	-0.0704	0.0617	0.2587	-0.1556	-0.1268	0.1247
25	-0.3948	-0.2846	-0.5569	-0.4603	0.5428	0.5209	-0.3884	-0.3296	-0.3822	0.3377
26	-0.4205	0.4714	-0.1989	-0.2665	0.2141	0.3134	-0.3581	-0.0974	0.0928	-0.0002

Matrix of Intercorrelations for the Drop-Outs 1-6 Weeks cont.

	11	12	13	14	15	16	17	18	19	20
1	-0.6203	0.0122	0.5170	0.1826	-0.6189	-0.1087	-0.0234	-0.0854	-0.4486	-0.0865
2	0.3440	-0.1105	0.3185	-0.1255	0.3092	-0.0973	-0.1432	-0.1962	0.0110	-0.2313
3	-0.5277	-0.4102	0.5993	0.0691	-0.1469	-0.4527	-0.3700	-0.3690	-0.7055	-0.2685
4	-0.5007	-0.2177	0.5075	0.0549	-0.1389	-0.3341	-0.2082	-0.1890	-0.5755	-0.1224
5	0.3618	0.3123	-0.5228	0.0104	-0.0766	0.5063	0.4038	0.0529	0.5757	0.1610
6	0.6228	0.2899	-0.2777	-0.2038	0.1423	0.6134	0.4304	-0.1927	0.5977	0.0959
7	-0.5644	0.2351	0.5246	0.3688	-0.6525	-0.2323	-0.1189	0.2601	-0.2579	-0.1840
8	-0.2643	-0.0844	-0.1199	0.1103	0.2573	-0.3843	-0.1093	0.1694	-0.3546	0.0242
9	-0.1417	-0.3576	0.0832	-0.0735	0.5046	-0.4143	-0.2134	-0.2122	-0.4398	-0.1721
10	0.3341	0.5666	-0.3750	-0.1600	-0.1909	0.7609	0.7827	0.0442	0.4428	0.2840
11	1.0000	0.2986	-0.3064	-0.2524	0.6102	0.1964	0.2499	-0.0702	0.5489	0.1492
12	0.2986	1.0000	-0.0935	0.2326	-0.2401	0.0920	0.3384	0.3988	0.3787	0.3927
13	-0.3064	-0.0935	1.0000	0.2024	-0.3301	-0.5011	-0.4995	-0.1161	-0.4709	-0.1880
14	-0.2524	0.2326	0.2024	1.0000	-0.1818	-0.5379	-0.5776	0.6118	0.1608	-0.3166
15	0.6102	-0.2401	-0.3301	-0.1818	1.0000	-0.1646	-0.1240	-0.1653	0.2740	-0.1729
16	0.1964	0.0920	-0.5011	-0.5379	-0.1646	1.0000	0.7762	-0.2711	0.2206	0.3172
17	0.2499	0.3384	-0.4995	-0.5776	-0.1240	0.7762	1.0000	-0.2177	0.2217	0.4627
18	-0.0702	0.3988	-0.1161	0.6118	-0.1653	-0.2711	-0.2177	1.0000	0.2727	0.0919
19	0.5489	0.3787	-0.4709	0.1608	0.2740	0.2206	0.2217	0.2727	1.0000	-0.2650
20	0.1492	0.3927	-0.1880	-0.3166	-0.1729	0.3172	0.4627	0.0919	-0.2650	1.0000
21	0.1054	-0.0094	0.5882	0.3536	0.1854	-0.5702	-0.5837	-0.1947	-0.0668	-0.4325
22	0.0669	0.3641	-0.0888	-0.3240	-0.5294	0.6311	0.5097	-0.2845	0.0767	0.3572
23	0.4454	0.3596	-0.1455	-0.2695	0.0053	0.3727	0.4662	-0.0565	0.3893	0.2457
24	-0.1497	-0.0072	0.1306	-0.2618	-0.3003	0.1683	0.2143	-0.3405	-0.0767	-0.0827
25	0.1605	0.0093	-0.5135	0.1091	0.1587	0.4273	0.1637	0.1896	0.4445	0.0000
26	0.7018	0.3490	0.0533	0.0039	0.5065	-0.2363	-0.0817	-0.1319	0.2727	0.0289

Matrix of Intercorrelations for the Drop-Outs 1-6 Weeks cont.

	21	22	23	24	25	26
1	0.1683	0.0684	-0.2800	0.3194	-0.3948	-0.4205
2	0.5206	-0.2104	-0.1049	0.0275	-0.2846	0.4714
3	0.4240	-0.3246	-0.4855	0.2388	-0.5569	-0.1989
4	0.2573	-0.3472	-0.4255	0.1929	-0.4603	-0.2665
5	-0.3448	0.5754	0.4259	-0.0704	0.5428	0.2141
6	-0.0967	0.5347	0.4367	0.0617	0.5209	0.3134
7	0.1519	-0.0026	-0.2266	0.2587	-0.3884	-0.3581
8	-0.0041	-0.6650	-0.4030	-0.1556	-0.3296	-0.0974
9	0.2511	-0.7086	-0.4036	-0.1268	-0.3822	0.0928
10	-0.3810	0.5060	0.4400	0.1247	0.3377	-0.0002
11	0.1054	0.0669	0.4454	-0.1497	0.1805	0.7018
12	-0.0094	0.3641	0.3596	-0.0072	0.0093	0.3490
13	0.5882	-0.0888	-0.1455	0.1306	-0.5135	0.0533
14	0.3536	-0.3240	-0.2695	-0.2618	0.1091	0.0039
15	0.1354	-0.5294	0.0053	-0.3003	0.1587	0.5065
16	-0.5702	0.6311	0.3727	0.1683	0.4273	-0.2363
17	-0.5837	0.5097	0.4662	0.2143	0.1637	-0.0817
18	-0.1947	-0.2845	-0.0565	-0.3405	0.1896	-0.1319
19	-0.0668	0.0767	0.3893	-0.0767	0.4445	0.2727
20	-0.4325	0.3572	0.2457	-0.0827	0.0000	0.0289
21	1.0000	-0.2603	-0.1860	-0.0974	-0.4503	0.5400
22	-0.2603	1.0000	0.2865	0.4059	0.1319	-0.0212
23	-0.1860	0.2865	1.0000	-0.4030	0.3919	0.1440
24	-0.0974	0.4059	-0.4030	1.0000	-0.3955	-0.1898
25	-0.4503	0.1319	0.3919	-0.3955	1.0000	-0.2094
26	0.5400	-0.0212	0.1440	-0.1898	-0.2094	1.0000

THE NUMBER OF SUBJECTS IS 26
THE NUMBER OF VARIABLES IS 26

VARIABLE NUMBER 1 IS THE AGE
VARIABLE NUMBER 2 IS THE NUMBER OF YEARS OF EDUCATION
VARIABLE NUMBER 3 IS THE AGE OF DRUG USE ONSET
VARIABLE NUMBER 4 IS THE AGE OF ONSET OF HEROIN USE
VARIABLE NUMBER 5 IS THE LENGTH OF HEROIN ADDICTION IN MONTHS
VARIABLE NUMBER 6 IS THE TOTAL NUMBER OF ARRESTS
VARIABLE NUMBER 7 IS THE LENGTH OF TIME WORKING IN MONTHS
VARIABLE NUMBER 8 IS THE FAMILY SCALE SCORE
VARIABLE NUMBER 9 IS THE MACH SCALE SCORE
VARIABLE NUMBER 10 IS THE TENNESSEE SELF CONCEPT SCALE
VARIABLE NUMBER 11 IS THE FACTOR A
VARIABLE NUMBER 12 IS THE FACTOR B
VARIABLE NUMBER 13 IS THE FACTOR C
VARIABLE NUMBER 14 IS THE FACTOR E
VARIABLE NUMBER 15 IS THE FACTOR F
VARIABLE NUMBER 16 IS THE FACTOR G
VARIABLE NUMBER 17 IS THE FACTOR H
VARIABLE NUMBER 18 IS THE FACTOR I
VARIABLE NUMBER 19 IS THE FACTOR L
VARIABLE NUMBER 20 IS THE FACTOR M
VARIABLE NUMBER 21 IS THE FACTOR N
VARIABLE NUMBER 22 IS THE FACTOR O
VARIABLE NUMBER 23 IS THE FACTOR Q1
VARIABLE NUMBER 24 IS THE FACTOR Q2
VARIABLE NUMBER 25 IS THE FCATOR Q3
VARIABLE NUMBER 26 IS THE FACTOR Q4

Matrix of Intercorrelations for the Drop-Outs 7-12 Weeks cont.

	1	2	3	4	5	6	7	8	9	10
1	1.0000	-0.2123	0.6938	0.7610	-0.1252	-0.3104	0.1097	0.1803	-0.0039	0.1076
2	-0.2123	1.0000	-0.2385	-0.0746	-0.3250	-0.4872	-0.4091	-0.0326	0.3121	0.1288
3	0.6938	-0.2385	1.0000	0.8458	-0.4077	-0.2687	0.4926	0.4775	0.2121	-0.0986
4	0.7610	-0.0746	0.8458	1.0000	-0.5951	-0.5575	0.2677	0.2484	0.0125	0.0568
5	-0.1252	-0.3250	-0.4077	-0.5951	1.0000	0.5793	-0.1149	-0.0705	-0.0555	0.0344
6	-0.3104	-0.4872	-0.2687	-0.5575	0.5793	1.0000	0.2882	0.1798	-0.0805	0.0094
7	0.1097	-0.4091	0.4926	0.2677	-0.1149	0.2882	1.0000	0.0502	-0.0081	0.3461
8	0.1803	-0.0326	0.4775	0.2484	-0.0705	0.1798	0.0502	1.0000	0.5633	-0.5004
9	-0.0039	0.3121	0.2121	0.0125	-0.0555	-0.0805	-0.0081	0.5633	1.0000	-0.1837
10	0.1076	0.1288	-0.0986	0.0568	0.0344	0.0094	0.3461	-0.5004	-0.1837	1.0000
11	0.0457	0.2798	0.1281	0.0868	-0.3158	-0.4549	0.1138	-0.4269	0.0071	0.2134
12	0.2647	0.4456	0.2386	0.0865	0.0205	-0.0247	-0.1181	0.5986	0.6246	-0.1183
13	-0.1917	0.1139	-0.0715	-0.1190	-0.1554	0.2012	0.2167	-0.2014	0.1013	0.4011
14	0.3335	0.0917	-0.1222	-0.0707	0.2282	0.2497	-0.3186	0.0804	-0.0512	-0.0216
15	-0.2986	0.0494	-0.1558	-0.0125	-0.0093	0.0109	0.0472	0.0693	-0.0048	0.2870
16	0.0604	-0.4329	0.0650	-0.0050	0.0940	-0.1472	0.2678	-0.5454	-0.2411	0.0122
17	0.4609	0.0716	0.2602	0.3469	-0.0130	-0.2011	-0.4907	0.3554	0.3322	-0.3801
18	0.4279	0.2059	-0.0870	0.1148	0.0525	-0.1787	-0.1107	-0.4336	-0.3387	0.6489
19	-0.1923	0.3150	-0.2441	-0.0414	-0.0051	-0.2155	-0.4314	0.1502	0.1979	-0.2847
20	0.1376	0.1132	0.0752	0.0427	-0.1345	-0.0615	0.1095	-0.3984	-0.1302	0.2534
21	0.0785	-0.0253	-0.0192	-0.0303	0.1785	-0.1231	0.0114	0.2638	0.3195	-0.2469
22	-0.1234	0.0184	-0.0374	-0.1005	-0.0774	-0.3337	-0.2888	0.0819	0.0249	-0.6450
23	-0.1434	0.3560	-0.1587	-0.0236	-0.2551	-0.1074	-0.0313	-0.2201	0.3102	0.2006
24	-0.0760	0.2950	-0.2959	-0.0709	-0.0014	-0.1490	-0.1385	-0.0731	0.3260	0.1113
25	-0.3118	0.0368	-0.5223	-0.3423	0.0549	0.0625	0.1811	-0.7461	-0.2575	0.5915
26	-0.0104	0.4224	0.0559	0.0426	-0.2089	-0.2230	-0.0797	0.3123	0.6497	-0.2920

Matrix of Intercorrelations for the Drop-Outs 7-12 Weeks cont.

	11	12	13	14	15	16	17	18	19	20
1	0·0457	0·2847	-0·1317	0·3335	-0·2986	0·0604	0·4809	0·4279	-0·1923	0·1376
2	0·2798	0·4456	0·1139	0·0917	0·0494	-0·4329	0·0716	0·2059	0·3150	0·1132
3	0·1281	0·2356	-0·0715	-0·1222	-0·1558	0·0650	0·2602	-0·0870	-0·2441	0·0752
4	0·0868	0·0865	-0·1190	-0·0707	-0·0125	-0·0050	0·3469	0·1148	-0·0414	0·0427
5	-0·3158	0·0205	-0·1554	0·2282	-0·0093	0·0940	-0·0130	0·0525	-0·0051	-0·1345
6	-0·4549	-0·0247	0·2012	0·2497	0·0109	-0·1472	-0·2011	-0·1787	-0·2155	-0·0615
7	0·1138	-0·1181	0·2167	-0·3186	0·0472	0·2678	-0·4907	-0·1107	-0·4314	0·1095
8	-0·4269	0·5986	-0·2014	0·0804	0·0693	-0·5454	0·3554	-0·4336	0·1502	-0·3984
9	0·0071	0·6246	0·1013	-0·0512	-0·0048	-0·2411	0·3322	-0·3387	0·1979	-0·1302
10	0·2134	-0·1183	0·4011	-0·0216	0·2870	0·0122	-0·3801	0·6489	-0·2847	0·2534
11	1·0000	0·0868	0·4313	-0·0682	-0·2161	0·2699	-0·3212	0·2595	-0·4015	0·6216
12	0·0868	1·0000	-0·0141	0·5331	-0·2289	-0·5470	0·3260	0·0145	0·0356	0·0573
13	0·4313	-0·0141	1·0000	0·0740	0·1141	-0·2346	-0·2302	0·2466	-0·3802	0·5993
14	-0·0682	0·5331	0·0740	1·0000	-0·4162	-0·3962	0·4525	0·2556	-0·0278	0·3260
15	-0·2161	-0·2289	0·1141	-0·4162	1·0000	-0·3325	-0·3003	-0·0301	0·2429	-0·3975
16	0·2699	-0·5470	-0·2346	-0·3962	-0·3325	1·0000	-0·1981	-0·0668	-0·2457	0·1069
17	-0·3212	0·3260	-0·2302	0·4525	-0·3003	-0·1981	1·0000	-0·1015	0·4082	-0·0476
18	0·2595	0·0145	0·2466	0·2556	-0·0301	-0·0668	-0·1015	1·0000	-0·3581	0·3196
19	-0·4015	0·0356	-0·3802	-0·0278	0·2429	-0·2457	0·4082	-0·3581	1·0000	-0·4361
20	0·6216	0·0573	0·5993	0·3260	-0·3975	0·1069	-0·0476	0·3196	-0·4361	1·0000
21	-0·1960	0·2587	-0·5805	-0·0770	-0·1291	0·1496	0·0208	-0·2685	0·3128	-0·4468
22	0·1289	-0·0106	-0·6342	-0·2168	-0·2544	0·3492	-0·0391	-0·4030	0·1396	-0·2733
23	0·0398	-0·0215	0·3492	-0·0024	-0·0714	-0·0401	0·2270	-0·0022	0·2433	0·2979
24	-0·3740	0·0439	-0·3159	0·0065	-0·0030	0·0144	0·2653	-0·1231	0·4015	-0·3219
25	0·2636	-0·3918	0·3045	-0·0224	0·0680	0·3448	-0·4846	0·2936	-0·1835	0·2203
26	-0·0678	0·4898	-0·2537	0·1203	-0·3336	-0·1037	0·3796	-0·4175	0·4986	-0·1327

Matrix of Intercorrelations for the Drop-Outs 7-12 Weeks cont.

	21	22	23	24	25	26
1	0.0785	-0.1234	-0.1434	-0.0760	-0.3118	-0.0104
2	-0.0253	0.0154	0.3560	0.2950	0.0368	0.4224
3	-0.0192	-0.0374	-0.1587	-0.2959	-0.5223	0.0559
4	-0.0303	-0.1005	-0.0236	-0.0709	-0.3423	0.0426
5	0.1785	-0.0774	-0.2551	-0.0014	0.0549	-0.2089
6	-0.1231	-0.3337	-0.1074	-0.1490	0.0625	-0.2230
7	0.0114	-0.2888	-0.0313	-0.1385	0.1811	-0.0797
8	0.2638	0.0819	-0.2201	-0.0731	-0.7461	0.3123
9	0.3195	0.0249	0.3102	0.3260	-0.2575	0.6497
10	-0.2469	-0.6450	0.2006	0.1113	0.5915	-0.2920
11	-0.1960	0.1289	0.0398	-0.3740	0.2636	-0.0678
12	0.2587	-0.0106	-0.0215	0.0439	-0.3918	0.4898
13	-0.5805	-0.6342	0.3492	-0.3159	0.3045	-0.2537
14	-0.0770	-0.2168	-0.0024	0.0065	-0.0224	0.1203
15	-0.1291	-0.2544	-0.0714	-0.0030	0.0680	-0.3336
16	0.1496	0.3492	-0.0401	0.0144	0.3448	-0.1037
17	0.0206	-0.0391	0.2270	0.2653	-0.4846	0.3796
18	-0.2665	-0.4030	-0.0022	-0.1231	0.2936	-0.4175
19	0.3128	0.1396	0.2433	0.6015	-0.1835	0.4986
20	-0.4468	-0.2733	0.2979	-0.3219	0.2203	-0.1327
21	1.0000	0.4686	-0.1697	0.5297	-0.0538	0.5615
22	0.4686	1.0000	-0.3088	0.0351	-0.1852	0.2895
23	-0.1697	-0.3088	1.0000	0.5267	0.1815	0.4367
24	0.5297	0.0351	0.5267	1.0000	0.2815	0.7211
25	-0.0538	-0.1852	0.1815	0.2815	1.0000	-0.1126
26	0.5615	0.2895	0.4367	0.7211	-0.1126	1.0000

Matrix of Intercorrelations of Four Demographic Variables and Four Second Order Factors From the 16 PF on the Methadone Stone-Lindbergh Patients

THE NUMBER OF SUBJECTS IS 142
THE NUMBER OF VARIABLES IS 8

VARIABLE NUMBER 1 IS THE AGE OF STARTING HERION
VARIABLE NUMBER 2 IS THE LENGHT OF TIME ON HERION IN MONTHS
VARIABLE NUMBER 3 IS THE NUMBER OF ARRESTS
VARIABLE NUMBER 4 IS THE LENGHT OF TIME WORKING IN MONTHS
VARIABLE NUMBER 5 IS THE ADJUSTMENT VS. ANXIETY
VARIABLE NUMBER 6 IS THE INTROVERSION VS. EXTROVERSION
VARIABLE NUMBER 7 IS THE RESPONSIVE EMOTIONALITY VS. TOUGH POISE
VARIABLE NUMBER 8 IS THE DEPENDENCE VS. INDEPENDENCE

MEANS

1	2	3	4	5	6	7	8
19.2958	61.3521	2.5070	19.1338	6.0182	5.4781	6.3803	6.5844

STANDARD DEVIATIONS

1	2	3	4	5	6	7	8
3.5361	61.4632	4.7601	26.8337	1.5163	1.8140	1.4828	2.0638

CORRELATIONS

	1	2	3	4	5	6	7	8
1	1.0000	-0.2305	-0.1792	0.1971	-0.0633	-0.0651	0.0874	-0.0671
2	-0.2305	1.0000	0.5493	-0.1454	-0.2909	0.1387	-0.0804	-0.0393
3	-0.1792	0.5493	1.0000	-0.1055	-0.1335	0.1758	-0.0926	-0.0167
4	0.1971	-0.1454	-0.1055	1.0000	0.0702	-0.2654	0.1061	0.0296
5	-0.0633	-0.2909	-0.1335	0.0702	1.0000	-0.3869	0.0154	-0.0033
6	-0.0651	0.1387	0.1758	-0.2654	-0.3869	1.0000	-0.0184	-0.0682
7	0.0874	-0.0804	-0.0926	0.1061	0.0154	-0.0184	1.0000	0.1367
8	-0.0671	-0.0393	-0.0167	0.0296	-0.0033	-0.0682	0.1367	1.0000

Matrix of Intercorrelations of Four Demographic Variables and Four Second Order Factors From the 16 PF on the Off-Methadone Patients

THE NUMBER OF SUBJECTS IS 40
THE NUMBER OF VARIABLES IS 8

VARIABLE NUMBER 1 IS THE AGE OF STARTING HERION

VARIABLE NUMBER 2 IS THE LENGHT OF TIME ON HERION IN MONTHS

VARIABLE NUMBER 3 IS THE NUMBER OF ARRESTS

VARIABLE NUMBER 4 IS THE LENGHT OF TIME WORKING IN MONTHS

VARIABLE NUMBER 5 IS THE ADJUSTMENT VS. ANXIETY

VARIABLE NUMBER 6 IS THE INTROVERSION VS. EXTROVERSION

VARIABLE NUMBER 7 IS THE RESPONSIVE EMOTIONALITY VS. TOUGH POISE

VARIABLE NUMBER 8 IS THE DEPENDENCE VS. INDEPENDENCE

MEANS

1	2	3	4	5	6	7	8
18.4000	63.9750	3.4250	5.1250	6.9925	6.1676	5.1650	6.7875

STANDARD DEVIATIONS

1	2	3	4	5	6	7	8
10.2635	73.2968	5.1860	6.8381	1.0926	1.5792	1.8822	1.1062

CORRELATIONS

	1	2	3	4	5	6	7	8
1	1.0000	0.8219	0.1870	0.4253	0.3199	0.0177	-0.3973	-0.0617
2	0.8219	1.0000	0.1284	0.1847	0.0546	0.1881	-0.1736	-0.0099
3	0.1870	0.1284	1.0000	0.0944	-0.0709	0.3482	-0.1698	-0.2383
4	0.4253	0.1847	0.0944	1.0000	0.2859	0.1923	-0.3666	0.1526
5	0.3199	0.0546	-0.0709	0.2859	1.0000	-0.1974	-0.6015	0.2526
6	0.0177	0.1881	0.3482	0.1923	-0.1974	1.0000	-0.2349	0.0990
7	-0.3973	-0.1736	-0.1698	-0.3666	-0.6015	-0.2349	1.0000	-0.0068
8	-0.0617	-0.0099	-0.2383	0.1526	0.2526	0.0990	-0.0068	1.0000

Matrix of Intercorrelations of Four Demographic Variables and Four Second Order Factors From the 16 PF on the Hercin Addicts

THE NUMBER OF SUBJECTS IS 39
THE NUMBER OF VARIABLES IS 8

VARIABLE NUMBER 1 IS THE AGE OF STARTING HERION
VARIABLE NUMBER 2 IS THE LENGHT OF TIME ON HERION IN MONTHS
VARIABLE NUMBER 3 IS THE NUMBER OF ARRESTS
VARIABLE NUMBER 4 IS THE LENGHT OF TIME WORKING IN MONTHS
VARIABLE NUMBER 5 IS THE ADJUSTMENT VS. ANXIETY
VARIABLE NUMBER 6 IS THE INTROVERSION VS. EXTROVERSION
VARIABLE NUMBER 7 IS THE RESPONSIVE EMOTIONALITY VS. TOUGH POISE
VARIABLE NUMBER 8 IS THE DEPENDENCE VS. INDEPENDENCE

MEANS

1	2	3	4	5	6	7	8
21.3590	48.7436	1.5897	8.4103	5.5333	5.8487	6.0795	7.2077

STANDARD DEVIATIONS

1	2	3	4	5	6	7	8
6.2531	32.1835	2.9588	16.0587	0.5090	1.1903	1.4421	1.2295

CORRELATIONS

	1	2	3	4	5	6	7	8
1	1.0000	0.4430	0.7591	0.1530	-0.4492	0.7007	-0.1681	-0.1325
2	0.4430	1.0000	0.5657	0.0910	-0.2280	0.4456	-0.1496	-0.2121
3	0.7591	0.5657	1.0000	-0.1972	-0.4659	0.7556	-0.2736	-0.2254
4	0.1530	0.0910	-0.1972	1.0000	-0.2150	-0.1592	0.4311	0.4175
5	-0.4492	-0.2280	-0.4659	-0.2150	1.0000	-0.3958	-0.3659	-0.3765
6	0.7007	0.4456	0.7556	-0.1592	-0.3958	1.0000	-0.4320	-0.3486
7	-0.1681	-0.1496	-0.2736	0.4311	-0.3659	-0.4320	1.0000	0.8673
8	-0.1325	-0.2121	-0.2254	0.4175	-0.3765	-0.3486	0.8673	1.0000

Matrix of Intercorrelations of Four Demographic Variables and Four Second Order Factors From the 16 PF on the Methadone V.A. Patients

THE NUMBER OF SUBJECTS IS 43
THE NUMBER OF VARIABLES IS 8

VARIABLE NUMBER 1 IS THE AGE OF STARTING HERION
VARIABLE NUMBER 2 IS THE LENGHT OF TIME ON HERION IN MONTHS
VARIABLE NUMBER 3 IS THE NUMBER OF ARRESTS
VARIABLE NUMBER 4 IS THE LENGHT OF TIME WORKING IN MONTHS
VARIABLE NUMBER 5 IS THE ADJUSTMENT VS. ANXIETY
VARIABLE NUMBER 6 IS THE INTROVERSION VS. EXTROVERSION
VARIABLE NUMBER 7 IS THE RESPONSIVE EMOTIONALITY VS. TOUGH POISE
VARIABLE NUMBER 8 IS THE DEPENDENCE VS. INDEPENDENCE

MEANS

1	2	3	4	5	6	7	8
20.4651	77.5814	2.2093	14.3256	6.2628	5.2767	6.1465	6.9605

STANDARD DEVIATIONS

1	2	3	4	5	6	7	8
5.5294	69.2989	2.7917	25.1375	1.4855	1.6571	1.3096	1.3307

CORRELATIONS

	1	2	3	4	5	6	7	8
1	1.0000	0.0551	-0.2278	0.3456	-0.3606	0.2435	-0.3158	0.2161
2	0.0551	1.0000	0.0541	0.3285	-0.3003	0.1855	0.0040	-0.0135
3	-0.2278	0.0541	1.0000	0.1849	-0.2437	0.0046	0.1093	-0.3308
4	0.3456	0.3285	0.1849	1.0000	-0.4970	0.2658	-0.1101	0.3133
5	-0.3606	-0.3003	-0.2437	-0.4970	1.0000	-0.2675	-0.0108	0.0027
6	0.2435	0.1855	0.0046	0.2658	-0.2675	1.0000	-0.1317	0.2497
7	-0.3158	0.0040	0.1093	-0.1101	-0.0108	-0.1317	1.0000	0.2399
8	0.2161	-0.0135	-0.3308	0.3133	0.0027	0.2497	0.2399	1.0000

APPENDIX H

Summary of the Discriminant Analysis for the Variables in Question I

DISCRIMINANT ANALYSIS ON THE FOUR GROUPS ON THE FAMILY SCALE, Mach SCALE, TSCS, AND FACTORS C, E, M, AND O OF THE 16 PF

Multivariate (P) Level of F-ratio = 0.01 *

Root 1	65 Percent Variance	P = 0.01
Root 2	22 Percent Variance	P = 0.03
Root 3	22 Percent Variance	P = 0.16

Correlations of Variables With Roots

	1	2	3
1. Family Scale	0.49	-0.29	-0.02
2. Mach Scale	0.00	0.19	0.47
3. TSCS	0.30	0.25	0.50
4. Factor C	0.16	-0.21	0.61
5. Factor E	-0.07	0.52	-0.26
6. Factor M	0.18	-0.49	-0.34
7. Factor O	-0.72	-0.35	-0.09

Univariate F-Tests

	Univariate P Value	Omega Square
1. Family Scale	0.05	0.01
2. Mach Scale	0.50	0.00
3. TSCS	0.20	0.00
4. Factor C	0.19	0.00
5. Factor E	0.17	0.00
6. Factor M	0.12	0.01
7. Factor O	0.00	0.07

* NOTE Since the groups used in this analysis were not randomized the multivariate P level cannot be interpreted in the sense of giving statistical probability.

APPENDIX I

Summary of the Canonical Correlation Approach to the Discriminant Function Analysis on the Demographic Variables of the Four Groups Used in Question 1

CANONICAL CORRELATION APPROACH TO DISCRIMINANT

ANALYSIS FUNCTION ON ALL FOUR GROUPS

A side domain = 10 demographic variables

B side domain = 4 groups of subjects

100 percent of the trace was extracted by one root

Factor	Canon R	Canon R**2	D.F.	Chi Sq	Prob
1	0.3362	0.1130	10.00	31.061	0.0009

APPENDIX J

Second Order 16 PF Factors

LIST OF SECOND STRATUM FACTORS MEASURABLE BY THE 16 PF TEST

Standard Index	Bibolar title	Chief Primaries Involved
1. QI	Invia vs. Exvia Introversion vs. extroversion	A+, E+, F+, H+, Q2-
2. QII	Adjustment vs. Anxiety	C-, H-, L+, O+, Q5, Q4-
3. QIII	Pathemia vs. Cortertia feeling vs. thinking	A-, I-, M-
4. QIV	Subduedness vs. Independence	E+, L+, M+, Q1+, Q2+

REFERENCES

Akers, H. L., Burgess, R. L., & Johnson, W. T. Opiate use, addiction, and relapse. Social Problems, 1968, 15, 459-469.

AMA Council on Mental Health. Management of narcotic-drug dependence by high-dosage methadone-HCL technique: Dole:Nyswander program. Journal of the American Medical Association, 1967, 201, 956-957.

APA Committee on Alcohol and Drug Dependence (1967). Statement on Methadone Maintenance.

Ausubel, D. P. The Dole-Nyswander treatment of heroin addiction. Journal of the American Medical Association, 1966, 195, 949-950.

Babst, D., Chambers, C., Warner, A. Characteristics predicting long-term retention in a methadone maintenance program. Proceedings of the 3rd National Conference on Methadone Treatment, 1970, New York, 140-143.

Baden, M. M. Methadone related deaths in New York City. International Journal of the Addictions, 1970, 5, 489-498.

Bender, L. Drug addiction in adolescence. Comprehensive Psychiatry, 1963, 4, 181-194.

Bentel, D. J., & Smith, D. E. Drug abuse in combat: addiction among American troops in Vietnam. Journal of Psychedelic Drugs, 1971, 4, 23-30.

Bernstein, D. Methadone in the family. Proceedings of the 4th National Conference on Methadone Treatment, 1972, San Francisco, 367-369.

Bewley, T. M., & Ben-Arie, O. Study of 100 consecutive inpatients. British Medical Journal, 1968, 1, 727-730.

Bewley, T. H. Drug dependence in the U.S.A. Bulletin on Narcotics, 1969, 21, 17-18.

Bewley, T. H., Ben-Arie, O., & James, I. P. Morbidity and mortality from heroin dependence: survey of heroin addicts known to home office. British Medical Journal, 1968, 1, 725-726.

Biase, D. V. Adolescent heroin abusers in a therapeutic community: Use of MAACL to assess emotional traits and aplitting from treatment. Journal of Psychedelic Drugs, 1971, 4, 145-147.

Blachly, P. H. Progress report on the methadone blockade treatment of heroin addicts in Portland. Northwest Medicine, 1970, 69, 172-176.

Black, P. (ed.) Drugs and the Brain. Baltimore, Maryland: John Hopkins, 1969.

Blinick, G. Menstrual function and preganancy in narcotics addicts treated with methadone. Nature, 1968, 219, 180.

Bloom, A., & Sudderth, E. Methadone in New Orleans: patients, problems, and police. International Journal of the Addictions, 1970, 5, 465-487.

Bowden, C. L., & Maddux, J. F. Methadone maintenance: myth and reality. American Journal of Psychiatry, 1972, 129, 95-106.

Brecher, E. M. Licit and Illicit Drugs. Boston, Massachusetts: Little, Brown, & Co., 1972.

Brill, E. The problem of drug dependencies: Some general perspectives. Journal of the Hillside Hospital, 1969, 16, 108-119.

Brill, H. Methadone maintenance: a problem in delivery of service. Journal of the American Medical Association, 1971, 215, 1148-1150.

Buros, O. (ed.) Personality Tests and Reviews. Highland Park, New Jersey: Gryphon Press, 1970.

Cameron, D. C. Addiction: current issues. American Journal of Psychiatry, 1963, 120, 313-319.

Cameron, N. Personality Development and Psychopathology. Boston, Massachusetts: Houghton Mifflin Co., 1963.

Cattell, R. Handbook for the Sixteen Personality Questionnaire. Champaign, Illinois: Institute for Personality and Ability Testing, 1970.

Check, F. E., Sarett, M., Newell, S., & Osmond, H. A survey of the experience of tension in alcoholics and other diagnostic groups. International Journal of Neuropsychiatry, 1967, 3, 479-488.

Chein, I. The status of sociological and social psychological knowledge concerning narcotics. U.S. Public Health Service, Narcotic Drug Addiction Problems, 1963, 1050, 146-158.

Chen, K. K. Pharmacology of methadone and related compounds. New York Academy of Science Annals, 1948, 51, 83-97.

Cohen, M., & Klein, D. P. Drug abuse in a young psychiatric population. American Journal of Orthopsychiatry, 1971, 40, 448-455.

Coleman, J. C. Abnormal Psychology and Modern Life. Chicago, Illinois: Scott Foresman & Co., 1964.

Connell, P. M., & Glatt, M. M. Psychiatry in drug dependence. British Medical Journal, 1968, 2, 486-487.

Cooley, W., & Lohnes, P. Multivariate Data Analysis. New York: Wiley, 1971.

Cranley, W. R., & Haddow, J. E. Methadone overdosage in children. New England Journal of Medicine, 1971, 284, 792.

De Angelis, C. G. The role of urine testing in heroin treatment programs. Journal of Psychedelic Drugs, 1971, 4, 186-197.

Davis, E. The Man Alive Program. International Journal of the Addictions, 1970, 5, 421-430.

Denman, P. Study of the Personality Characteristics of Methadone Patients. Unpublished, 1969.

Dole, V. P. Drug maintenance as a treatment approach. Journal of Hillside Hospital, 1967, 16, 157-162.

Dole, V. P. Methadone maintenance treatment for 25,000 heroin addicts. Journal of the American Medical Association, 1971, 215, 1131-1134.

Dole, V. P., & Nyswander, M. A medical treatment for diacetylmorphine (heroin) addiction. Journal of the American Medical Association, 1965, 193, 646-650.

Dole, V. P., & Nyswander, M. E. Heroin addiction--a methbolic disease. Archives of Internal Medicine, 1967, 120, 19-24.

Dole, V. P., & Nyswander, M. E. Rehabilitation of heroin addicts after blockade with methadone. New York State Journal of Medicine, 1966, 66, 2011-2-17.

Dole, V. P., & Nyswander, M. E. Rehabilitation of the street addict. Archives of Environmental Health, 1967, 14, 477-480.

Dole, V. P., & Nyswander, M. E. Study of methadone as an adjunct in rehabilitation of heroin addicts. Illinois Medical Journal, 1966, 130, 487-489.

Dole, V. P., & Nyswander, M. E., & Kreck, M. J. Narcotic blockade. Archives of Internal Medicine, 1966, 118, 304-309.

Dole, V. P., Nyswander, M. E., & Warner, A. Successful treatment of 750 criminal addicts. Journal of the American Medical Association, 1968, 206, 2708-2711.

Dole, V. P., Robinson, J. W., Orraca, J., Towns, E., Searey, P. & Caine, E. Methadone treatment of randomly selected criminal addicts. The New England Journal of Medicine, 1969, 280, 1372-1357.

Dole, V. P., & Warner, A. Evaluation of narcotics treatment programs. American Journal of Public Health, 1967, 57, 2000-2008.

Eddy, N. B. Methadone maintenance for the management of persons with drug dependence of the morphine type. Drug Dependence, 1970, 3, 17-26.

Eddy, N. B. WHO expert committee on drug dependence. World Health Organization Technical Report Series, 1969, No. 470, 5-28.

Einstein, S. Critical issues concerning methadone: treatment, therapy or what? Proceedings of the 4th National Conference on Methadone Treatment, 1972, San Francisco, 515-519.

Einstein, S. Methadone Maintenance. New York: Marcel Dekker, 1971.Faigel, H. C. Methadone maintenance for treatment of addiction. Journal of the American Medical Association, 1971, 215, 299.

Feldman, H. W. Ideological supports to becoming and remaining a heroin addict. Journal of Health and Social Behavior, 1968, 9, 131-139.

Felix, R. H. An appraisal of the personality types of the addict. American Journal of Psychiatry, 1944, 100, 462-467.

Fitts, W. H. Tennessee Self Concept Scale. Nashville, Tennessee: Counselor Recordings and Tests, 1964.

Fort, J. P. Heroin addiction among young men. Psychiatry, 1954, 17, 251-259.

Freedman, A. M., Find, M., Sharoff, R., & Zaks, A. Cyclazocine and methadone in narcotics addiction. Journal of the American Medical Association, 1967, 203, 191-194.

Freedman, A. M., Sager, C. J., Rabiner, E. L., & Brotman, R. E. Response of adult heroin addicts to a total therapeutic program. American Journal of Orthopsychiatry, 1963, 33, 890-899.

Freedman, A. M., & Sharoff, R. L. Crucial factors in the treatment of narcotic addiction. American Journal of Psychotherapy, 1965, 19, 397-407.

Freedman, A. M., Zaks, A., Resnick, R., & Fink, M. Blockade with methadone, cyclazocine, and naloxone. International Journal of the Addictions, 1970, 5, 507-515.

Gay, G. R. Acute treatment of heroin addiction with special reference to mixed addictions. Journal of Psychedelic Drugs, 1971, 4, 113-117.

Gay, G. R., & Way, E. L. Some pharmacological perspectives on the opiate narcotics with special consideration of heroin. Journal of Psychedelic Drugs, 1971, 4, 31-39.

Gearing, F. R. Evaluation of methadone maintenance treatment program. International Journal of the Addictions, 1970, 2, 455-458.

Gendreau, P., & Gendreau, L. P. The "addiction-prone" personality: a study of Canadian heroin addicts. Canadian Journal of Behavioral Science, 1970, 2, 18-25.

Gerard, D. L., & Kornetsky, C. A social and psychiatric study of adolescent opiate addicts. Psychiatric Quarterly, 1954, 28, 113-125.

Gewirtz, P. D. Methadone maintenance for heroin addicts. Yale Law Journal, 1969, 78, 1175-1211.

Goldstein, A. Blind dosage comparisons and other studies in a large methadone program. Journal of Psychedelic Drugs, 1971, 4, 177-181.

Goldstein, A., & Brown, B. W. Urine testing schedules in methadone maintenance treatment of heroin addiction. Journal of the American Medical Association, 1970, 214, 311-315.

Gordon, M. B. Reaction-times of methadone treated ex-heroin addicts. Psychopharmacologia, 1970, 16, 337-344.

Gordon, H. B., Warner, A., & Henderson, A. Psychomotor and intellectual performance under methadone maintenance. National Academy of Sciences-National Research Council Committee on Problems of Drug Dependence. Report of the 29th Meeting, 1967, Washington: the Academy, 5136-5144.

Gubar, G. Problem of drug addiction: an overview. Pennsylvania Psychiatric Quarterly, 1967, 7, 10-20.

Haertzen, C. A. Addiction Research Center Inventory (ARCI): Development of a general drug estimation scale. Journal of Nervous & Mental Disease, 1965, 3, 300-307.

Haertzen, C. A. Subjective drug effects: A factorial representation of subjective drug effects on the Addiction Research Center Inventory. Journal of Nervous and Mental Disease, 1965, 280-289.

Haertzen, C. A., & Hoaks, N. T. Changes in personality and subjective experience associated with the chronic administration and withdrawal of opiates. Journal of Nervous and Mental Disease, 1969, 148, 606-614.

Hayes, W. L., & Winkler, R. L. Statistics. New York: Holt, Rinehart & Winston, Inc., 1971.

Helf, M., Folick, B., & Himmel, P. A program of methadone maintenance to treat addiction. Journal of Psychedelic Drugs, 1971, 4, 165-176.

Heyman, F. Methadone maintenance as law and order. Transaction Social Science and Modern Society, 1972, 9, 15-25.

Hill, H. E., Haertzen, C. A., & Glaser, R. Personality characteristics of narcotic addicts as indicated by the MMPI. Journal of General Psychology, 1960, 62, 127-139.

Hill, H. E., Haertzen, C. A., Walback, A. B., & Miner, E. J. The Addiction Research Center Inventory: Standardization of scales which evaluate subjective effects of Morphine, Amphetamine, Pentobarbital, Alcohol, LSD-25, Pyrahexyl and Chlorpromazine. Psychopharmacologia, 1963, 4, 167-183.

Hill, H. E., Haertzen, C. A., Walback, A. B., & Miner, E. J. The Addiction Research Center Inventory: Appendix. Psychopharmacologia, 1963, 4, 184-205.

Hoffman, L. A methadone program for addicts with chest disease. Journal of the American Medical Association, 1970, 211, 977-982.

Hoogerbeets, J. Methadone in Miami. International Journal of the Addictions, 1970, 5, 499-506.

Hughes, P. H., Crawford, G. A., Barker, N. W., Schumann, S., & Jaffe, J. H. The social structure of a heroin copping community. American Journal of Psychiatry, 1971, 128, 551-558.

Hughes, P. H. & Jaffe, J. H. The heroin copping area. Archives of General Psychiatry, 1971, 24, 394-400.

Isbell, H., Wikler, A., Eddy, M. B., Wilson, J. L., & Moran, C. F. Tolerance and addiction liability of 6-Dimethylamine-4-4-Diphenytheptanone-3 (Methadon). Journal of the American Medical Association, 1947, 135, 888-894.

Jaffe, J. H. Further experience with methadone in the treatment of narcotics users. International Journal of the Addictions, 1970, 5, 375-389.

Jaffe, J. H. Pharmacological approaches to the treatment of compulsive opiate use: their rationale and current status. Drugs and the Brain. Black. Maryland: Johns Hipkins Press, 1969.

Jaffe, J. H., & Sennay, E. C. Methadone and l-Methadyl Acetate. Journal of the American Medical Association, 1971, 216, 1303-1305.

Jaffe, J. H., Schuster, C. R., Smith, B. B., & Blachley, P. H. Comparison of Acetylmethadol and methadone in the treatment of long-term heroin users. Journal of the American Medical Association, 1970, 211, 1834-1836.

Jaffe, J. H., Zaks, M. S., & Washington, E. Experience with the use of methadone in a multi-modality program for the treatment of narcotics users. International Journal of the Addictions, 1969, 4, 481-490.

Jonas, S. Methadone treatment of addicts. New England Journal of Medicine, 1969, 218, 391.

Karkus, H. Methadone failures: patient or program. The Third National Conference on Methadone Treatment, 1972, San Francisco, 401-405

Kleber, H. D. The New Haven methadone maintenance program. International Journal of the Addictions, 1970, 5, 449-463.

Knowles, R., Lahiri, S., & Anderson, G. Methadone maintenance in St. Louis. International Journal of the Addictions, 1970, 5, 407-420.

Kolb, L. Clinical contribution to drug addiction: the struggle for cure and the conscious reasons for relapse. Journal of Nervous and Mental Disease, 1927, 66, 22-43.

Kramer, J. C. Introduction to the problem of heroin addiction in America. Journal of Psychedelic Drugs, 1971, 4, 15-22.

Kromberg, C. J., & Procter, J. B. Evolution of a day program. American Journal of Nursing, 1970, 70, 2575-2577.

Lerner, S. E., Linder, R. L., & Klompus, I. The cost of heroin to the addict and the community. Journal of Psychedelic Drugs, 1971, 4, 99-103.

Levine, D. G., Levin, D. B., Sloan, I. H., & Chappel, J. H. Personality correlates of success in a methadone maintenance program. American Journal of Psychiatry, 1972, 129, 456-460.

Lindersmith, A. R. Opiate Addiction. Illinois: Principia Press of Illinois, Inc., 1957.

Martin, W. R. Commentary on the Second National Conference on Methadone Treatment. International Journal of the Addictions, 1970, 5, 545-522.

Malansky, R. Methadone maintenance programs in Minneapolis. International Journal of the Addictions, 1970, 5, 391-405.

Mc Dermott, Sister Raphael. Maintaining the methadone patient. Nursing Outlook, 1970, 18, 22-26.

Mc Mearn, J. H. Racial perspectives on the heroin problem. Journal of Psychedelic Drugs, 1971, 4, 91-94.

_____, Methadone clinical trials under study. Narcotics Bureau seeks advice. Journal of the American Medical Association, 1969, 208, 251.

_____, Methadone and acetylmethadol maintenance. Journal of the American Medical Association, 1970, 211, 1847-1848.

_____, Methadone maintenance for heroin addicts. Yale Law Journal, 1969, 78, 1175-1211.

Murphy, M. F. The world heroin problem: report of a special study mission. Union Calender, 1971, 124, 1-46.

Murray, J. B. Drug addiction. Journal of General Psychology, 1967, 77, 41-63.

Myerson, D. J. Methadone treatment of addicts. New England Journal of Medicine, 1969, 28, 390-391.

_____. Methadone maintenance. Newsweek, 1971, 45.

Nix, J. T. Methadone for narcotics addicts. Journal of the American Medical Association, 1969,207, 2439.

Nol, E. A. Methadone program problems. Journal of the American Medical Association, 1971, 215, 1158-1159.

Nyswander, M. The Drug Addict as a Patient. New York: Gruen & Stratton, 1965.

Nyswander, M., & Dole, V. P. The present status of methadone blockade treatment. American Journal of Psychiatry, 1967, 123, 1441-1442.

O'Malley, J. E., Anderson, W. H., & Lazare, A. Failure of outpatient treatment of drug abuse: I. Heroin. American Journal of Psychiatry, 1972, 128, 865-868.

Patch, V. Methadone maintenance in Boston. Proceedings of the 4th National Conference on Methadone Maintenance, 1972, 507-511.

Paulus, I., & Halleday, R. Rehabilitation and the narcotic addict: results of a comparative methadone withdrawal program. The Canadian Medical Association Journal, 1967, 96, 655-659.

Pearson, B. A. Methadone maintenance in heroin addiction. American Journal of Nursing, 1969, 70, 2571-2574.

Perkins, M. E. Methadone maintenance: Expanding the concept of service. American Journal of Psychiatry, 1972, 129, 121-122.

Perkins, M. E., & Bloch, H. I. Some failures in methadone treatment. American Journal of Psychiatry, 1971, 128, 47-51.

Perkins, M. E., & Bloch, H. I. Survey of a methadone maintenance treatment program. American Journal of Psychiatry, 1970, 126, 1389-1402.

Perkins, M. E., & Richman, A. Prevalence of participation in methadone programs. American Journal of Psychiatry, 1972, 129, 447-450.

Phillips, J. D., & Delhees, K. H. A Personality Analysis of Drug Addicts by the 16 PF Questionnaire Evaluation of the Influences of Rehabilitation. Corona, California: California Rehabilitation Center, 1968.

Pittel, S. M. Psychological aspects of heroin and other drug dependence. Journal of Psychedelic Drugs, 1971, 4, 40-45.

_____. Proceedings: Third National Conference on Methadone Treatment, Nov. 14-16, 1970, U.S. Dept. of Health, Education, and Welfare.

_____. Progress report of evaluation of methadone maintenance treatment program as of March 31, 1968. Journal of the American Medical Association, 1968, 206, 2712-2714.

Ramer, B. S. Methadone maintenance for narcotic addiction. Journal of Psychedelic Drugs, 1971, 4, 162-164.

Ramer, B. S., Zaslove, M. O., & Langan, J. Is methadone enough? The use of ancillary treatment during methadone maintenance. American Journal of Psychiatry, 1971, 127, 80-84.

Ray, M. B. The cycle of abstinence and relapse among heroin addicts. Social Problems, 1961, 29, 132-140.

Robinson, J., & Shaver, N. Measures of Social Psychology Attitudes. Institute for Social Research, University of Michigan, Ann Arbor, Michigan: 1969.

Schuster, C. R., Smith, B. B., & Jaffe, J. H. Drug abuse in heroin users. An experimental study of self-administration of methadone, codeine, and pentazocine. Archives of General Psychiatry, 1971, 24, 359-362.

Sells, S. B., Pearson, P., & Joe, G. W. Comparison of behavioral indices of methadone maintenance patients who remain in treatment with those who drop out early. Proceedings of the 4th National Conference on Methadone Treatment, 1972, San Francisco, 221-225.

Sells, S. B., & Watson, D. D. A spectrum of approaches in methadone treatment: relation to program evaluation. Journal of Psychedelic Drugs, 1971, 4, 198-204.

Senay, E. C. Methadone: some myths and hypotheses. Journal of Psychedelic Drugs, 1971, 4, 182-185.

Senay, E. C., & Renault, P. F. Treatment methods for heroin addicts: a review. Journal of Psychedelic Drugs, 1971, 3, 47-54.

Shaw, M., & Wright, J. Scales for the Measurement of Attitudes. New York: Mc Graw Hill Co., 1967.

Sheppard, C. W., Gay, G. R., & Smith, D. E. The changing patterns of heroin addiction in the Haight-Ashbury subculture. Journal of Psychedelic Drugs, 1971, 3, 22-30.

Smith, D., & Gay, G. Editor's note. Journal of Psychedelic Drugs, 1971, 5-9.

Tatsuoka, M. Multivariate Analysis. New York: Wiley & Sons, 1971.

_____. A review of methadone maintenance. Time, 1972, 86.

Torda, C. Comments on the character structure and psychodynamic processes of heroin addicts. Perceptual and Motor Skills, 1968, 27, 143-146.

Trussell, R. E. Treatment of narcotic addicts in New York City. International Journal of the Addictions, 1970, 5, 347-357.

Uhr, L., & Miller, J. G. Drugs and Behavior. New York: John Wiley and Sons, 1960.

Vaillant, G. E. A twelve-year follow-up of New York City addicts: I. The relation of treatment to outcome. American Journal of Psychiatry, 1966, 122, 727-737.

Waddell, K., Smith, R., & Stewart, G. Changes in MMPI scores on Black heroin addicts maintained on methadone. The 3rd National Conference on Methadone Treatment, 1972, San Francisco, 75-86.

Waldorf, D. Life without heroin, some social adjustments during long term periods of voluntary abstention. Social Problems, 1970, 18, 228-243.

Weppner, R. S., Stephens, R. C., & Conrad, H. T. Methadone: some aspects of its legal and illegal use. American Journal of Psychiatry, 1972,129, 451-455.

Wellisch, D. K., Gay, G. R., Wesson, D. R., & Smith, D. E. The psychotic heroin addict. Journal of Psychedelic Drugs, 1971, 4, 46-49.

Wieland, W. F., & Chambers, C. D. Two methods of utilizing methadone in the outpatient treatment of narcotic addicts. International Journal of the Addictions, 1970, 5, 431-438.

Wieland, W. F., & Sola, S. Depression in opiate addicts measured by objective tests. Proceedings of the 3rd National Conference on Methadone Treatment, 1970, New York, 75-78.

Wikler, A. A psychodynamic study of a patient during experimental self-regulated re-addiction to morphine. Psychiatric Quarterly, 1952, 26, 270-293.

Wikler, A., & Rasor, R. W. Psychiatric aspects of drug addiction. American Journal of Medicine, 1953, 14, 566-570.

Williams, H. R. Low and high methadone maintenance in the out-patient treatment of the hard core heroin addict. International Journal of the Addictions, 1970, 5, 439-447.

Williams, H. R. Using methadone to treat the heroin addict. Canada's Mental Health, 1970, 18, 4-9.

Williams, H., & Johnston, W. Abstinence patterns among heroin addicts receiving methadone treatment on an out patient basis. Proceedings of the 3rd National Methadone Conference, 1970, New York, 61-63.

_____. World Health Organization Expert Committee on dependence producing drugs. Fifteenth Report. WHO Technical Report Series, No. 343, 1966.

Yablonsky, L. Synanon: The Tunnel Back. Baltimore, Maryland: John Hopkins Press, 1967.

Zimmering, P., Toolan, J., Safrin, R., & Wortis, S. B. Drug addiction in relation to problems of adolescence. American Journal of Psychiatry, 1952, 109, 272-278.

Zimmering, P., Toolan, J., Safrin, R., & Wortis, S. B. Heroin addiction in adolescent boys. Journal of Nervous and Mental Disease, 1951, 114, 19-34.

Zinberg, N. E. Heroin use in Vietnam and the United States. Archives of General Psychiatry, 1972, 26, 486-488.