RELATIONSHIPS OF THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY AND THE BIPOLAR PSYCHOLOGICAL INVENTORY TO EACH OTHER AND TO INCARCERATED HEROIN ADDICTS

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This is to certify that the

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ABSTRACT

RELATIONSHIPS OF THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY AND THE BIPOLAR PSYCHOLOGICAL INVENTORY TO EACH OTHER AND TO INCARCERATED HEROIN ADDICTS

By

J. Howard Hightower I

Statement of the Problem

A great deal is already known regarding human body chemistry and the pharmacology of most drugs, and undoubtedly our knowledge in such areas will steadily increase. Unfortunately, we still know little or nothing about the variables or factors which lead individuals to choose one drug over another, to be able to use/abuse a drug or leave it alone, or to escape the circle of drug dependency.

Overtly, it appears practical to say, from an analysis of our ancestry, that drugs affecting the mind will long be with us. It would be a rare drug which does not exact some payment in adverse effects in return for its rewards.

Considerable disagreement is evident in the literature regarding the nature or structure of personality patterns (profiles) associated with drug addiction, and reported data and their utility are limited in scope and generalizability.

Purpose of the Study

The purpose of this study was to examine what relationships exist between the scales of the Minnesota Multiphasic Personality Inventory (MMPI) and the scales of the Bipolar Psychological Inventory (BPI), tested on an incarcerated heroin addicted and non-heroin addicted population, and to ascertain which instrument would reveal more numerous and more highly significant correlations of personality characteristics to heroin addiction. A second purpose was to review, examine, and compare the effectiveness of the BPI and the MMPI scales, individually and to each other, in assessing characteristics of incarcerated heroin addicts and non-addicts. A third purpose was that of exploring psychological dimensions and other areas that led to the development of the BPI.

The present study examines and delineates the most frequent personality deviations found among incarcerated heroin addicts and non-addicts in terms of diagnostic profiles obtained on both inventories (BPI and MMPI). Composite profiles of the experimental group and the control group, and the racial categories are compared and discussed.

Methodology

Procedure

To screen incarcerated heroin addicts from incarcerated non-heroin addicts, the control group, specific precautions were taken. The population studied consisted

of an experimental group--incarcerated heroin addicts--and a control group--incarcerated non-addicts--of 35 inmates per group, randomly selected. All inmates were housed in the Ingham County Jail at Mason, Michigan, and were initially screened by the Intake-Referral Coordinator of the Ingham County Jail Inmate Rehabilitation Program (ICJIRP), and re-screened by the Drug Abuse Treatment Program staff to determine further the evidence of drug use/abuse. The records of all inmates tested were carefully reviewed, and known addicts vs. known non-addicts were dichotomized into the experimental and the control groups. Further, each inmate was interviewed who was included in either of the two final groups. Each inmate was carefully questioned about his drug history with the assurance that the information would be held in confidence.

The Multi-Checking-System controlled for confounding variables such as drug use/abuse, duration of addiction, previous exposure to therapy and psychological testing, history and/or presence of psychosis, and physical addiction to heroin.

The MMPI and the BPI were originally administered to 89 inmates. However, the study's Multi-Checking-System, implemented in order to assure authenticity of results, deleted all but 75 inmates. Five of the remaining 75 inmates were eliminated for other reasons.

The inmates in both groups were administered the group form of the MMPI and the BPI-A. Generally, the tests

were given in a group setting; eight individual subjects were tested individually.

Design and Analysis

Examination of individual scales of the MMPI and the BPI was performed, along with their overall patterning in terms of the interrelations among the scales. The means, standard deviations, and significance levels comparing each scale on the MMPI and the BPI for the experimental and the control group were plotted and analyzed.

An analysis of the data accompanies a restatement of the hypotheses and assumptions under investigation. The MMPI and BPI profiles for all groups and intercorrelational matrices between the two instruments were presented and discussed, along with the demographic variables (race, education, and age).

An analysis of variance was performed for each of the 15 variables of the BPI, the 14 variables of the MMPI, and the 3 demographic variables. This total of 32 analyses of variance was performed and presented in tables to ascertain statistical differences between incarcerated heroin addict inmates and incarcerated non-heroin addict inmates for each of the variables.

Conclusions

The MMPI Comparative Summary for Both Samples

The MMPI comparative summary for both samples was different only in marginal degrees. An examination of the comparative summary contained in Figure 2.4 reveals similar profile patterns in overall configuration. Elevations on scales 4, 8, and 9 dominate both the incarcerated heroin addict and the incarcerated non-addict profiles.

Generally, both groups fell within the normal limits on the validity scales, L, F, and K. However, both samples were elevated on the F scale, though not beyond a T Sc of 70. Both groups were also elevated beyond a T Sc of 70 with K corrections on the Psychopathic Deviate of Pd scale, with differences being only in a marginal degree of elevation. Other scale elevations beyond a T Sc of 70 with K corrections were the Hypomania or MA scale, and the Schizophrenia or Sc Scale:

Pd-Ma Combined

> Persons with this profile pattern show clear manifestations of psychopathic behavior, the hypomania seemingly energizing or activating the pattern related to . . . Pd scale. That is, these people tend to be over-active and impulsive, irresponsible and untrustworthy, shallow and superficial in their relationships. To satisfy their own desires and ambitions, they may expend great amounts of energy and efforts, but they find it difficult to stick to duties and responsibilities imposed by others (Dahlstrom and Welsh, 1960).

The Schizophrenia or Sc scale was the least elevated on the profiles beyond a T Sc of 70 with K corrections

of the two samples (with the exception of a marginally higher elevation in degree only, on the non-heroin addicts profile) and appears to add to the psychopathology of both samples. The Sc scale suggests a union with the total profile, and the marked similarity between the incarcerated heroin addict and the non-addict profiles further supports the belief that personality characteristics do not materially change following addiction, even though the procurement, use, and effects of drugs necessarily demand changes in the individual's daily activities.

Further supportive evidence obtained from the analysis of variance on all 14 variables of the MMPI for each of the two groups indicated no significant differences on any of the MMPI variables between the two groups at the .05 level of confidence.

The BPI Comparative Summary for Both Samples

Figure 3.4 revealed that basically, both samples fell within the normal limits on the Invalid-Valid, and the Lie-Honest scales. Noted elevations on the Hostility-Kindness scale suggested hostility, aggressiveness, verbal assertiveness, intolerance, violence, and vengefulness. Although marginal differences were noted between the two groups on the scales of the BPI, the Dependence-Self-Sufficiency scale was the only one significant at the .05 level of confidence. However, this finding was not significant when evaluated with the instrument's previously set pathological

demarcation line (beyond the eightieth percentile or below the twentieth percentile). The analysis of variance on the remaining 14 scales of the BPI revealed no other differences between the mean scores of the experimental group and the control group, despite an elevation on the BPI's Hostility-Kindness scale beyond the pathological demarcation line by the experimental group.

Demographic Variables

The analysis of variance on the first two demographic variables, age and education, revealed that both variables were significant beyond the .05 level of confidence, between the two groups. The analysis of variance results revealed no significant differences at the .05 level of confidence among racial categories (Blacks, Whites, and Mexicans).

Since sample size is a very important component in interpreting results, caution is indicated with the racial profiles. Generally, an n of 30 is required to satisfactorily acknowledge the F test as meaningful. However, since no differences were found between the two groups on the BPI (with the exception of scale 7--although not elevated at or beyond the pathological demarcation level, the eightieth percentile) and the MMPI, the researcher plotted the mean scores for further examination by future researchers. Again, caution is indicated since only one of the racial categories meets adequate sample size,

combined with other limitations (Whites--39, Blacks--23, and Mexicans--8).

Discussion

An analysis of the present data indicates a large number of meaningful Bipolar Psychological Inventory correlations with the scales of the Minnesota Multiphasic Personality Inventory. This is suggestive of proximity and consistency in attempting to measure similar psychological traits or psychological scale dimensions.

From the results, the findings suggest that the MMPI combined with the BPI represent complementary, therapeutic, and diagnostic tools for a large variety of psychological uses. Results also indicate these tests' further importance in evaluating populations "unlimited"--in particular, the "sociopathic"-labeled groups.

Although an analysis of numerous research results suggests that there are measurable personality differences between incarcerated heroin addicts and heroin addicts not incarcerated with respect to the incidence and extent of sociopathy, incarceration appears to be at least one of the multiple confounding variables that precludes a dichotomy between the incarcerated heroin addict and the incarcerated person who is not an addict.

The incarcerated non-heroin addict sample is presented in Chapter IV in Table 9.1 via a matrix of intercorrelations within the MMPI variables and within the BPI

variables. The intercorrelations of variables and their possible predictability of each other are considered one measure of internal consistency, which is a form of reliability. Both the BPI and the MMPI appear to possess this chatacteristic or strength.

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By

J. Howard Hightower I

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Counseling, Personnel Services,
and Educational Psychology

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DEDICATION

Dedicated to my wife, Marie,
to James II and Terrance, and
to the true unification of
brotherhood.

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I am deeply indebted to many people for helping me complete this dissertation; the first honors are hereby bestowed upon my lovely wife and family.

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CHAPTER I

INTRODUCTION

The growing trend of drug use and abuse is one of the major challenges facing society today. Everyday we use, or someone close to us uses, some kind of drug; and we are, in reality, surrounded by suggestions to use even more drugs in our daily lives. With the rapid growth and accelerating production in technology of pharmacology, drug producers are finding new drugs faster than ever before. Concomitantly, hard-sell advertising pressures us and our doctors to use more drugs. Unknown maladies are being engendered through media campaigns to justify greater drug use. Normal states are now being called diseases to increase drug sales. Doctors, whose patients expect a ready, effortless remedy for every nervous or physical complaint, are now forced to prescribe more drugs. Often these new drugs are relatively untested, and frequently are more dangerous than the ailment. The success in creating such a consumer market can be measured by the inability of the manufacturers and suppliers to safely or legally supply the demands of the new, voracious market.

Drugs are everywhere. They are part of everyone's daily life (Smith and Smith, 1971).

> Addiction to the opiates is an ancient world problem. People, attitudes, motivations and drugs themselves have changed, but the use of substances has been with us forever. Heroin appears to be the most addictive of the drugs derived from opium. The use of this synthetic drug by the medical profession has been outlawed for some years. In recent years, however, the illicit use of heroin has been increased substantially according to some estimates. It is difficult to tell the magnitude of heroin addiction in the United States but there is evidence that in some communities it is substantially greater than has been previously realized (Byrd and Byrd, 1972).

We know a great deal already about the chemistry and human parmacology of most drugs, and our knowledge in such areas will continue to increase. Unfortunately, we still know little or nothing about individual factors and consequences surrounding drug use: Why do people choose one drug over another? Why do some use drugs excessively and others infrequently? How does someone escape the burden of drug dependency?

It seems feasible, from what we know of history, that drugs affecting the mind will long be with us. However, it would be a unique drug that did not exact some price in adverse effects in return for its benefits. We must try, as best we can, to consider the price that must be paid for each of our "social" drugs. Only when we have carefully evaluated those consequences can society decide wisely the question of which drugs to accept, and which to reject.

The "rational vein," that Americans live in a drug-oriented society, has become an accepted fact. That drug

abuse knows no age limit or socio-economic boundary has been established. Drug abuse has become so common in America that it is affecting the American way of life and undermining basic social institutions. The religious institutions, the family, and the institutions of learning have been threatened. Rural as well as metropolitan areas are asking for assistance in attacking the problem.

The overwhelming number of our young people attempt to meet the drug use/abuse problems of an affluent society in stable, well-balanced ways, and while drug use/abuse may never be eliminated entirely, it is possible that better education and improved communication with coordinated efforts may result in a diminished problem.

No longer can the onus of correction of the problem of drug use/abuse be placed on the federal government, at which level the difficulties of problem-area delineation become insurmountable. One basic problem area is in the construct of a human society and its relationships to the individual. To deal adequately with the individual, his family, and his reference group system, the greatest input must be directed from a program capable of individualizing its efforts. Such an approach may be best defined as coming from the local community.

Any community or region (i.e., Lansing, Michigan) that is confronted with a heroin usage problem has multiple associated difficulties. Only a "coordinated' community

program is likely to be successful in efforts to reduce or eliminate the problem. A fundamental question may never by answered: "Can society change, or protect, the personality characteristics of the individual who potentially may become a narcotic addict?" Certainly, it is the viewpoint of a stability-seeking society that the effort must be made (Byrd and Byrd, 1972).

Statement of the Problem

No one knows for certain just how extensive the use/abuse of heroin is in the United States, but most authorities, as well as addicts themselves, contend that addiction to heroin has grown tremendously in the past 15 years and that its use/abuse is greater than suspected. The following review of current research data reveals that evidence obtained from: (a) studies relating to addiction; (b) hospital admissions; (c) probation reports; (d) police reports and records; (e) local, state, and federal drug commissions; (f) death rates of heroin users; and (g) other sources does support the conclusion that the use/abuse of heroin has increased in the United States, even though the users/abusers of the drug currently remain a small minority of the total population.

Extent of Drug Abuse

International efforts to curb the non-medical uses of opium, its derivatives, and more recently, synthetic

opiods, began with the Hague International Opium Convention of 1912, which was followed by the Geneva Convention of 1925 and subsequent conventions and protocols in 1931, 1936, and 1948. These international agreements, monitored by various bodies, provided for limitation of production, importation, and exportation of opium, coca leaves, and cannabis products, and control of the manufacture, sale, and dispensation of opiods with significant physical dependence-producing properties. The various international bodies include the Permanent Central Opium Board, the Drug Supervisory Body, the Commission on Narcotic Drugs of the United Nations Economic and Social Council, and the Expert Committee on Addiction-Producing Drugs of the United States (Nicholson, 1972).

In 1956, the first congressionally approved nationwide study of narcotic addition in the United States revealed that, in the judgment of the investigators, this country had more narcotic addicts, both in number and percentage, than any other nation in the Western world.

In Detroit alone, heroin addicts spend more than $16 million a year for the drug, most of the money being obtained through constant criminal activities. In 1969, a special publication of the Detroit Free Press estimated the number of heroin addicts there to be 100,000.

Bullington, et al. (1969) challenged the 1969 official statistics reported on heroin addiction in New York

City. The study suggested that the accuracy and value of official statistics on heroin addiction had been received with skepticism in some quarters. Major discrepancies between official estimates and those of non-official groups were found in the Federal Bureau of Narcotics records of 32,000 addicts in New York City, when compared to the estimate of 100,000 addicts in New York found by the New York City Addiction Service in 1968. This study concluded that some heroin addicts who use the drug intensively for prolonged periods may never be known to the police, and that many middle-aged and medical addicts may avoid detection. The investigators stated there is a need for a more intensive effort to achieve a reliable census of heroin addicts.

If one even cautiously accepts the reported statistics regarding the number and type of drug users/abusers, then he should also accept the alleged "cost per addict" to the public, including both those addicts apprehended and those not apprehended by law enforcement agencies. According to the 1970 Comprehensive Law Enforcement and Criminal Justice Plan of Michigan, one heroin addict on the street costs a city $10,500 annually. Should the addict be arrested, an additional estimated $16,800 in jail, legal, and court costs is introduced for a total of $27,300 per year per addict.

Cushman (1971), in his study of criminal activities of 81 heroin addicts attending the Methadone Maintenance

Clinic at St. Luke's Hospital Center in New York, reported that the primary sources of funds for obtaining heroin were usually multiple in number, and included the following: welfare, selling drugs, stealing, work, prostitution, family, pimping, begging, gifts, forgery on checks, going into debt, pickpocketing, purse snatching, and use of savings. In an examination of the costs of heroin addiction as related to loss in human resources, in terms of time spent in incarceration and cost to society, Cushman found that the number of days spent in jail by the 81 addicts during one year before methadone was 1,931. No time was spent in jail after the addicts began to be treated with methadone. The 81 addicts also spent 346 days in detention prior to methadone treatment.

An estimate of the cost to society of these 81 heroin addicts prior to the beginning of methadone treatment was calculated from information gained from the addicts and the known costs of materials stolen, services rendered, and so on. During the previous year, the 81 addicts had raised $887,800 from selling drugs, stealing, prostitution, forging checks, and pimping. The retail market value of stolen goods was estimated to be $721,000 for the single year. Other costs to society included approximately $23,800 for welfare, $67,260 for detoxification treatment of the 81 addicts in a hospital, $12,000 for treatment of other drug-related illnesses, $28,230 for costs of keeping

the addicts in jail, $4,150 expenses for days in detention, and $900 for expenses involved in arrests of the addicts. The average daily cost of heroin for the group was $34.85, with a daily range from $0 to $150.

If we keep in mind the statistics of the costs involved in this one-year study, with its small number of heroin addicts (81), it is clear that, for the nation as a whole, drug addiction constitutes a fantastic financial burden.

The Federal Bureau of Narcotics and Dangerous Drugs ranked Michigan fifth in the United States for opiate drug arrests in 1968. In 1969, the state of Michigan arrests for possession of narcotics and dangerous drugs were up 110 per cent over 1968. Arrests for selling were up 48 per cent, with a 79.5 per cent increase in heroin cases. In summary, an increase of 98 per cent in arrests of persons under 21 years of age, and 111 per cent of persons over 21, indicates Michigan's increase in total arrests in 1969.

An analysis of the Lansing area (Central Records--Ingham County Jail, Mason, Michigan) revealed that in 1969, 222 arrests were made for sale of narcotics. The jail records also indicated that the arrest results dichotomized by sex amounted to 972 males and 121 females. Persons arrested in the age bracket 17 to 21 totaled 603. Of those arrested for possession, sale, or use, 490 were over 21. The Michigan State Police further estimated that

approximately one-third of all the narcotics arrests in the state of Michigan take place in the Lansing area.

Again, according to available statistics, it is clear that the financial cost of the drug "problem" will not soon abate. Instead, with an increase in arrests and subsequent incarceration, the costs can only continue to increase.

Heroin has both subjective and physiological effects on humans, some of which can be predicted with reasonable certainty. Chemical studies of the structures of morphine and heroin have resulted in identification of certain biological effects of these drugs that are not well known to physicians. Chemical changes induced by enzymes in the body may lead to unpredictable results in terms of accelerated or diminished biological activities for any particular person or addict. In general, the research indicates that the metabolic influence of the opiates, including morphine and heroin, is well known to physicians.

Smith, et al. (1962) observed in their study entitled "Objective Evidence of Mental Effects of Heroin, Morphine, and Placebo in Normal Subjects" that, since most persons who are not addicted to opiates report being mentally clouded after receiving narcotics, it should be expected that opiates would impair performance on objective tests of perception, memory, learning, and reasoning. Their study reported that heroin and morphine both caused

significant impairment of mental performance, with definite evidence of mental impairment. The reduction of mental efficiency was primarily one of speed. Mental functioning was damaged earlier and to a greater extent by heroin than by morphine, even though the amount of morphine given was 2.5 times greater than the amount of heroin injected. Significant mental impairment was shown as early as 40 minutes after injection of heroin, and as late as 5 hours and 40 minutes after administration of morphine.

The above biological considerations indicate an additional barometer of the seriousness of the drug problem in the Lansing community: the increase in reported cases of hepatitis. The Ingham County Health Department has expressed concern about the rapid rise in instances of hepatitis. Three times as many cases were reported in 1970 as compared to 1969, with the highest frequency among persons 17 to 23 years of age. Dr. Dean Tribby, at that time acting Public Health Director for Ingham County, stated that approximately 50 per cent of the hepatitis cases are due to serum hepatitis following drug experimentation. A total of 53 cases of hepatitis were reported the first 10 weeks of 1970, compared with 18 in 1969 and 7 in 1968.

The Lansing State Journal, on May 6, 1973, quoted Dr. Tribby, presently the Deputy Director of the Ingham County Health Department: "Hapatitis has infected almost twice as many persons this year as last year in Ingham

County and its victims are younger." The article went on to report that Dr. Tribby said the age peak for the disease previously had been among the age group 20 to 22, but had dropped to the 18 to 20 age group. Infectious hepatitis accounted for most of the 105 cases of diseases reported in Ingham County during the first 17 weeks of this year. This compares with 55 cases in a comparable period last year.

According to Dr. Tribby, serum hepatitis has declined, which could mean youngsters are backing off from using needles in drug experimentation. This contrasts with three years ago, when the big upward swing in "hippie" hepatitis was fourfold, mainly attributed to drug use. State figures show 1,313 hepatitis cases for this year, against 1,553 last year in the same period.

We have always expected our drugs to maintain, ameliorate, or restore our health. These are the reasons we see our doctors for "patent" medicines we expect to relieve minor symptoms and pain. Over-the-counter drugs have become medical first aid. Increasing use of tranquilizing drugs, mood elevators, and mood depressants has made us expect relief from all uncomfortable nervous states--even if they are normal. Instead of dealing with our minor mental health problems, we expect a simple, effortless, chemical solution. We now regard our emotions as controllable at will. We turn on, turn up, turn down, and tune out. We believe that life's problems and the feelings that go

with them will somehow yield to Yankee ingenuity. "This belief alone has increased all levels of drug use." To reach these improbable goals of effortless living and problem solving, we experiment at great personal risk. When drugs enter the area of social, political, and other non-medical uses, they enter their most dangerous phase of use. Drugs used for other than religious or medicinal purposes often become recreational and associated with pleasure. This type of association causes us to ignore the known hazards, because we fail to see the chemical as a "drug." Those who play this game of drug roulette gamble their lives daily. Our great American dream seems to be "Better Living Through Body Chemistry" (Smith and Smith, 1972).

Purpose of the Study

The purpose of the present study was to examine what relationships exist between the scales of the Minnesota Multiphasic Personality Inventory (MMPI) and the scales of the Bipolar Psychological Inventory (BPI), tested on an incarcerated heroin addicted/non-heroin addicted population; and to ascertain which instrument would reveal more numerous and more highly significant correlations of personality characteristics to heroin addiction. The study attempted to seek answers to the following questions:

1. Do the herion addicted person's profiles differ meaningfully from the non-heroin addicted person's profiles?

2. Does the heroin addicted person demonstrate personality characteristics (profiles) which are unique or consistent with his population, as measured by the MMPI and the BPI?
3. Is there supportive evidence (profiles) to suggest that there is an "addiction-prone" personality?
4. If there is an "addiction-prone" personality, what characteristics (profiles) will delineate it; what is this personality like?

Gerard and Kornetsky (1954) found that among adolescent addicts, 47 per cent were either overt or borderline schizophrenic. Smart and Fejer (1969) observed mixtures of persons with conduct disorders and schizophrenia in their sample, in which 96 per cent of the chronic drug users had unusual MMPIs. Gendreau and Gendreau (1954), however, found no significant differences on the MMPI between heroin addicts and non-addicts.

Justification for the Study

> The late President Kennedy once stated that, "There is no area in which there is so much mystery, so much misunderstanding and so many differences of opinion as in the area of narcotics" (Wakefield, 1963).

This statement by the late President reflects the thinking of legal, medical, and religious authorities who have had to contend with the problem of drug addiction and

who are aware of the inadequacy of our efforts toward prevention and cure (Wakefield, 1963).

> What kind of person is the heroin addict? Do the seeds of his destruction lie within his own personality or should the fault of his deterioration be disseminated to his family constellation and to society?

Generalizations, speculations, and contentions concerning the heroin-addicted population have heretofore been conflicting, ambiguous, and inconclusive. Byrd and Byrd (1972) stated that, in general, heroin addicts have a high representation in terms of general maladjustment, parental neglect, quarrels among parents, and delinquency. Often heroin addiction appears to be in part a sociological problem, but also a personal problem that reflects the problem of an inadequate personality. That the family background may be faulty (regardless of its social status and prominence) must be an area of consideration; however, the problems of the addict may stem not from his family alone, but perhaps more vitally from his own personal deficiencies and peer group associations.

Fenichel (1945) considered that the same urges that govern other pathological impulses are operative in addicts--the need to get something that is not merely sexual satisfaction but also security and assurance of self-assertion, and as such essential to the person's very existence. Addicts represent the most clear-cut type of "impulsives."

In other words, addicts are persons who have a disposition to react to the effects of alcohol, morphine, or other

drugs in a specific way, namely, in such a way that they try to use these effects to satisfy the archaic oral longing which is sexual longing, a need for security, and a need for the maintenance of self-esteem simultaneously (Rado and Sandor, 1926-1933). Thus the origin and the nature of the addiction are not determined by the chemical effect of the drug but by the psychological structure of the patient (Glover, 1931-1932).

> Olds (1954) implanted small electrodes into the pleasure center of the brain of laboratory rats. Then he placed a little switch in the cage and thereby gave the experimental animal itself the means of transferring a weak electric current which stimulated the pleasure center, and gave an intensely pleasurable sensation. Once the rat had experienced these pleasurable sensations it "abandoned itself to vice" of continually treading on the switch to repeat them. The males ignored their females, forgot to eat, drink, and sleep, and indulged themselves until they fell down exhausted or dead. Even in insects a somewhat similar phenomenon may be provoked and has been used to advantage in exterminating noxious insects. The scent given off by the female is synthesized in large quantities and sprayed out over the infested area. The male insects then copulated with blades of grass, pieces of gravel, and debris that had acquired the seducing scent, and in competition with this multitude, the female of the species does not stand a chance of being impregnated.

In drug addiction there is a similar mechanism, a "short circuit" that occurs in the biological system, and the normal pleasure-pain principle no longer functions.

> Analysis of drug addicts shows that genital primacy tends to collapse in those persons whose genital primacy always has been unstable. In analysis, all kinds of pregenital wishes and conflicts may reveal themselves in a confusing manner. The final stages are more instructive than the confusing pictures that appear during the process. The eventual "amorphous tension" actually resembles the very earliest stage in libidinal development, before there was any

> organization at all, namely, the oral and cutaneous tendencies are manifest in those cases where the drug is taken by mouth or by hypodermic injection; the syringe, it is true, may also have a genital symbolic quality; the pleasure, nevertheless, is secured through the skin and is a passive-receptive one. More important than any erogenous pleasure in drug elation, however, is the extraordinary elevation in self-esteem. During the drug elation erotic narcissistic satisfaction visibly coincide again. And this is the decisive point (Fenichel, 1945).

The high cost of addiction, if nothing else, has led officials throughout the country to recognize the need for new policies to provide a solution to the problem. This growing recognition of the need for change, which was significantly brought to public attention by the joint AMA-ABA report, was most importantly marked by the White House Conference on Narcotics and Drug Abuse held in September of 1962. Addressing 400 authorities from the fields of law enforcement, correction, medicine, sociology, and education who assembled in Washington for the two-week conference, President Kennedy asked for direct guidance from them to form a positive basis for much more constructive action by all members attending the conference.

In 1956, the Federal Narcotics Bureau reported there were an estimated 60,000 addicts in the United States, and in 1962 this figure was still being cited as the official total addict population, despite the fact that the problem seemed to be increasing. A report, made several years ago by the Attorney General of California, estimated there were 52,000 addicted persons in that state alone. Estimates of

the addict population of New York range from 25,000 to 50,000. As Dr. Isidore Chein, one of the leading authorities on narcotics addiction, told the White House Conference: "We desperately need someone who can count to start counting."

The only source of national figures on "hard narcotic" addiction is from data compiled in a reporting system of the Bureau of Narcotics and Dangerous Drugs. This "system" depends on voluntary reports and is acknowledged to represent underestimates. Most information in this system depends on reports from law enforcement agencies, and is admittedly inadequate (Richards and Elanore, 1970).

The question is posed that, even if we were to assume a correct estimate of heroin addicts in the United States, what then? We will be confronted with the bare facts: The existing programs that "treat" this population do so with marked deficiencies, and with high recidivism rates.

A review of the literature suggests there is a growing consensus that multiple reasons exist to explain why people start using/abusing drugs. However, no profound "causal" pattern of drug use/abuse is known, and no outcome measure has been very "predictive." For the purpose of this study, the writer assumes that heroin addiction is symptomatic of a unique personality (profile) composing an impulsive-compulsive heterogeneous group on which little verifiable knowledge is known.

By personal experience and problem evaluation, heroin is the most severe, exorbitant, perilous, and deleterious

drug used and abused in our society to date, and must be investigated independently of all other drugs that are used/abused.

Philosophical Summary

Drug use/abuse has emerged as a problem of cataclysmic proportions. The recent emergence in prominence of the negative consequences and effects of drugs on the collective conscience of America is still only the "tip of the iceberg." We have a long way to go in more accurately delineating the scope of the problem. What we have really said is that individuals in this society, at all levels, are compelled to accept drugs initially as a realistic alternative to the cathartic elements (anxiety-inducing, fear-provoking stimuli) existing in their milieu, acting to destroy the will of those individuals to cope rationally with their most pressing dilemmas. In fact, nothing has been said about the individual at all! The current trend among administrators, researchers, psychologists, counselors, and social scientists is to "conglomeratize" the individual into a "meaningful perspective." It is indeed unfortunate that in this labeling and categorizing process people from widely varying strata of society, all with their own unique needs, become lost in the race run by their "helpers" to statistically dehumanize them. No longer will an individual, once exposed to the releasing world of drugs, be cured by the "Great White Father" in Washington. Any meaningful

change in the existing situation will come from efforts within that drug user/drug addict's immediate milieu--the local community. And within the local milieu, the change will come from those individuals who are the milieu, who know and are the direct reference group of an individual.

We can no longer consciously or unconsciously inhibit the scope of our ideas to the confines of any particular discipline or academic structure. As such, we are faced with two tasks. Initially, the task is to make ourselves understood, and by doing so, to increase the store of knowledge and the concomitant potential for changing the milieu of the potential drug user/abuser by eliminating the need for a drug alternative. Our second task is to begin to individualize the scope of the problem. We must find out why an individual is led to such an alternative. Is it indeed his immediate milieu? Is this potentiality for the drug alternative revealed in the personality characteristics of an individual? Is there an "addiction-prone personality? If so, what is this personality like? And the list goes on and on. Above all, we must begin to deal with the "individual" and the multidimensional facets of his personality, if the drug use/abuse battle is ever to end in victory.

Definitions

Hinsie and Campbell (1970) defined addiction as a strong dependency, both physiologic and emotional, upon alcohol or some other drug. True addiction is

> characterized by the appearance of an abstinence syndrome of organic origin when the drug is withdrawn. It appears that in the addicted person the presence in the body of the addicting drug becomes necessary to maintain normal cellular functions, and when the drug is withdrawn, distortion of physiological processes ensues and abstinence symptoms are provoked. An addict is a person who, whatever the apparent reason, has become physically and emotionally dependent upon a drug, substance or compound, so that he must maintain a certain level of intake of that substance often. In addiction, the craving for the substance has a compulsive, over-powering quality, and there is often the tendency to use the substance in ever-increasing amounts. Addiction is considered to be a state of periodic or chronic intoxication, produced by the repeated consumption of a natural or synthetic drug.

Addiction means different things to different people. It has been defined by the World Health Organization as

> a state of periodic or chronic intoxication produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include: (a) an overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means; (b) a tendency to increase the dose; (c) a psychic (psychological) and generally a physical dependence on the effects of the drug; and (d) detrimental effect on the individual and on society (McNeil, 1972).

The term "opiod" refers to any compound, natural or synthetic, with morphine-like properties.

> As used in paragraph two, the term psychological dependence means that the individual perceives the effects of the drug as being necessary to an optimal date of well being. Physical dependency means that the individual's body requires the presence of the drug in order to function normally. If the drug is not present the person will undergo an abstinence or withdrawal syndrome that is characteristic for each drug class. For example, withdrawal from alcohol is different from withdrawal from heroin. Another word used in conjunction with addiction is the word tolerance. Tolerance simply means that after a period of time the individual's body learns to tolerate the presence of more and more drug with the result that the effect of a certain dose of a drug will become less. We might reword the last phrase to

> say that after tolerance develops it will take more drug to develop the same response. Thus, with drugs that produce tolerance there is a tendency to increase the dose to overcome the tolerance effect. Part of the effect of tolerance can be explained on the basis that the body becomes more efficient in breaking drugs down to inactive chemicals after a period of time. However, most tolerance that develops is simply an adaptive mechanism of the brain cells. That is, the brain "learns" to function normally in the presence of a depressant drug. This observation also explains the withdrawal syndrome. When the drug is removed the brain now hyperreacts and withdrawal is the result of the hyperactivity of the central nervous system (McNeil, 1972).

Organization of the Thesis

Chapter I served as an introduction to the thesis. It delineated the purpose of the study, statement of the problem, extent of drug abuse, object of the study, justification for the study, and philosophical summary. Also included within this first chapter was a brief description of the hypotheses, listed as questions to be tested. An extensive review of literature in the area of personality inventories and their relationship to heroin addiction, and to this study, comprises Chapter II. The general methodology and the design of the study are discussed in Chapter III. The data and results are analyzed in Chapter IV, while Chapter V includes summary material, recommendations for further research, and conclusions of the study. A glossary of specific terms often used by the heroin-addicted population is presented in Appendix A.

CHAPTER II

REVIEW OF THE LITERATURE

> Perhaps the single most accurate word to describe heroin addiction is "deadly." For, above and beyond the crime and waste of human potential associated with heroin addiction, the stark fact is that many heroin addicts die young (91st Congress, 2d Session, House Report No. al-1818, 1971).

In an effort to deal with the problem of narcotic abuse, there has been an increase in research on the addicted patient. Studies have been carried out on the social background of such patients (Willis, 1969), on their personality characteristics (Lombardi, O'Brein and Isele, 1968; Hill, Hoertzen and Glaser, 1968; Gallagher, 1973), on their attitudes (Nicholson, 1972), and the effects of various kinds of treatment such as methadone maintenance and group therapy (Dole, Nyswander and Warner, 1968; Blachly, Pepper, Scott and Baganz, 1961). But although the drug addiction problem has received increasing attention within the past few years, particularly in urban centers, little has been developed to aid in the early identification of the addict. Clinicians who treat addicts have lacked the conceptual tools for integrating personality, behavioral change, and social environmental dimensions in a single evaluation model.

While several psychometric scales have been developed for describing addict types (Hill, Haertzen and Glaser, 1960; Monroe, Miller and Lyle, 1960-63), no standardized techniques are available to measure adequately the natural habitats and personalities of drug addicts.

Most investigations on the identification of basic personality patterns have been theoretical and based on limited case studies. Often a close resemblance has been found between patterns of behavior in the alcoholic and the addict (Belleville, 1956; Staton, 1956). Today, most people accept the fact that addiction cannot be categorized merely as a medical or as a criminal problem. The general assumption is that the addict suffers a personality weakness (Wakefield, 1963). And although we commonly speak of drug addiction as a disease, it is more properly a symptom of a disease which is deep-rooted in social and economic conditions that tend to create dissatisfaction, unhappiness, conflict, tension, and strife in the minds and souls of human beings. When the fundamental emotional stability and equilibrium of an individual are not equal to these milieu stresses, some persons consciously or unconsciously seek the psychological or chemical means which may be available for a measure of relief (Maurer and Vogel, 1967).

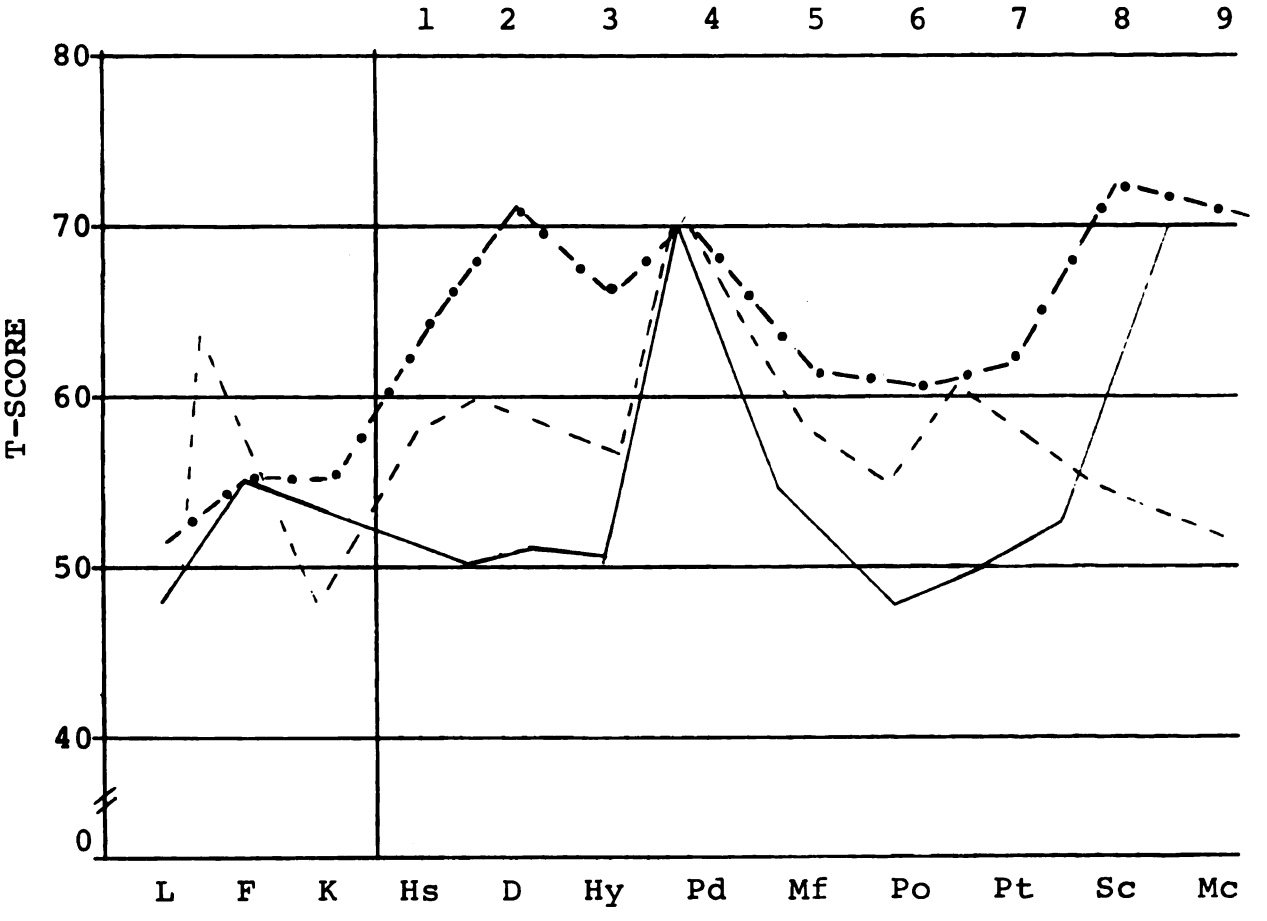
Gerard and Kornestsky (1954) found that more than half of their addict Ss suffered from either character disorders or inadequate personalities. Hill, Haertzen, and

Glaser (1960) found that the Psychopathic Deviate or Pd scale of the MMPI was most frequently elevated by their Ss. Olson (1964) reported that almost all of his adult addicts undergoing treatment had a diagnosis of sociopathic personality disturbance.

Hill, Haertzen and Glaser (1960) included in their study former narcotic addicts who were undergoing rehabilitative therapy at the Public Health Hospital at Lexington, Kentucky (1951-52).

> The inventory was administered to 270 male, former narcotic addicts. They were tested approximately 4-8 weeks following admission and recovery from the illness which follows withdrawal of opiates. The patients were not deteriorated or overtly psychotic. Twenty-one protocols were discarded because of questionable validity as indicated by the validity scales, leaving the following groups: (a) 200 subjects who were chosen by selecting consecutive admissions from the hospital population. This sample was composed of 70 voluntary patients and 130 prisoners who were serving sentences of from 1-10 years (since no significant differences were found between these groups on response to the MMPI the data was combined). The mean age was 30.6 years. (b) The second group was composed of 49 Negro and White subjects under 21 years of age who were treated in a separate "teenage" unit of the hospital. Composite profiles were constructed for these two groups as well as separately for the Negro and White subjects of the main group of 200. For these profiles lack of definite racial information reduced the Negro group to 70 and the White group to 88; mean ages were 25.6 and 37.4 years respectively.
>
> As will be shown below, hospitalized narcotic drug addicts differ widely on other scales, but in general produce an elevated Pd scale. This mean elevation of 70 for all subgroups (except for the very few normals) reported upon here is not due to the scale containing many items concerned with the use of alcohol or other drugs, or with delinquent behavior--only three of 50 are such items. The scale differentiates well between "normals" and psychopathic deviates as defined by McKinley and Hathaway (1956), but it does not differentiate between addicts. No terminology has been

devised that distinguishes in fairly definite manner between different groups of individuals who are psychopathic deviates as indicated by the MMPI. The nomenclature of the American Psychiatric Association also appears inadequate for classifying and describing such individuals, especially drug addicts.



CONDUCT DISORDERS ——— Psychopathic Group
-·-·- Neurotic Group
- - - Schizoid Group

Source: Hill, Haertzen and Glaser, 1960. Reprinted with the permission of the author(s), Haertzen, 1973.

Figure 1.--Composite profiles produced by addicts when classified as conduct disorders. Drug addict, with the subgroupings psychopathic, neurotic, and schizoid.

Thus "Conduct Disorder," as employed by Meehl (1956), which implies variation in the direction of psychopathy is suggested as a generic term. The groups that were studied here might then be categorized as "Conduct Disorder, Drug Addict," with one of the qualifying subheadings "Psychopathic," "Neurotic," or "Schizoid." Thus, in an attempt to distinguish possible differences within the general hospitalized addict population the 200 profiles were analyzed by high point coding. The nine clinical scales were numbered from 1 to 9, as recommended by Hathaway, and each individual record was classified into four subgroups:

1. Normal Group. Profiles which did not show more than one scale above 65 or more than two between 60 and 65, with none higher than 65.
2. Conduct Disorder, Psychopathic Group. The basic psychopathic group here was composed of profiles showing high point codes of either 4-9, or 9-4 (4, Pd; 9, Ma); in addition, for reasons discussed later, profiles showing high point codes of 4-2, 2-4 were subsumed separately under this subgrouping.
3. Conduct Disorders, Neurotic Group. Profiles having the two highest points in the "Neurotic" triad (1, Hs; 2, D; 3, Hy); with the addition of 7 (Pt) when it was elevated with one of these three, 4 being disregarded.
4. Conduct Disorder, Schizoid Group. Profiles having the two highest points in the "Psychotic" triad (6, Pa; 8, Sc; 9, Ma) with the addition of 7 (Pt) when it was elevated with one of these three, 4 being disregarded.

The correction factor (K) was employed, and the Anxiety index was calculated (Welsh, 1952). The Mf (Masculinity-Femininity) scale was not used in the determination of high points. Attempts were made to indicate some of the behavioral characteristics of the psychopathic and neurotic groups; some of the formulations are speculative and some are derived from previous clinical and experimental work.

Except for a small number of individuals it was found that all groups and subgroups of this study produced abnormal composite profiles and that one deviation they possessed in common was a T-score of 70 on the Psychopathic deviate scale. The adolescent subjects produced as deviant profile as did the adult addicts. Using Conduct Disorder as the generic grouping and classifying profiles according to two high-point codes as, (a) Neurotic, (b) Psychopathic, or (c) Schizoid resulted in differentiable, abnormal composite profiles.

The present data and ancillary evidence provided the basis for several conclusions: (a) Personality

> characteristics of narcotic addicts are either associated with psychopathy or are predominantly psychopathic in nature, although they may include many of the classical psychoneurotic and psychotic features. (b) As indicated by the MMPI, personality characteristics of hospitalized adolescent addicts do not differ appreciably from those of adult addicts. (c) This similarity and the similarity between adolescent addicts and non-addict delinquents suggests that psychopathology has considerable significance in the etiology of addiction.

In a study conducted by Olson (1964), the Ss were adult addicts treated at the Patton (California) State Hospital (males), and the California Institution for Women at Frontera (females). None of the Ss were suffering from withdrawal symptons at the time of testing, nor were they overtly psychotic or deteriorated. Almost all of the Ss had a diagnosis of sociopathic personality disturbance, and all were addicted to heroin, except for seven males who were addicted to other medically obtainable drugs. Slightly less than half of the Ss were of Mexican-American origin.

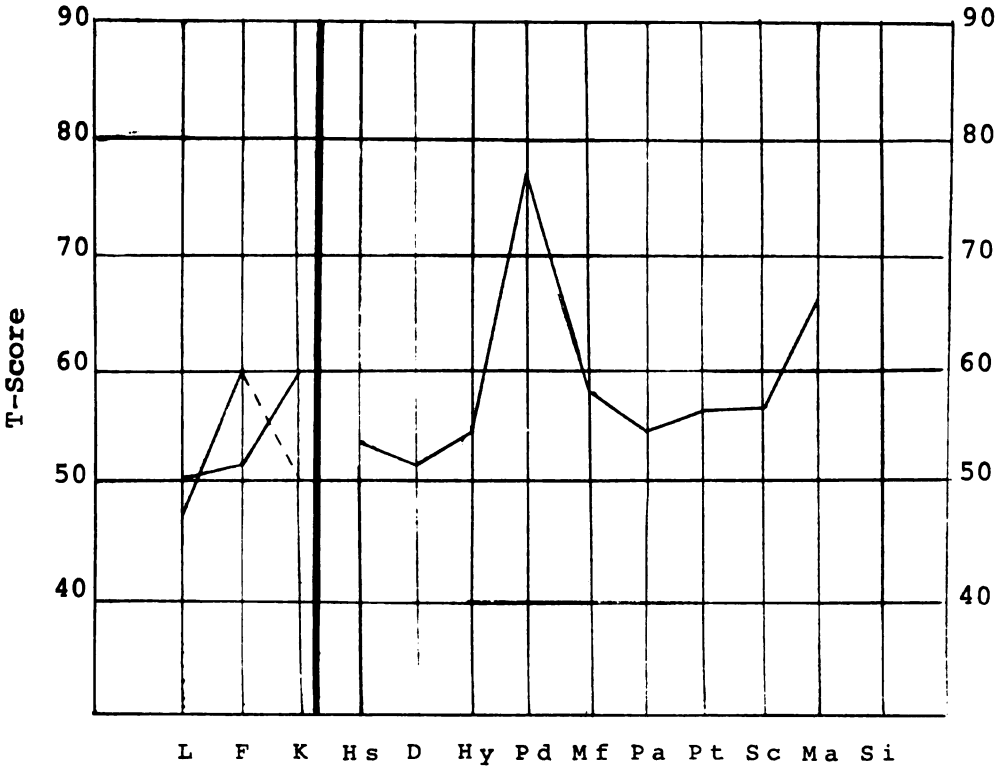
The males scored higher than the females on the K scale and lower on the Pa scale (Figure 2).

Hill, et al. (1962) provided evidence that social deviance is a common personality factor in alcoholics and prisoners as well as in heroin addicts. Using factor-analytic techniques, these authors found a marked similarity among MMPI profile patterns for these groups and demonstrated that elevation on Scale 4 was characteristically high. They suggested that, except for the behavior which is peculiarly determined by the particular addiction or criminal activity, no personality characteristics other than social deviance

Table 1.--Mean MMPI T-scores for various samples of post-addicts.[a]

	L	F	K	Hs	D	Hy	Pd	Mf	Pa	Pt	Sc	Ma	AI	IR
Adult addicts	50	58	53	56	61	56	70	58	53	56	58	64	63	.91
Teenage addicts	50	60	51	54	58	55	69	55	53	58	63	65	63	.90
Adult White	48	58	51	58	64	57	71	59	54	56	57	62	65	.94
SD	5.8	7.9	7.8	12.4	13.5	10.4	11.6	11.8	9.2	9.5	11.3	10.0		
Adult Negro	48	57	52	54	58	54	69	58	53	57	60	68	62	.89
SD	6.8	8.0	8.1	10.5	9.8	8.6	9.6	9.4	9.8	11.1	12.6	11.0		
Conduct disorder groupings:														
Psychopathic (4,9; 9,4)	47	56	53	50	53	52	70	56	49	50	54	70	48	.80
Psychopathic (4,2; 2,4)	48	58	53	53	69	54	77	58	50	54	54	59	75	.93
Neurotic	51	56	56	66	72	66	70	58	55	61	57	54	66	1.00
Schizoid	50	64	48	57	59	56	70	63	62	63	73	71	63	.86
Unclassifiable	50	58	50	60	62	58	68	61	55	58	59	66	62	.94

[a]The ?-scale was between 48 and 50 for all groups.



——— Male Addicts (N=60, Mean age=29, Mean IQ= approximately 90)

------ Female Addicts (N=60, Mean age=28, Mean IQ= approximately 96)

Figure 2.--Narcotic addiction profiles--males and females.

are associated with alcoholism, narcotic addiction, or criminality.

To test for specificity of social deviance within the addiction, Hill et al. (1962) attempted to locate a non-addicted control group of socioeconomic status comparable to the addicted group. They selected a representative sample

of incarcerated criminals, recognizing there might be a considerable degree of "overlapping" but assuming that the chief mode of adaptation is indicated by the referring complaint. Although their investigators de-emphasized the problem of overlap, regular testing of an inmate population revealed that as many as one-fourth of the prisoners may have been addicts. Of 108 completing psychological evaluation for a five-month period, 24 were found to be known heroin addicts with two years or more of usage. It is therefore possible that sample contamination in this study contributed to the trend toward similarity between groups, while obscuring differences.

Sutker (1971) conducted a study which examined measurable personality differences between carefully selected samples of 40 heroin addicts and 40 non-addict prisoners. Composite MMPI profiles were compared for statistical differences between groups, and individual MMPI profiles were classified using a system of differential diagnosis reported by Meehl in 1956. Results suggested there are measurable personality differences between heroin addicts and non-addict prisoners, especially with respect to the incidence and extent of sociopathy. The two samples did not differ from each other in terms of age, educational level, intellectual level, or chronicity of antisocial behaviors as indicated by time served in prison.

Sutker found:

Although heroin addicts and prisoners evidenced a number of common personality characteristics reflected by similar composite profile configurations, significant MMPI differences and results of the profile classification have interesting implications which are in keeping with reports of other investigations. For example, significant elevations on MMPI Scales 4, 2, and 7 were found by Gilbert and Lombardi (1967), who also reported a low percentage of normal MMPI profiles among young male narcotic addicts and a high percentage of profiles reflecting sociopathy.

Heroin addicts reported more neurotic symptoms than did nonaddict prisoners. They indicated more depression, pessimism, anxiety, and concern for bodily ailments. Higher elevations on these scales cannot be attributed to a tendency to endorse deviant items more frequently, as indicated by similar scores on the F scale for the two groups. Preoccupation with physical complaints and concern for bodily functioning are likely the result of an addiction which has to be maintained under the pressures of legal surveillance and the constant threat of drug deprivation. An addict probably experiences a repeating cycle of psychological and physical changes from the satisfaction and relative absence of anxiety associated with drug injection, followed by a build-up of tension and activity concomitant with his search to acquire and find a place to shoot the drug, and then again the familiar relief associated with fixing. Thus it might be hypothesized that anxiety is a recurring state in many unincarcerated addicts, present regardless of personality type and resulting from the legal and physiological pressures of an illegal addiction. Viewed in this way, it is possible that anxiety would decrease in many addicts during incarcerated periods.

Most interesting is the striking exaggeration of Scale 4 in the mean addict profile. Scale 4 is the peak elevation for addicts and exceeds the mean on Scale 4 for nonaddicts by 10 T scores. This suggests that addicts have at least a tendency to be more socially deviant than nonaddict prisoners. Whether their sociopathy is a function of years of manipulating, stealing, and conniving to acquire daily illicit drugs and to escape detection, or a precipitating factor in their becoming heroin dependent, is a problem for research. Although Hill et al. (1962) reported no significant difference between prisoners and narcotic addicts on Scale 4, personality differences were likely obscured by the presence of a significant number of addicts in their prison sample.

Comparison of unincarcerated heroin addicts and prisoners with no history of heroin addiction on the Cavior He scale showed a significant difference in the predicted direction. However, the cut-off score of 36 for identification of addicts suggested by Cavior et al., is 1 point higher than the mean for the Louisiana addict group. In that only the addict group seemed to differ significantly from Cavior data, it is possible that the difference is a function of the incarceration variable.

Addicts in the present study were at the time of investigation "street" addicts, although as a group they did not differ from the incarcerated Ss in terms of time served in a state or local prison. It is also possible that geography is producing significant differences between the two groups of addicts. Clearly, such findings point to the possibility of differentiating addicts from nonaddicts using such a scale; however, the problem of overlapping items and similarity between groups is indeed a difficult one to overcome.

Classification of MMPI profiles for addict and nonaddict groups showed that at least one-half of the addict sample can be described diagnostically as socially deviant or sociopathic, while only 30% of the nonaddict prisoners met the criteria for this category. Few "normal" individuals were found within the heroin-addicted sample, while 42% of prisoners were classified as normal. Twenty-three percent of both addicts and prisoners were classified as psychotic, and the percentage of purely neurotic individuals was surprisingly low in both groups. Even though addicts scored higher than nonaddicts on the neurotic triad, in the overall classification, only 15% were classified as neurotic. This would indicate that although there was evident in the addict group a greater tendency toward social nonconformity and rejection of traditional values and restrictions, at least some of these sociopathic individuals were also experiencing depression and anxiety (Sutker, 1971).

The diagnostic concept of "sociopathy" has provoked arguments and interest since the behaviors usually assumed under this rubric were early delineated by Prichard (1837) as "moral insanity." Although there are some who characterize the label as a "wastebasket" category (Pennington, 1954; White, 1956), research using heroin addicts (Astin, 1959; Gilbert and Lombardi, 1967; Olsen, 1964) supports the

contention that these are a group of traits, described as sociopathic and reflected by significantly elevated Psychopathic Deviate Scale (Pd or 4) scores on the MMPI, which are found with significantly greater frequency in narcotic addicts. Specifically, Austin (1959) reported a mean Pd T score of 75 for drug addicts at the United States Public Health Service Hospital, Lexington, Kentucky.

Gilbert and Lombardi (1967) confirmed this general character disorder syndrome and recommended early identification of the addict as a means of decreasing addiction. In their study, a comparison was made of the personality characteristics, as measured by the MMPI, of 45 male narcotic addicts and 45 non-addicted males of similar socioeconomic levels. Although some maladjustment existed in both groups, results suggest deep-seated and widespread pathology among the addicts. Outstanding are the addict's psychopathic traits, his depression, tension, insecurity, feelings of inadequacy, and his difficulty in forming warm and lasting interpersonal relationships. Most addicts seem to be suffering from a basic character disorder, although many also have associated psychoneurotic or psychotic traits. These findings, in general, are in agreement with those of other investigators.

Dr. P. O. Wolff of the World Health Organization once said: "It is scarcely a paradox to say that the best way to be cured of addiction is not to become an addict, and

the best weapon against addiction is the possession of a normal psyche." This places the emphasis on psychiatry and mental hygiene for the elimination of the addiction-prone individual from our population.

Lombardi, O'Brien and Isele (1968) assumed there were personality traits common to drug addicts, and attempted empirically to derive a scale to aid in the identification of such a syndrome. The MMPI was used, since it is a commonly used clinical instrument and contains a large pool which seemed likely to yield demonstrable differences between addicts and non-addicts. Further, the MMPI has met with varying degrees of success in identifying other clinical syndromes. MMPI records were originally obtained on 75 experimental Ss (addicts) and 75 control Ss (non-addicts). An item analysis of MMPI responses of the drug addicts and the matched control group was performed. Cross-validation procedures were used. The results identified 19 items which significantly differentiated the two groups.

The similarities between the alcoholic and the drug addict are reflected in the item overlap with existing MMPI scales on alcoholism. Eight of the 125 items contained in Hampton's (1954) Alcoholism (AL) scale were found significant in this study. Of the 59 items in Holmes' (1960) Alcoholism (AM) scale, seven items correspond with items identified in this study. There is also a six-item overlap with the 57-item Heroin (He) scale (Cavior, Kurtzberg and

Lipton, 1967), but this study did not use cross-validation procedures.

The addict items tend to be derived principally from the psychopathic deviate (Pd) (seven items) and depression (D) (eight items) scales of the MMPI, corresponding closely to the clinical picture of gross feelings of inadequacy coupled with a basic character disorder or inadequate personality (Gilbert, et al., 1967). In light of the above, it would appear that this scale would/could adequately contribute to a useful purpose if, coupled with other diagnostic information, responses to these items could be used in an early identification of the addict-prone personality.

While research evidence further suggests that habitual and prolonged use of opiates, barbiturates, tranquilizers, stimulants, and hallucinogens is associated with manifest psychopathology (McAree, Steffenhagen and Zheu-lin, 1969; Smart and Fejer, 1964), there is some disagreement about whether there is an "addiction-prone" personality (Smart and Jones, 1970), and if so, what this personality is like. Smart and Feijer (1969) observed mixtures of persons with conduct disorders and schizophrenia in their sample, in which 96 per cent of the chronic drug users had unusual MMPIs. Pescor (1943) reported that 88.1 per cent of 1,036 hospitalized adult drug addicts studied were psychopathic or sociopathic, 6.3 per cent were neurotic, and 5.6 per cent psychotic. Gendreau and Gendreau (1970),

however, found no significant differences on the MMPI between heroin addicts and non-addicts.

Greaves (1971) administered the MMPI to 20 adolescents and post-adolescents (ages 14 to 24 years) who had used multiple drugs to the point of requiring hospitalization. All the Ss had at least three MMPI scales with a T score of over 70, and they all had an elevation of scale 2 or 4 among the three highest scales; 80 per cent showed initial combination of 2-8-X; 40 per cent showed some initial combination of 2-4-8. The histories of the Ss suggested that these personality traits had existed prior to the onset of drug use. In comparing the MMPI profiles of a reference group of 161 non-hospitalized adolescents collected by another researcher at a local high school, the elevations on scales 2, 4, and 8 were significant. When compared by age with a matched sample of 14 hospitalized non-drug-using adolescents, however, no differences between the drug users and non-users could be found.

Greaves' findings were consistent with other findings (Gerard and Kornetsky, 1954; Smart and Fejer, 1969), and suggested that incipient psychosis, especially so-called "pseudopsychopathic" schizophrenia, may often be implicated in adolescent drug-use cases that are severe enough to require hospitalization. The consistent elevations on scales 2 and 4 also supported Edwards, Bloom and Cohen's (1969) hypothesis that chronic drug users are persons who have

difficulty dealing with their aggressive feelings. The inability of the MMPI to distinguish between drug users and non-users in this sample suggests, however, there are other factors more relevant to chronic drug abuse than those tapped by the MMPI.

Holloran (1972) did a study comparing an adolescent drug-abusing group to an adolescent non-abusing group from the middle and upper classes to determine personality characteristics which distinguished the two groups. An effort was made to describe the personality characteristics of adolescent drug abusers. The study also compared female and male abusers to determine if sexual differences were significant. The author was particularly interested in any elevation on the Hysteria, Psychopathic Deviate, Schizophrenia, Hypomania, and Social Introversion Scales of the MMPI.

This study was descriptive in nature; T scores from the selected scales provided the data that were analyzed. A two-way analysis of variance was used in determining the significant differences between the two groups.

No significant differences were found between adolescent drug abusers and non-abusers on the Hysteria and Social Introversion Scales. On the T scores from the Psychopathic Deviate, Schizophrenia, and Hypomania Scales, a significant difference at the .01 level of confidence was found between abusers and non-abusers. In each instance, the mean scores of the abusers were above the T score of 70

on the MMPI profile. This suggested certain personality characteristics which distinguished drug abusers from non-abusers. They found no significant difference between female and male abusers on any of the special scales.

Holloran's study concluded that certain personality characteristics differ, and therefore distinguished the drug abuser from the non-abuser. The abusers were more nonconformists, tended to reject social conventions, and lacked the ability to form satisfactory emotional relationships. They were generally characterized as impulsive, unpredictable, unstable in moods, restless, and easily distractible. They also lacked the ability to anticipate the consequences of their behavior. No significant difference was found between male and female abusers on the MMPI scales used.

According to Sheppard, Ricea, Fracchia, Rosenberg and Merlis (1972), there is theoretical significance and clinical utility for developing a personality measure predictive of a propensity toward heroin addiction. It can be theorized that drug abusers represent one instance of a personality that is vulnerable to addicting agents; that is, there is a similar underlying personality structure that gives rise to addiction. They then hypothesized (a) there would be no differences on such a scale between alcoholics and heroin addicts, and (b) heroin abusers and addicts would score higher on such a scale than non-heroin addicts or abusers.

The purpose of their investigation was to cross-validate and extend the use of the heroin-addiction (He) scale while gathering data that might also reflect on the variety of the hypothesis of an addiction-prone personality. Basically, the study measured the ability of the "He" scale to differentiate a second, larger sample of male heroin addicts from the normative samples. Secondly, it determined the ability of the scale to discriminate between samples of male alcoholics and heroin addicts.

These authors administered the MMPI and other psychometric tests to 274 male heroin addicts committed to Central Islip State Hospital (CISH). To ensure validity, only volunteers were used. The alcoholic Ss were from a sample of 111 male veterans admitted to Fort Meade (South Dakota) Alcoholic Treatment Unit. All were alcoholics by confirmation, but were not undergoing withdrawal or acute alcoholism at the time of testing. The second sample consisted of 117 male alcoholics newly admitted to Rusk State Hospital (Texas), representing a continuum of drinking behavior ranging from moderate to heavy drinkers. On the basis of the data presented, the following conclusions were drawn. The "He" scale discriminates heroin addicts from alcoholics in samples treated at psychiatric installations. Regardless of reasons underlying the "He" scale, alcoholics and heroin addicts differ in intensity, with the heroin addicts scoring significantly higher.

The study that is the most pertinent and most closely related to this dissertation was done by Pryor (1971). Pryor's study was designed to determine the value of the Bipolar Psychological Inventory (BPI) for identifying the psychological characteristics of incarcerated criminals, and to determine what relationships existed between the scales of the MMPI and the scales of the BPI.

Both tests were administered to four different groups: (a) a primary inmate sample consisting of 49 inmates who had a juvenile history and fell into the top 50 per cent of all tested inmates on number of arrests by police, (b) a secondary inmate sample consisting of 26 inmates who had no juvenile history and fell into the bottom 50 per cent of all tested inmates, (c) an inmate group consisting of 48 inmates who failed to meet the criteria for either primary or secondary classification, and (d) a group of 53 students who were enrolled in elementary classes at the University of Utah during fall and winter terms of 1970-71 (Pryor, 1971).

Point-biserial correlations were computed between the incarceration variable and the scale of both the MMPI and the BPI. Pearson Product-Moment Correlations were computed between the scales of the two instruments' dimensions for the combined samples in an attempt to determine the concurrent validity of the BPI.

The results of Pryor's study showed that the BPI revealed more numerous and more highly significant correlations with incarcerated inmates than did the MMPI. The BPI also proved more effective in dividing a heterogeneous prison population into more homogenous groups than did the MMPI. Correlations between the two inventories suggest possible, future uses as diagnostic and therapeutic instruments. Much research is still required before the full usefulness and effectiveness of the BPI will be known.

As has been said, most of us live with similar tensions and usually adjust to them; however, the addict, potential addict, or drug abuser does not or cannot make the adjustment. He therefore uses drugs in an effort to achieve "normalcy," to make up the difference between what he has and what he needs to live with himself and others.

A very small number of addicts are basically normal people, addicted accidently by medical prescriptions. A somewhat greater number of addicts seem to be essentially normal individuals, inadvertently addicted because of socialization with addicted friends or a pusher. Treatment for the emotionally normal, accidental addict may be quite easy, requiring only an initial treatment without relapse, and without the necessity of retreatment which is characteristic of the chronic addict. The chronic addict, hypothesized as an addiction-prone personality, the type that makes up the preponderance of addiction, is the one on which this writer will concentrate his efforts in this dissertation.

CHAPTER III

METHODOLOGY AND DESIGN OF THE STUDY

The purpose of this chapter is to delineate a step-by-step narrative of the methodology involved in this study. It includes a description of each instrument used in the study, and how the population for the study was determined. The procedure used in the study is discussed, and the method used for statistical analysis is summarized.

Instruments

This study employed two instruments--The Minnesota Multiphasic Personality Inventory (MMPI) and the Bipolar Psychological Inventory (BPI). Personality factors which both instruments assessed included:

Minnesota Multiphasic Personality Inventory (MMPI)

1. Hypochondriasis--HS
2. Depression--D
3. Hysteria--Hy
4. Psychopathic Deviate--Pd
5. Masculinity-Femininity--Mf
6. Paranoia--Pa
7. Psychasthenic--Pt
8. Schizophrenia--Sc
9. Hypomania--Ma
0. Social Introversion--Si

Validity Scales

?. Cannot Say
L. Lie
F. Validity
K. Correction

Bipolar Psychological Inventory (BPI)

1. Valid.....Invalid
2. Honest.....Lie
3. Open.....Defensive
4. Psychic Comfort.....Psychic Pain
5. Optimism.....Depression
6. Self-Esteem.....Self-Degradation
7. Self-Sufficiency.....Dependence
8. Achieving.....Unmotivated
9. Gregariousness.....Social Withdrawal
10. Family Harmony.....Family Discord
11. Sexual Maturity....Sexual Immaturity
12. Social Conformity....Social Deviency
13. Self-Control.....Impulsiveness
14. Kindness.....Hostility
15. Empathy.....Insensitivity

An Overview of the Minnesota Multiphasic Personality Inventory

Introduction and Test Development

The Minnesota Multiphasic Personality Inventory, usually abbreviated MMPI, is a personality questionnaire consisting of 550 statements concerning feeling behavior, social attitudes, and explicit symptoms of psychopathology. The testee must answer each question T (true), F (false), or ? (cannot say), and his answer sheet is then scored by various keys that have been standardized on different diagnostic groups and personality types. The MMPI was originally constructed by a psychiatrist, J. C. McKinley, and a psychologist, Starke Hathaway (Hinsie and Campbell, 1970).

The MMPI appeared in the early 1940's as a new kind of psychometric tool for those professionally concerned with the assessment of personality. The MMPI was developed to

Basic Variable List by IBM
Card and Column - J. H. Hightower

		Variables	Score-Range	Column	Card
	BPI Scales	1. Valid-Invalid	00-25	11-40	1
		2. Honest-Lie	00-25	11-40	1
		3. Open-Defensive	00-25	11-40	1
		4. Psychic Comfort-Psychic Pain	00-25	11-40	1
		5. Optimism-Depressive	00-25	11-40	1
		6. Self Esteem-Self Degradation	00-25	11-40	1
		7. Self Sufficiency-Dependence	00-25	11-40	1
		8. Achieving-Unmotivated	00-25	11-40	1
		9. Gregariousness-Social Withdrawal	00-25	11-40	1
		10. Family Harmony-Family Discord	00-25	11-40	1
		11. Sexual Maturity-Sexual Immaturity	00-25	11-40	1
		12. Social Conformity-Social Deviancy	00-25	11-40	1
		13. Self Control-Impulsiveness	00-25	11-40	1
		14. Kindness-Hostility	00-25	11-40	1
		15. Empathy-Insensitivity	00-25	11-40	1
Validity Scales	MMPI Scales	16. ? Cannot Say	00-99	43-70	1
		17. L Lie	00-99	43-70	1
		18. F	00-99	43-70	1
		19. K	00-99	43-70	1
		20. Hs (1)	00-99	43-70	1
		21. D (2)	00-99	43-70	1
		22. Hy (3)	00-99	43-70	1
		23. Pd (4)	00-99	43-70	1
		24. Mf (5)	00-99	43-70	1
		25. Pa (6)	00-99	43-70	1
		26. Pt (7)	00-99	43-70	1
		27. Sc (8)	00-99	43-70	1
		28. Ma (9)	00-99	43-70	1
		29. Si (0)	00-99	43-70	1
Demo-graphic Data		30. Age [b]	17-44	73-74	1
		31. Education [c]	07-17	75-76	1
		32. Race [d]	04-06	77-78	1
Identity		33. Groups [a]	01-02	4- 5	1

[a] Groups
01 Incarcerated Heroin Addicts
02 Incarcerated Non-Addicts

[b] Age
(Reported per se)

[c] Education
07, 08, 09, 10, and 11 represents actual grade levels
12 high school graduate/ or equivalency
13 one yr of college
14 two yrs of college/ or A.A., etc.
15 three yrs of college
16 B.S., B.A., etc.
17 one yr graduate school
18 M.A., M.S., etc.

[d] Race
04 Black
05 White
06 Mexican

"assay those traits that are commonly characteristic of disabling psychological abnormality" (Anastasi, 1961).

When first published, the MMPI provided scores on nine scales. Each of these scales consisted of items that differentiated between a specified clinical group and a normal control group of approximately 700 persons. The latter were all visitors at the University of Minnesota Hospitals, and represented a fairly adequate cross section of the Minnesota population of both sexes between the ages of 16 and 55. The scales were thus developed empirically by criterion keying of items (the act or process of developing a test's scoring key empirically, through noting characteristic differences in answers made by different groups of individuals), with the criterion being traditional psychiatric diagnosis. Explicitly, the MMPI covers with impressive thoroughness a variety of information that a clinician-counselor seeks to ascertain when delineating the behavior and adjustment of an individual (Anastasi, 1961).

In its regular administration, the MMPI presently yields 14 scales, including the nine original clinical scales, the Si scale, and the four validating scales. The reference groups included 700 normal controls who were visitors to the University of Minnesota Hospital, and 800 psychiatric patients. Having selected the items by the above-defined empirical procedure, "standard" or "T" scores for each scale were derived from the average and the standard

deviation of its raw score distribution in the control population. The raw score average of each scale is converted to a "T" score of 50, and its standard deviation to the "T" score of 70. Any "T" score of 70 or higher, falling two standard deviations or more above the mean, is generally taken as the cutoff point for the identification of pathological deviations. All scores above a "T" score of 70 are considered to be within the normal range (Pope and Scott, 1967).

Description of the MMPI Scales (Pope and Scott, 1967; Carkhuff, 1965; Good and Brantner, 1961)

Scale 1 (Hypochondriasis--Hs).--This scale assesses the amount of abnormal or excessive concern with bodily functions. In general, subjects who obtain a high score on the first scale are preoccupied with bodily complaints of a vague nature and with no organic basis. The following are some of the scale items when marked False: "I have had no difficulty in starting or holding my bowel movement," "I hardly ever feel pain in the back of the neck," and "I do not often notice my ears ringing or buzzing." Others, marked True, include: "I am bothered by stomach acid several times a week," "The top of my head sometimes feels tender," and "I feel weak all over much of the time."

Scale 2 (Depression--D).--This scale appraises a tendency to be chronically depressed, to feel useless and

unable to face the future. This is the most frequently elevated scale among psychiatric patients, for some depressive mood is an omnipresent occurrence in most forms of maladjustment. Since depression comes in a variety of forms, and with varieties of intensity and degree of severity, it is necessary to determine the profile context for an elevation in this scale before specifying the type of depressive syndrome. Scale items marked False include: "At times I am all full of energy," "At times I feel like smashing things," and "I have never felt better in my life than I do now." One of those marked True is: "I am easily awakened by noise."

Scale 3 (Hysteria--Hy).--This scale was first validated against a group of conversion hysteria patients, whose symptoms included paralysis, intestinal complaints, and functional caridac symptomatology. Its content falls into two areas, one dealing with somatic symptoms and the other with social behavior (Dahlstrom, 1960). The somatic items tend to have a more specific reference, rather than vaguely alluding to general body parts as in Scale 1. The following items when marked True are examples: "Much of the time my head seems to hurt all over" and "I frequently notice that my hand shakes when I try to do something." The social behavior items generally deny any sort of problem, inadequacy, or socially undesirable impulses toward others. They appear to represent a general repressiveness and denial of unacceptable personality traits. When scored False, the following two

items are illustrative: "I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others," and "The sight of blood neither frightens me nor makes me sick."

Scale 4 (Psychopathic Deviate--Pd).--This scale was based upon a group who showed absence of deep emotional response, inability to profit from experience, and disregard for social pressures and the regard of others. Their most frequent digressions from the social mores are lying, stealing, drug or alcohol addiction, and sexual immorality. Individuals in this group differ from some criminal types in their inability to profit from experience and in that they seem to commit asocial acts with little thought of possible profit to themselves or of shunning discovery (Hathaway and McKinley, 1951). Items in this scale describe family discord, gross maladjustment in many areas, and rebelliousness against authority. The items marked False include the following: "I liked school," and "My relatives are nearly all in sympathy with me." Others selected from those marked True are: "I have used alcohol excessively," and "My way of doing things is apt to be misunderstood by others."

Scale 5 (Masculinity-Femininity--Mf).--Scale 5 was constructed to represent the interests and personality features associated with male sexual inversion. Actual overt homosexuality was not characteristic of all the men comprising the

criterion group, but rather a pervasive femininity of attitude and interest. The item content for this scale includes the following: work and hobbies, social activities, religious preference, family relationships, worries and personal sensitivities and fears. Items in this scale also reflect both femininity of interest and sexual anxiety. Some of the items scored False include: "My feelings are easily hurt" and "I have never indulged in any unusual sex practices." Among the True items are the following: "I have often wished I were a girl," and "I am very strongly attracted by members of my own sex."

Scale 6 (Paranoia--Pa).--The qualities evaluated by this scale are suspiciousness, feelings of being picked on or persecuted, and oversensitivity. The item content for this scale includes: admission of psychological frailty or fragility, denial items or generalizations which the paranoid personality answers in the unexpected direction, and psychotic items including delusional material.

The criterion group for Scale 6 was composed of subjects who were suspicious, prone to delusions of persecution, and to a grandiose sort of egotism (Hathaway and McKinley, 1951). Among the False items are: "I have no enemies who really wish to harm me," and "I am more sensitive than most other people are." The True items include: "Evil spirits possess me at times," and "I believe I am being followed."

Scale 7 (Psychasthenic--Pt).--The term "psychasthenic" is no longer universally utilized. It designates

> . . . psychiatric patients who are troubled by phobias or compulsive behavior. The compulsive behavior may be either explicit, as expressed by excessive hand-washing, vacillation, or other ineffectual activity, or implicit, as in the inability to escape useless thinking or obsessive ideas. The phobia includes all types of unreasonable fear of things or situations as well as overreaction to more reasonable stimuli (Hathaway and McKinley, 1951).

Scale 7 item content illustrates low self-confidence, anxiety and dread, immobilization, undue sensitivity, and moodiness. While Scale 3 (Hysteria--Hy) tends to deny inadequacies and assume an over-optimistic demeanor, the individual who scores high on Scale 7, by contrast, ruminates about his own guilt, anxiety, and weaknesses. The items scored False on this scale include: "I almost never dream," "I seldom worry about my health," and "Most nights I go to sleep without thoughts or ideas bothering me." Those scored True include: "I feel anxiety about something or someone almost all the time," "I usually have to stop and think before I act even in trifling matters," and "Bad words, often terrible words, come into my mind and I cannot get rid of them."

Scale 8 (Schizophrenia--Sc).--This scale is based upon a group of patients characterized by bizarre and unusual thought or behavior, and a subjective life tending to be dichotomized from the world of reality. Many of the items reflect bizarre mentation, social alienation, feelings of persecution included in the classic description of

schizophrenia, and peculiarities of perception. There are also items which are part of the basic syndrome. The scale includes one of the largest subsets of items dealing with sexual matters, as well as items dealing with difficulties in concentration and impulse control (Dahlstrom, 1960). The following items are scored False in this scale: "I seem to make friends about as quickly as others do," "My speech is the same as always (not faster or slower, or slurring; no hoarseness)," and "I have never been paralyzed or had any unusual weakness of any of my muscles." Those marked True include: "I hear strange things when I am alone," "I believe I am a condemned person," and "I don't seem to care what happens to me."

Scale 9 (Hypomania--Ma).--This scale elevated a tendency to be overactive both bodily and mentally, with a tendency to skip around rapidly from one thing to another. This scale has reference to the kind of elevated mood found in manic patients. Three basic traits found in this type of patient are reflected in the scales: overactivity, emotional excitement, and flight or "push" of ideas. While some of the scale items reflect the hyperactivity, excitement, and flight of ideas of the hypomanic patient, others express certain family relationship attitudes; the remainder allude to a preoccupation with somatic concerns. The following are some of the items scored False: "I have never done anything dangerous for the thrill of it," "It makes me

uncomfortable to put on a stunt at a party even when others are doing the same sort of thing," and "I am afraid when I look down from a high place." Those marked True include: "I am an important person," "When I get bored I like to stir up some excitement," and "Something exciting will almost always pull me out of it when I am feeling low."

Scale 0 (Social Introversion--Si).--This late addition to the basic scales used in the standard profile chart differs from the others, in its validation against a non-psychiatric criterion group. It was devised to distinguish college women who were socially isolated from those who were socially active. Men were not used in the standardization groups because the scale was developed during World War II and it was felt that the men available constituted a biased sample. Scale items describe discomfort in social situations, and a variety of sensitivities, worries, and insecurities. Generally, Si assesses the tendency to withdraw from social contact with others, and has found its greatest use with college counseling center populations. However, it is noted that the "a priori" and judgmental basis for selecting items has raised many doubts among researchers regarding its dependability. Although this scale has dubious dependability and has not been factor analyzed, introversion-extroversion has been a major dimension discerned in factor analyses of the complete MMPI.

Among the items scored False are: "I like to go to parties and other affairs where there is lots of loud fun," "I do not mind being made fun of," and "I am not unusually self-conscious." Those scored True include: "At parties I am more likely to sit by myself or with one other person than join in with the crowd," "I wish I could be as happy as others seem to be," and "I have often felt that strangers were looking at me critically."

Validity Scales (L, F, K, and ?)

A special feature of the MMPI is its utilization of four so-called validity scales. These scales are not technically concerned with validity, but, in effect, represent checks on carelessness, malingering, operation of special response sets and test-taking attitudes, and misunderstandings. If distortion of response is present, the validity scales report its degree and type. The validating scales follow:

? (Cannot Say).--The first of the validity scales is known as the "Cannot Say" scale. The ? score is the number of items that the subject did not answer on the group form, or the number of items placed in the "Cannot Say" category on the card form of the MMPI.

Unanswered items indicate the individual is hesitant to answer or cannot or will not answer. The number of unanswered items can be viewed as largely dependent upon

the subject's "response set," and concomitantly acts as a depressant on the deviations on other scales when "?" is a high number.

L (Lie): There are 15 items in the L scale, all descriptive of trivial and nearly universal faults, which most people are willing to admit without exorbitant defensiveness.

The item content attempts to measure aggressive feelings, "bad thoughts," temptations, lack of control or conformity, and generally the minimal kinds of foibles most people tend to have. It is seen, then, that L assesses falsification by the individual's attempt to place self in a more socially acceptable light. High L indicates greater and higher deviations on the clinical scales (which are ?) than may otherwise be evident.

Some examples of items in this scale are the following, scored False: "I do not always tell the truth," "I do not like everyone I know," "Once in a while I put off until tomorrow what I ought to do today," and "Sometimes at elections I vote for men about whom I know very little."

K.--The K scale was designed to ameliorate the predictive validity of some of the original scales (McKinley and Hathaway, 1956). An important facet of the K scale is that, in addition to its use as an index of validity, it

has also been adapted as a statistical corrector for some of the other clinical scales.

K scale items include personal inadequacies, tendencies toward mental disorders, self-control, and criticism of others. Typical characteristics discerned include cynicism, euphoria, hospitalization, shyness, hostility, family dissension, and worry.

When the following items are answered as False, they are included in the K scale: "At times I feel like swearing," "I frequently find myself worrying about something," and "It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important."

F.--The F scale represents an attitude quite antithetical to that denoted by the L and K scales. Instead of expressing a tendency to minimize, deny, or evade the admission of pathology, it represents its exaggeration. The F scale entails 64 items that are rarely answered in the scaled direction.

Item content reflects peculiar thoughts, apathy and lack of interest, denial of social and familial ties, and attitudes toward religion and law.

In general, F assesses whether the inventory was taken and scored correctly, while high F usually indicates carelessness or inability to comprehend on the part of the testee or errors in recording or scoring on the part of the testor.

Some of the items in this scale scored False are: "I am liked by most people who know me," "My sex life is satisfactory," and "My father was a good man." Others marked True include: "It would be better if almost all laws were thrown away," "I commonly hear voices without knowing where they come from," and "Sometimes I'm strongly attracted by the personal articles of others such as shoes, gloves, etc., so that I want to handle or steal them, though I have no use for them."

Reliability and Validity of the MMPI

The following section reports reliability and validity information for the Minnesota Multiphasic Personality Inventory:

> Anastasi (1961) stated that the effectiveness of any profile analysis is weakened by chance in the scores on which it is based. If individual scale scores are unreliable and highly intercorrelated, many of the inter-score differences that determine the profile code may have resulted from chance. Re-test reliabilities on normal and abnormal adult samples reported in the manual range from the .50 to the low .90. The interval between retest varied from a few days to over a year.

Hathaway (1956) reported that on the K-corrected Sc scale approximately 60 per cent of schizophrenic patients in the psychiatric cross-validation group attained a "T" score of 70 or higher, whereas only 2 per cent of the normal cross-validation subjects scored in this range. Simple calculation (Meehl and Rosen, 1955) will show that be labeling all patients schizophrenic who score 70 or more on the

MMPI will result in 79 per cent of all patients being correctly diagnosed. The calculation is shown in Table 2.

Table 2.--Percentage of patients diagnosed schizophrenic or normal by the Sc scale, using a cutoff score of 70, where 50 per cent are actually schizophrenic and 50 per cent are actually normal.

"T" Score	Actually Schizophrenic	Actually Normal	Total
70 or more (diagnosed schizophrenic)	30[a]	1	31
Below 70 (diagnosed normal)	20	49[a]	69
Total	50	50	100

[a]Correctly diagnosed.

Rosen (1953) included in his study male (non-active duty) patients admitted for the first time to the psychiatric section of the Minneapolis VA Hospital during an eight-week period. Retesting was accomplished within two to seven days until 40 test-retest cases were obtained. The first test was given between 0-12 days after admission, but usually within three days. Twenty-two of the Ss had an IQ equivalent of 110 or above. Thirteen of the Ss had never been married. There were 25 with a primary diagnosis of neurosis (mainly anxiety reaction or depressive reaction), and 11 were diagnosed psychotic. The retest was higher than

the original test on the K scale, and lower on the Pa scale (and on the K-uncorrected Ps, Pt, and Sc scales). Test-retest correlations ranged from .55 to .88.

Retest Stability.--Hathaway and Monachesi (1963) reported that their Ss were drawn from 12 schools which were representative of the state of Minnesota as far as possible with respect to economic and geographic areas. Subjects were tested in the ninth grade and again in the twelfth grade (test-retest interval of approximately three years).

All Ss included in the study had valid profiles (L less than 10, F less than 16) on both the original test and the retest. Retest for the boys was higher than on the original test on the K, Hy, Pd, and Mf scales and lower on the L, F, D, Pa, Pt, Sc, Ma, and Si scales. For the girls the retest was higher than the original test on the K, Hs, and Hy scales and lower on the L, F, Mf, Pa, Pt, Sc, Ma, and Si scales.

A review of the literature reported considerable evidence suggesting, in general, that the greater the number and magnitude of deviate scores on the MMPI, the more likely it is that the individual is severely disturbed. However, related publications and the MMPI test manual now caution against literal interpretations of the clinical scales: i.e., we cannot assume that a high score on the Sc scale indicates the presence of schizophrenia. Other psychotic groups show high elevation on this scale, and

schizophrenics often score high on other scales. It is partly to prevent possible misinterpretations of scores on single scales that the code numbers 0-9 have been substituted for the scale name in later publications of the MMPI.

An Overview of the Bipolar Psychological Inventory

Introduction

As the BPI is relatively new and its use and familiarity are limited, this writer feels it necessary to quote the manual on Instructions, Administration, and Scoring to insure a thorough understanding (Howell, Payne, and Roe, 1972).

> The Bipolar Psychological Inventory is designed for use with both normal and clinical populations--recognizing the fact that it is difficult to clearly differentiate between the two groups. Further, it is obvious that all normal individuals are not alike and neither are all abnormal individuals alike. Any psychological evaluation is a process of assessing these individual differences. The primary purpose of this inventory is to provide a fairly comprehensive personality assessment instrument that has utility in institutions, clinics, educational settings, industry, private work, or in any situation where personality functioning is of interest. The "Bipolar" nature of the test gives emphasis to both the positive and negative aspects of personality. The constructive potentials as well as the pathological areas of functioning are important if something beyond diagnosis is desired. In this test personality functioning has been conceptualized in broad and hopefully relevant terms. This conceptualizing is reflected in the dimensions chosen (p. 3).

Rationale

The word "Bipolar" has reference to the bipolar nature of the personality dimensions. For example, if a person

has the potential of being honest, he also has the potential of being dishonest. Or if depression is measured, then the opposite of depression, optimism or positive affect, can also be identified. A concern for describing healthy as well as unhealthy states led to the identification of the polar ends of each dimension.

The choice of dimensions was based on the following considerations. Originating in a correctional setting, it was natural to focus on dimensions of particular interest in dealing with the criminal offender. A need to differentiate between inmates dictated, to some extent, the factors. For example, the MMPI has produced elevated Pd scales with most inmates; but meaningful differentiations between inmates have not been apparent in most cases. Relevance and breadth were desired. Therefore, the dimensions found in the neuroses and personality disorders seemed relevant--not only for correctional inmates but for most clientele encountered in many institutions and in most clinics. Experience suggested additional dimensions as meaningful in terms of day to day work where recommendations, diagnoses, change indicators, predictions, prognoses, and accurate descriptions were required (p. 3).

Description of the Scales

Opposing Ends of the Scale	Meaning of Score
Invalid-Valid (10 items)	High Score. Gross confusion (psychosis, brain damage, retardation), inability to read, random marking of the answer sheet without reading the items, uncooperative, practical joker, or defiant individual.
	Low Score. Accurate reading of items and following of instructions.
Lie-Honest (13 items)	High Score. Dishonest in test taking, exaggerates positive traits, minimizes deficiencies.
	Low Score. Meticulously honest, tendency to exaggerate weaknesses.

Defensive-Open (22 items)	High Score. Defensive, doesn't like to reveal self or personal problems, keeps feelings to self, resists professional help, guarded, does not solicit feedback.
	Low Score. Open, accepts help, reveals problems freely, solicits professional help.
Psychic Pain-Psychic Comfort (21 items)	High Score. Psychic pain, emotional, behavioral and physical symptoms of anxiety, dissatisfaction, nervous, tense.
	Low Score. Comfort, contentment, relaxed, calm, satisfied, unconcerned, controlled.
Depression-Optimism (22 items)	High Score. Depression, fearful of future, regret of the past, feeling of impending doom, suicidal, failure experiences, unhappy.
	Low Score. Happiness, optimism, successful, satisfaction, cheerful, energetic.
Self-Degradation-Self-Esteem (22 items)	High Score. Self-degradation, self-critical, inferiority feelings, dissatisfaction with self, self-depreciating, poor self-image, low ego strength, intropunitive.
	Low Score. Self-esteem, secure, self-satisfied, confident, self-assured, high self-regard.
Dependence-Self-Sufficiency (20 items)	High Score. Dependent, inadequate, meek, gullible, follower, acquiescing, submissive, deferent.
	Low Score. Self-sufficient, independent, assertive, confident, leader, self-directing.
Unmotivated-Achieving (20 items)	High Score. Unmotivated, underachiever, lazy, procrastinator, unassuming, slothful, irresponsible.
	Low Score. Achievement oriented, competitive, aggressive, untiring, recognition seeking, academically oriented, successful, hard working, accomplished.

Social Withdrawal-Gregariousness (20 items)	High Score. Social withdrawal, loner, solitary, avoids interaction and confrontation, schizoid, social avoidance, introverted. Low Score. Gregarious, sociable, seeks companionship, outgoing, extrovertive, affiliative.
Family Discord-Family Harmony (22 items)	High Score. Family discord, hatred, mutual rejection, dissension, and interpersonal conflict. Low Score. Family harmony, closeness, pride, love, acceptance, and unity.
Sexual Immaturity-Sexual Maturity (Form A Only) (24 items)	High Score. Sexual immaturity, deviant tendencies, sexual anxieties, promiscuity, sexual guilt. Low Score. Heterosexual maturity, adequacy and satisfaction, and sexual control.
Problem Index, High-Problem Index, Low (Form B Only) (25 items)	High Score. Possibly severe problems with multiple symptoms--psychotic reactions are possible. Dissatisfaction high. Many areas to explore in interview. See individual items endorsed on scoring key. Low Score. Few problems in areas sampled by test.
Social Deviancy-Social Conformity (21 items)	High Score. Social deviancy, antisocial, criminal behavior, societal conflict, anti-establishment, irresponsible, psychopathic, law breaking, rebellious. Low Score. Social conformity, law abiding, ethical, socially sensitive, conforming, pro-social attitude.
Impulsiveness-Self-Control (22 items)	High Score. Impulsivity, joy seeking, narcissistic, uncontrolled, moody, erratic, changeable, unreliable. Low Score. Self-control, consistent, dependable, reliable, persistent, planful, stable.

Hostility-Kindness (20 items)	High Score. Hostility, anger, challenging, aggressiveness, verbally assertive, "eye-for-eye" attitude, threatening, intolerant, violent, vengeful.
	Low Score. Friendliness, easy going, accepting, kind, forgiving, cooperative, peaceful.
Insensitivity-Empathy (20 items)	High Score. Cruel, insensitive, morbid, punitive, calloused, sadistic.
	Low Score. Empathic, concerned, sensitive to others, kind, considerate, sympathetic.

Administration and Scoring

The Bipolar Psychological Inventory is self-administering. The 300 items are printed in a reusable booklet. There is a single answer sheet for both hand scoring and machine scoring developed especially for this test. The directions for taking the test are printed on the front of the booklet and may be read aloud to a group or read individually. The answer sheet format requires a simple TRUE or FALSE response. Since the machine scoring may be desired, it is recommended that appropriate soft lead (No. 2) pencils always be used. Subjects should be instructed to fill out the answer sheet completely as indicated.

The time for taking the test varies between 30 and 60 minutes depending on the subject's intellect, reading ability, and willingness to cooperate. Urging the subject to respond quickly but accurately is often helpful. The test may be taken under a variety of conditions without serious loss of accuracy. The exceptions seem to be where subjects can't read, when they obtain help in completing the test, or when they perceive that certain results are needed to avoid a problem or to obtain some advantage. The first two scales indicate the reliability of the subject's answers. The examiner's rapport with the subject is also a factor in obtaining accurate results.

Hand Scoring

There are 15 hand-scoring keys. The Bipolar Psychological Inventory can be scored easily and quickly. Each bipolar scale has a separate key which yields a raw score of the number of items keyed in the pathological direction. Thus the higher the score the more pathological the subject is on the dimension being measured. Each

key stencil fits exactly over the answer sheet, and the number of items marked are counted and entered through the scoring notch at the top of the key and on the answer sheet. The answer sheet has 15 key stencils. The raw scores on the answer sheet boxes are then transferred directly to the profile sheet at the place provided at the bottom of the form.

Machine Scoring

The same answer sheet is used for both hand and machine scoring. The dimensions can be scored by machine and profiled giving both raw scores and percentiles for each dimension. In addition, the scoring services provided by Psychological Research Associates give a written printout description of the subject for those dimensions reaching either above the 80th percentile or below the 20th percentile. The main advantages in machine scoring are (1) time saving, (2) accuracy, (3) printout description, (4) ease of handling large numbers, and (5) building your own norms.

The answer sheets are the machine-scoring type and are processed by the OpScan system.

Form A and Form B

The difference between Form A and B involves two scales. FIRST, the Sexual Maturity-Sexual Immaturity scale is included in Form A but not in Form B. The main reason for excluding this scale is the frequent objections which clients, parents, industry, or public schools have in making this type of personal inquiry of individuals. Thus Form B avoids this problem by eliminating the scale. SECONDLY, the new scale in Form B, introduced in place of the sex-related items, is the Problem Index scale. The content of this scale might be thought of as interview items which need to be viewed individually since it is multi-dimensional rather than representing a single dimension. For example, this scale provides an excellent basis for inquiry into a variety of problem areas including education, finances, work, and personal problems related to strange or psychotic-like experiences.

It is recommended that Form B be utilized in colleges, public schools, industry, or any other setting where questions of sexual behavior and feelings may lead to problems. Also, information provided by the Problem Index is desired, then Form B should be used.

Profile Forms

Two different profile forms are presently available with the Inventory. This is necessary because of the

different norms in each population.

(1) Prison males--Norms were constructed from the responses of 431 Utah State Prison inmates. (Female prisoners were insufficient in number at this time to provide reliable norms.)

(2) University males and females--Norms were constructed from the responses of 712 students from three different universities.

The raw score is entered on the profile sheet for each dimension. By referring to the right or left of the sheet the corresponding percentile can be located.

In constructing the test, the authors reviewed a large number of personality scales and assessed these scales in terms of the felt needs of institutions, clinics, and private practitioners. From a large number of dimensions that seemed appropriate, 13 bipolar dimensions were selected, tapping a variety of emotional and character dimensions.

Following this, a large number of items was written that appeared related logically to each dimension. From this pool of items, an initial battery of over 700 items was tentatively selected. These items were submitted to a group of psychologists (including the authors) who, by consensus, eliminated items that seemed ambiguous, too lengthy, or were questionable in their content validity. This reduced the test to 438 items. The test was then given to subjects from universities, prisons, and state hospitals. Each item was compared with its total dimension score to obtain the item-dimension validity (minimum significance of .05). Those items having the highest validity were retained with approximately equal numbers of affect items and behavioral items being kept. This reduced the test to the desired 300 items. Significant differences in the test scales were demonstrated between college populations and institutional groups. Therefore, separate norms have been constructed.

Face and content validity have been assured by careful test construction procedures. Construct validity has been confirmed in certain instances, and research is continuing on the individual scales. Predictive and concurrent validity are also being explored.

Reliability

Test-retest reliability coefficients have been established on 117 university subjects. The mean reliability of the subscales is .84.

Test-Retest Reliability Coefficients (r12)

Dimensions	r12
Lie-Honest	.83
Defensive-Open	.82
Psychic Pain-Psychic Comfort	.90
Depression-Optimism	.85
Self-Degradation-Self-Esteem	.79
Dependence-Self-Sufficiency	.81
Unmotivated-Achieving	.67
Social Withdrawal-Gregariousness	.90
Family Discord-Family Harmony	.91
Sexual Immaturity-Sexual Maturity	.84
Social Deviancy-Social Conformity	.90
Impulsiveness-Self-Control	.85
Hostility-Kindness	.86
Insensitivity-Empathy	.81

No reliabilities were determined for the Validity scale because the variability was so small. The Problem Index scale is thought of as being a clinical interviewing scale with potential problem areas being highlighted. Therefore, no reliability was established on this scale either.

Population

Identification of the Population (March, 1971-March, 1973)

Based on the total statistics for 1972-1973 gathered by intake screening, the average inmate is 21 or under, male, single and either black or white. He has been arrested at least once before and has problems with drug abuse; most with heroin, alcohol or downers. He was most likely not employed immediately prior to the arrest leading to his current incarceration and is awaiting trial. He has seen no military experience and has not completed high school. He has what can be labeled an average IQ and can generally perform arithmetic at a seventh grade level. He lives in the city of Lansing, has no clear goals of what to do upon release from the Ingham County Jail, except, "get a job and get high" (Bellah, 1972-73).

WRAT and Revised Beta Examinations--1972[1]

Wide Range Achievement Tests (WRAT)

Sub-Tests:	Total Sub-Tests Administered
Reading	224
Spelling	189
Arithmetic	228

Reading Test (Grade Levels)	Mean = 9.2 Range = 1.6 to 16.2
Spelling Test	Mean = 7.4 Range = 1.6 to 16.7
Arithmetic Test	Mean = 7.4 Range = 2.4 to 16.3

WRAT Grade Level Distribution by Sub-Test

	Kinder to 6.0	6.1-12.0	12.1-16.7
Reading	47	112	65
Spelling	84	77	28
Arithmetic	94	105	29

Revised Beta Examination and Data

Total Administered=87
Range=68 to 123
Mode=105/Mean=99/Median=100

Identification of Population and Program Changes (January, 1973 to March, 1973)

During the first quarterly period of 1973 continued program expansion has necessitated a further definition of role and responsibility. The greatest change has been the adoption of a quarantine system of intake

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[1]Taken from the Ingham County Jail Inmate Rehabilitation Program's Examination Report--1972.

> procedure. All newly incarcerated, unsentenced inmates, are now placed in a "quarantine" dorm where the initial intake interview and testing is administered. From data acquired at intake the individual is assigned to a specific floor best suited to his needs. A goal of this "indexing" process is to eventually place the individual into a specific dormitory setting within the structure of the floor. This further step would allow for the development of small, residential type therapeutic communities based on similarities of problem area; educational level of proficiency, age, physical stature, etc. (Ingham County Jail Rehabilitation Program's Intake Referral Coordinator's Report, 1973; see also Table 4).

Selected Population

The population for this study consisted of inmates at the Ingham County Jail at Mason, Michigan. The homogeneity of the population of this study was considered in determining size. From an intuitive point of view, it can be demonstrated that this population is homogeneous on the attributes which are under investigation (see Identification of the Population, Table 3 and Table 4). Generalizability has been delimited in both size and scope for this particular study. However, since an explicit population description is included, it is projected that the reader will be in a position of generalizing the results of this study to another similar (relevant in attributes) population.

Sample

The sample consisted of 70 inmates--35 in the experimental group and 35 in the control group. The sample possessed the following characteristics; both groups were identical, except for conditions four and five.

Table 3.--Ingham County Jail Inmate Rehabilitation Program's Quarterly Statistical Report (March, 1972-December, 1972).

	1st Qtr.[a]	2nd Qtr.	3rd Qtr.	4th Qtr.	Total	Percent
I. TYPES OF REFERRALS						
Education	37	112	65	78	293	44
Drug	26	67	47	71	211	32
Alcohol	5	4	4	8	21	3
V.R.S. (Direct)[b]	2	5	3	3	13	2
Psychological	5	10	6	6	27	4
Physician	9	10	6	10	35	5
Placement	11	18	8	14	51	8
Y.D.C.[c]	0	4	0	10	14	--
Religious	0	0	1	1	2	--
II. EDUCATION						
College	9	17	10	6	42	10.5
High School Diploma	12	31	12	15	70	17.5
G.E.D.[d]	1	15	6	7	29	7.0
No High School Diploma or G.E.D.	35	93	63	69	260	65.0
III. PREVIOUS ARRESTS						
Yes	44	121	68	68	301	75.1
No	13	35	23	29	100	24.9
IV. MARITAL STATUS						
Single	30	90	58	56	234	58.4
Married	21	40	15	20	96	23.9
Divorced	5	17	11	11	44	10.9
Separated	2	9	6	3	20	5.0
Common Law	--	--	--	7	7	1.8
V. RACE						
Black	21	85	33	36	175	43.6
White	29	65	53	52	199	49.6
Chicano	6	5	4	8	23	5.7
Indian	1	1	1	1	4	1.1
VI. AGE						
Under 21	26	82	46	53	207	51.6
21 & Over	31	74	45	44	194	48.4
VII. EMPLOYED						
Yes	22	63	43	43	171	42.6
No	40	116	68	81	305	76.1
VIII. MILITARY SERVICE						
Yes	17	40	23	16	96	23.9
No	40	116	68	81	305	76.1
VietNam Veterans	8	11	7	4	30	--
IX. JAIL STATUS						
Sentenced	15	5	11	25	56	--
Unsentenced	42	141	80	72	335	83.5
X. SEX						
Male	54	150	87	85	376	93.8
Female	3	6	4	12	25	6.2
XI. NOT REFERRED	6	20	13	0	39	--

[a]March only.
[b]V.R.S. = Vocational Rehabilitation Services
[c]Y.D.C. = Youth Development Corporation
[d]G.E.D. = General Educational Diploma

Table 4.--Ingham County Jail Inmate Rehabilitation Program's Quarterly Statistical Report (January, 1973-March, 1973).[a]

	Quarterly Total	Quarterly Percentages
I. TYPE:		
Education	63	42.0
Drug	48	32.0
Alcohol	6	4.0
Vocational Rehab. Services	6	4.0
Physician	0	0.0
Youth Development Corporation	15	10.0
No Referral	2	1.3
Psychological	10	6.7
II. SEX:		
Male	68	90.1
Female	7	9.9
III. RACE:		
Black	28	37.3
White	43	57.4
Mexican	3	4.0
Indian	1	1.3
IV. AGE:		
21 and under	32	42.7
Over 21	43	57.3
V. EMPLOYMENT:		
Yes	26	34.7
No	49	65.3
VI. EDUCATION:		
College	8	10.7
High School Diploma	14	18.7
G.E.D.	5	6.6
Nothing	48	64.0
VII. ARMED SERVICE:		
Veteran	9	12.1
Vietnam Veteran	3	3.9
Non-Veteran	63	84.0

Table 4.--Continued.

	Quarterly Total	Quarterly Percentages
VIII. PREVIOUS ARRESTS:		
Yes	65	86.7
No	10	13.3
IX. JAIL STATUS:		
Unsentenced	57	76.0
Sentenced	18	24.0
X. MARITAL STATUS:		
Single	37	49.3
Married	20	26.7
Separated	4	4.2
Divorced	7	9.9
Common Law	7	9.9
XI. DRUG INVOLVEMENT:		
Primarily Alcohol	9	12.1
Primarily Heroin	28	37.3
Primarily Other Drugs	19	25.3
No reported drug involvement	19	25.3
XII. REFERRAL PRIORITIES:		
#1	31	41.3
#2	9	12.1
#3	19	25.3
#4	3	4.0
#5	3	4.0
Not referred to education	10	13.3

[a]The inmate population has generally stabilized at a lower daily count than at this same time last year. A slight shift in racial complexion of the jail has occurred from young Blacks to young Whites, but the data are incomplete to establish trends, per se.

Experimental Group	Control Group
1. Incarcerated male inmates at Ingham County Jail at Mason, Michigan.	1. Incarcerated male inmates at Ingham County Jail at Mason, Michigan.
2. No history of psychosis present.	2. No history of psychosis present.
3. Limited exposure to therapy and psychological testing.	3. Limited exposure to therapy and psychological testing.
4. Physical addiction to heroin.	4. No history of physical addiction to heroin or any other drug.
5. Addiction of more than eight months.	5. No history of addiction whatsoever.

The sample was obtained via the following procedures: All inmates at the Ingham County Jail at Mason, Michigan, were screened by the Intake-Referral Coordinator of the Ingham County Jail Inmate Rehabilitation Program, and re-screened by the Drug Abuse Treatment staff, to determine the evidence of drug use/abuse. Inmates for the experimental group were selected on the following basis:

1. Inmates who have been incarcerated on previous drug-related charges.
2. Reports from known pushers, who have had inmates as "buyers-users."
3. Inmates who have been identified by the attending physician as having drug-related problems.
4. Inmates referred to the Drug Abuse Treatment Program staff via the ICJIRP's Intake-Referral Coordinator.

5. Inmates' self-reports that were substantiated or verified by other professional agencies.
6. Observable physical symptoms of inmates entering the "abstinency syndrome"; signs also included evidence of needletracks or septum perforations.

Procedure

Inmates for this study possessed the basic characteristics listed above. To screen incarcerated heroin addicts from incarcerated non-heroin addicts (the control group), specific precautions were taken. The population studied consisted of an experimental group--incarcerated heroin addicts--and a control group--incarcerated non-heroin addicts. There were 35 inmates per group, randomly selected. All inmates were housed in the Ingham County Jail at Mason, Michigan. They were initially screened by the Intake-Referral Coordinator, and were re-screened by the Drug Abuse Treatment staff, to determine further the evidence of drug use/abuse. The records of all inmates tested were carefully reviewed; known addicts and known non-addicts were dichotomized into the two groups. Further, each inmate included in either of the two final groups was interviewed. Each inmate was carefully questioned about his drug history, with the assurance that the information would be held in confidence.

The Multi-Checking-System[1] controlled for confounding variables such as drug use/abuse, duration of addiction, previous exposure to therapy and psychological testing, history and/or presence of psychosis, and physical addiction to heroin.

The MMPI and the BPI originally were administered to 89 inmates. However, the study's Multi-Checking-System, implemented to assure authenticity of results, deleted all but 75 inmates. Five of these inmates were eliminated for other reasons.

The inmates in both groups were administered the group form of the MMPI and the BPI-A. Generally, the tests were given in a group setting; eight addicts/non-addicts were tested individually.

The purpose of the study was to determine what relationships exist between the scales of the MMPI and the BPI tested on an incarcerated heroin addicted/non-heroin addicted population, and to ascertain which instrument would reveal more numerous and more highly significant correlations of personality characteristics to heroin addiction. A second purpose was to review and examine and compare the effectiveness of the BPI and the MMPI scales, individually and to each other, in assessing characteristics of incarcerated heroin

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[1]Operationally defined by Mr. Bellah, Dr. Gallagher, Dr. Pauley, and the writer.

addicts/non-addicts, exploring psychological dimensions and other areas that led to the development of the BPI.

The present study examines and delineates the most frequent personality deviations found among incarcerated heroin addicts/non-addicts in terms of diagnostic profiles obtained on both inventories (BPI and MMPI). Composite profiles of the experimental group and the control group, along with the racial categories, are compared and discussed.

Research Hypotheses

To answer the primary questions toward which this study was directed, the following research hypotheses were tested:

Hypothesis 1: Heroin addicted persons will demonstrate personality characteristics (profiles) which are unique or consistent within their population as measured by the MMPI and the BPI.

Hypothesis 2: Significant differences will be found in performance (profiles) as measured by the dependent variables.

Hypothesis 3: Significant relationships will exist between the BPI scales and the scales of the MMPI.

Assumptions

Assumption 1: There is a heroin addiction profile, with explicit characteristics that will be described by the MMPI and BPI scales (profiles).

Assumption 2: Personality scales and characteristics, as measured by the dependent variables, have a potential relationship to heroin addiction.

Assumption 3: A correlational relationship will exist between the dependent variables (profiles) and addiction to heroin.

Assumption 4: The BPI will reveal more numerous and more highly significant correlations with non-heroin incarcerated inmates than will the MMPI.

Analysis of the Data

The 6500 CDC computer at the Michigan State University computer center was used to process the data and perform the statistical analysis. Standard computer programs were used to handle the following analyses:

Typically, the MMPI (or the BPI) is analyzed in a clinical situation by examining the individual scales and their overall patterning in terms of the interrelations among the scales (Hathaway and Briggs, 1957). The means, standard deviations, and significance levels comparing each scale on the MMPI and the BPI for the experimental and the control group can be found in Chapter IV.

To test for differences between the mean scores of the experimental group and mean scores of the control group, an analysis of variance between the means of each variable in the experiment was performed. This analysis of variance was performed on all 15 variables of the BPI, and the 14 variables of the MMPI for each of the two groups. Also computed for both groups were intercorrelations between the scales of the MMPI, the BPI, and the demographic data. The .05 level of significance was established as the critical level for accepting or rejecting differences.

CHAPTER IV

ANALYSIS OF THE DATA

The purpose of this study was to investigate the relationships of the Minnesota Multiphasic Personality Inventory (MMPI) and the Bipolar Psychological Inventory (BPI) to each other and to incarcerated heroin addicts among two principal groups: incarcerated heroin addicts and incarcerated non-addicts. This chapter presents the statistical analysis of the data in order to examine the hypotheses stated in Chapter III. Additional findings and implications for future research are discussed in Chapter V.

To implement this study, two groups were selected: the experimental group--incarcerated inmates addicted to heroin for a time period of at least eight months or more--and the control group--incarcerated inmates with no history of addiction whatsoever. (Review the selected population, p. 69, the sample and the screening process, pp. 70-73, for a detailed description of the population.)

Organization of the Analysis of the Data

The MMPI profiles for the total inmate population, heroin addict inmates, and non-addict inmates are presented first. Presented second are the profiles of the BPI for all

groups. Presented third are the relationships of the scales of the BPI to the scales of the MMPI. The fourth step in the organization of the analysis of the data examines the differences between the mean scores of the experimental group and mean scores of the control group, via an analysis of variance between the means of each variable in the experiment. This analysis of variance was performed on all 15 variables of the BPI, and the 14 variables of the MMPI for each of the two groups. The .05 level of significance was established as the critical area for accepting or rejecting differences.

Hypothesis 1: Heroin addicted persons will demonstrate personality characteristics (profiles) which are unique or consistent within their population as measured by the MMPI and the BPI.

Hypothesis 2: Significant differences will be found in performance (profiles) as measured by the dependent variables.

Assumption 1: There is a heroin addiction profile, with explicit characteristics that will be described by the MMPI and BPI scales (profiles).

Total Inmate MMPI Profile

Profile (498)

Assigned Variable Number	23	28	27
T Sc above 70-scales	4	9	8
Mean T Sc with K added	75.029	72.943	71.329

The mean scores, assigned variable numbers, number of subjects, and standard deviations on the scales of the MMPI for the total inmate sample are presented in Table 5 and Figure 3.1.

Table 5.--Total inmate sample MMPI results.[a]

Variable	Total Inmate Sample			Heroin Addicts			Non-Addicts		
	N	M	SD	N	M	SD	N	M	SD
16 ?	70	5.071	11.436	35	4.114	10.229	35	6.029	12.606
17 L	70	48.714	6.488	35	47.800	6.168	35	49.629	6.757
18 F	70	67.943	12.838	35	68.686	13.560	35	67.200	12.225
19 K	70	50.029	8.290	35	50.000	8.471	35	50.057	8.228
20 Hs	70	59.571	13.935	35	60.486	15.172	35	58.657	12.735
21 D	70	62.314	13.170	35	61.971	11.031	35	62.657	15.168
22 Hy	70	60.043	12.411	35	59.171	11.587	35	60.914	13.296
23 Pd	70	75.029	12.281	35	76.286	11.678	35	73.771	12.900
24 Mf	70	60.457	9.532	35	60.857	7.830	35	60.057	11.080
25 Pa	70	65.257	12.193	35	65.800	11.904	35	64.714	12.625
26 Pt	70	65.286	13.096	35	65.571	14.182	35	65.000	12.115
27 Sc	70	71.329	14.608	35	72.171	15.474	35	70.486	13.861
28 Ma	70	72.943	11.767	35	75.600	10.132	35	70.286	12.798
29 Si	70	51.686	8.522	35	51.086	8.403	35	52.286	8.720

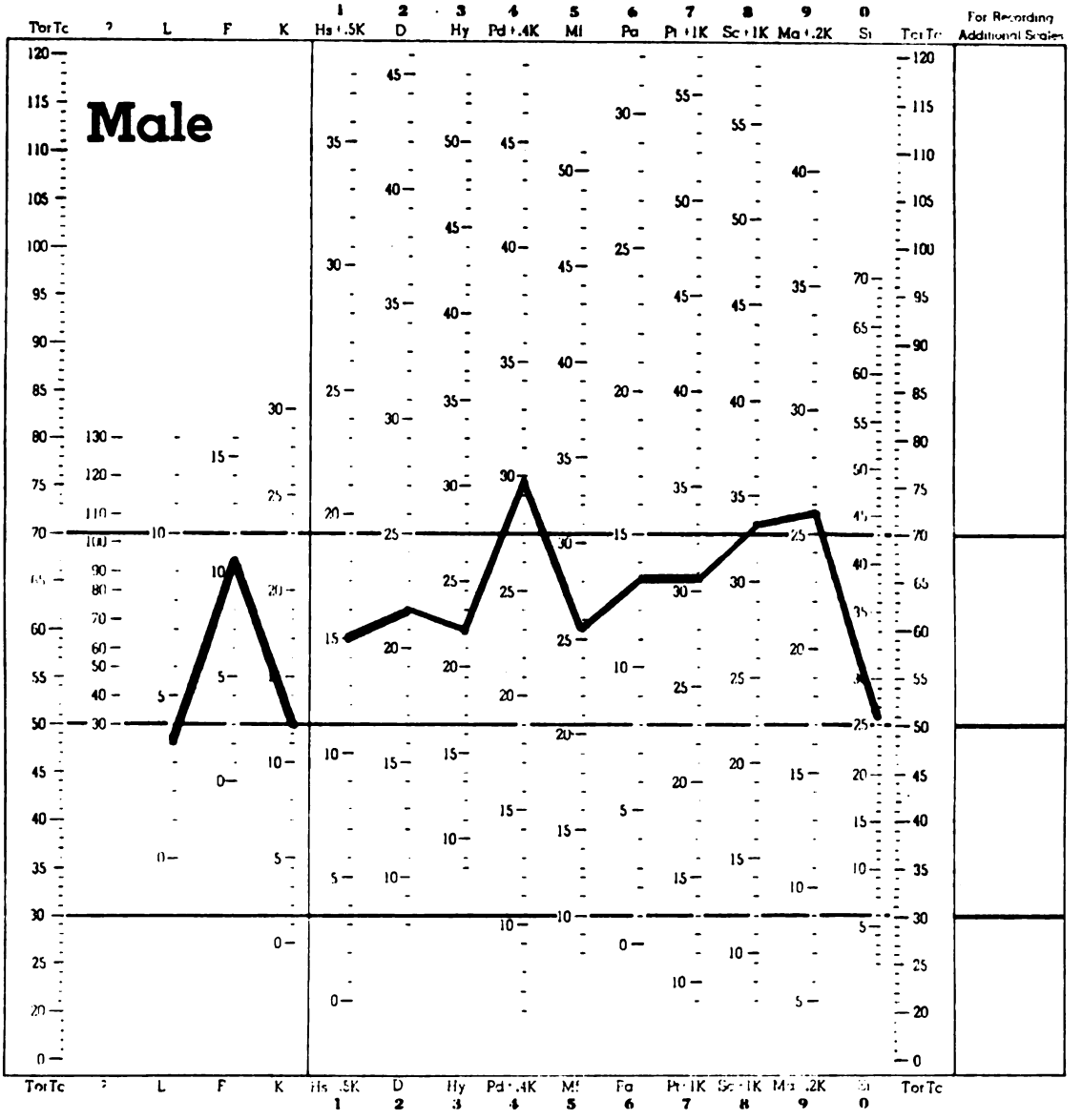
[a]T Sc with K corrections.

Profile and Case Summary

The Minnesota Multiphasic Personality Inventory

Starke R. Hathaway and J. Charnley McKinley

Scorer's Initials _____



Raw Score ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

K to be added ____ ____ ____ ____ ____ ____ ____

Raw Score with K ____ ____ ____ ____ ____ ____ ____

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70-251S

Figure 3.1.--Total incarcerated inmate sample mean profile.

Clinical Description

Generally, the first four scales are all within normal limits. However, there is an elevation on the F scale (T Sc mean of 67.943) which, according to Pope and Scott (1967), represents exaggeration; Gilberstadt and Duker (1965) considered it indicative of either confused thinking or self-depreciation. Lanyon (1968) wrote:

> The Norms given for the F scale were set too high. The 70 T-score level should be represented by a raw score of 16, rather than 13 as indicated on the profile sheet. Essentially, a high F score indicates an atypical or deviant set of responses. There are a number of purely technical reasons for such an occurrence: random responding by the subject, inadequate intelligence or education, lack of familiarity with the English language, inadequate vision, or a clerical error in scoring. These possibilities, which are usually responsible for a raw score greater than 16, should always be considered first. A second kind of reason for a high F score is a deliberate effort by the subject to present himself in an unfavorable light, or to convey the impression that he is emotionally disturbed. It is often difficult to distinguish between a person whose high F score represents simple malingering and a patient who is in fact disturbed but is exaggerating his disturbance as a "cry for help." The third reason for a high F score is that the deviance reflected in the score is representative of deviance in the subject. Thus, the F score is one general indicator of the amount of psychopathology a patient possesses. Nonconforming behavior in normal subjects is reflected by a slightly elevated F score.

The only scales of the MMPI for the total inmate sample elevated above a T score value (with appropriate K added) of 70 were:

(4). The Psychopathic Deviate or Pd Scale.--The person scoring high on the Pd scale has been described by Gilberstadt and Duker (1965) as moody, partial, social,

frivolous, and lacking in self-control. Pope and Scott (1967) indicated that high Pd scores suggest persons "whose main difficulty lies in their absence of deep emotional response; their inability to profit from experience, and their disregard of social mores."

Elevated scores on the Pd scale, according to Lanyon (1968), suggest nonconformity and a rejection of average or normal social conventions. Prison and delinquent groups, as expected from the derivation of the scale, show marked elevations.

Finally, Pope and Scott (1967), Carkhuff (1965), and Good and Brantner (1961) indicated this scale was based upon a group who showed absence of deep emotional response, inability to profit from experience, and disregard for social pressures and the regard for others. Their most frequent digressions from the social mores are lying, stealing, drug or alcohol addiction, and sexual immorality. Individuals in this group differ from some criminal types in that they are unable to profit from experience and seem to commit asocial acts with little thought of possible profit to themselves or of shunning discovery (Hathaway and McKinley, 1951).

(9). The Hypomania or the Ma Scale.--Generally, the Ma scale measures the personality factor characteristic of individuals with profound hyperproductivity in thought and action. The hypomaniacal subject can be viewed as usually

getting into trouble because of undertaking too many things. He is enthusiastic and active, but he may clash with other people through his attempts to reform social practice.

High-scoring patients on the Ma scale are hyperactive, impulsive, unpredictable, elated but unstable in mood, restless, overoptimistic, and easily distractible (Lanyon, 1968).

Pope and Scott (1967) stated that since the criterion group was characterized by symptomatology somewhat milder than that found in the cases traditionally diagnosed as manic-depressive, the term "hypomania" was used. They described three basic traits in this type of patient, which are reflected in the scale: overactivity, emotional excitement, and flight or push of ideas.

Persons scoring high on the Ma scale are, according to Hathaway and McKinley (1965), delineated as being "unstable in moods, evidencing excitement, and exhibiting flights of ideas."

(8). The Schizophrenia or Sc scale.--Since schizophrenia is a ubiquitous diagnosis in mental illness and scale 8 Sc was developed to aid in recognition of the syndrome (Hathaway and Monachesi, 1963), elevations should be interpreted with caution. With a slight elevation above a T Sc of 70 (actual T Sc score of 71.329), interpretations in this case also must be made with caution.

This scale has been reported as being based upon a group of patients characterized by bizarre and unusual thought or behavior, and a subjective life with tendencies of being divorced from the world of reality. High scores tend to indicate responses similar to this group.

Hathaway and Monachesi (1963) stated that persons who are not mentally ill score high on scale 8 Sc, to suggest a "lone wolf," bizarre, faulty orientation to the social world. Persons of both sociopathic and schizophrenic character types are clinically known to have difficulty in adapting to the usual controls and demands of society.

Finally, one could speculate that the schizophrenic component in the personality of incarcerated inmates can be expected to be associated with more enduring and incongruent behavior.

Heroin Addict MMPI Profile

Profile (498)

Assigned Variable Number	23	28	27
T Sc above 70-scales	4	9	8
Mean T Sc with K added	76.286	75.600	72.171

Table 5, integrated with Figure 3.2, delineates the mean scores, number of subjects, standard deviations, and assigned variable numbers.

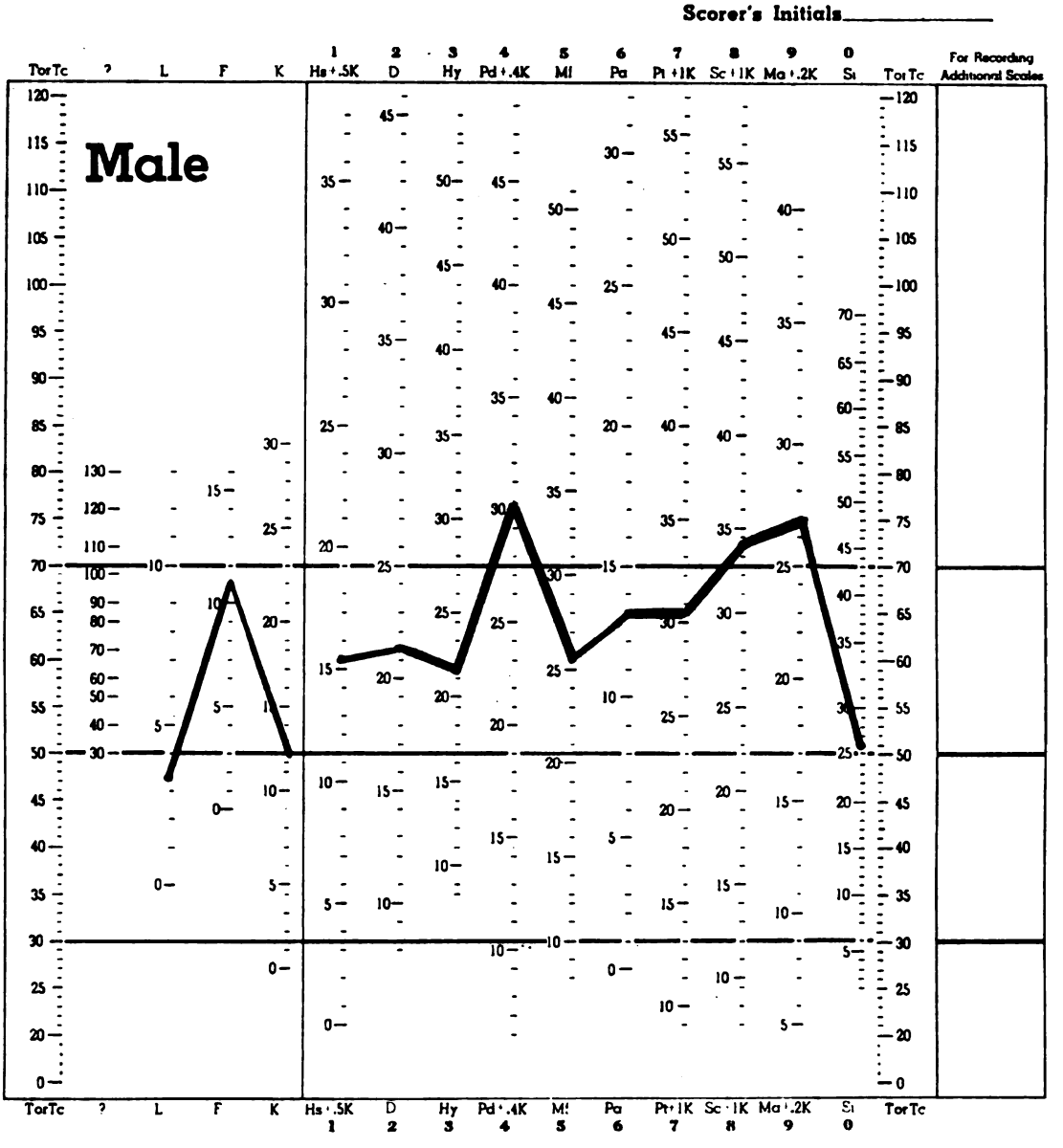
Clinical Description

The most profound feature of this profile are elevations on the Pd, Ma, and Sc scales. The MMPI profile

Profile and Case Summary

The Minnesota Multiphasic Personality Inventory

Starke R. Hathaway and J. Charnley McKinley



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70-251S

Figure 3.2.--Incarcerated heroin addict mean profile.

for this group observed in Table 5 and Figure 3.2 visually indicates an almost identical profile to that of the total inmate sample. The elevations on the Pd, Ma, and Sc scales are the only significant deviations (above a T Sc with K correction), and they are limited only to degrees of elevation.

Non-Addict MMPI Profile

Profile (489)

Assigned Variable Number	23	27	28
T Sc above 70-scales	4	8	9
Mean T Sc with K added	73.771	70.486	70.286

An outline of the non-addict MMPI profile can be observed by way of Table 5 and Figure 3.3.

Clinical Description

The non-addict MMPI profile for this group, as viewed via Table 5 and Figure 3.3, is not noticeably different from that of either the total inmate sample or the heroin addict sample, except in degrees of elevations. The only marginally significant differences are lower T Sc with K correction, on the Pd, Ma, and Sc scales.

Summary

As shown above, incarcerated inmate addicts are slightly higher on other scales, but in general produced elevations on Pd, Ma, and Sc scales. This mean elevation of 70 (Sc with K corrections) presented is probably not due

Profile and Case Summary

The Minnesota Multiphasic Personality Inventory

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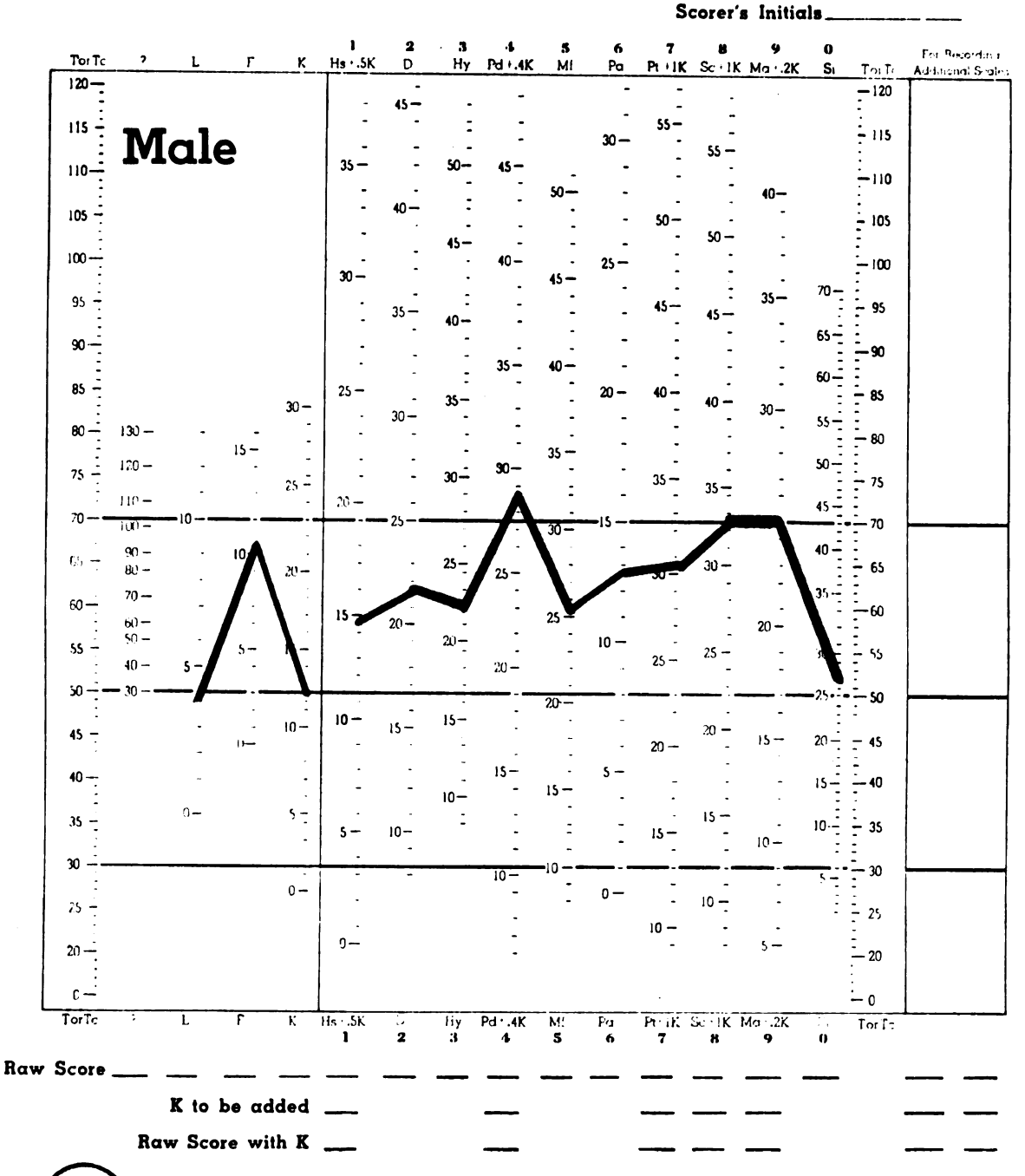


Figure 3.3.--Incarcerated non-addict mean profile.

to the scale containing many items concerned with the use of drugs, or with socially unacceptable behavior, since only 3 of 50 are such items.

McKinley and Hathaway (1951) stated that the scale differentiates well between "normals" and psychopathic deviates, but it does not differentiate between addicts and others.

MMPI Comparative Summary for Both Samples

	Profile (498) Heroin Addict		
Assigned Variable Number	23	28	27
T Sc above 70-scales	4	9	8
Mean T Sc with K correction	76.286	75.600	72.171

	Profile (489) Non-Addict		
Assigned Variable Number	23	27	28
T Sc above 70-scales	4	8	9
Mean T Sc with K correction	73.771	70.486	70.286

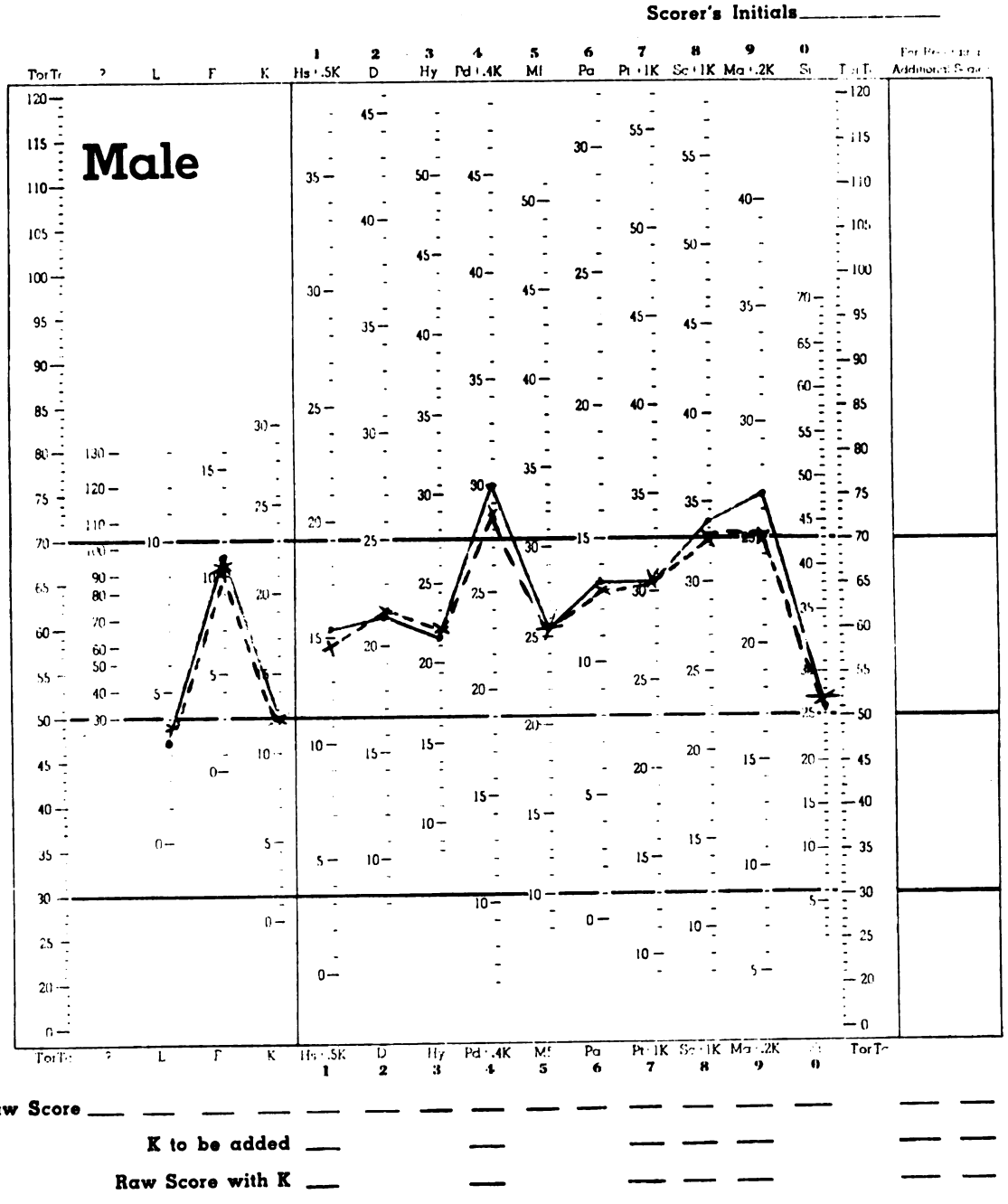
The mean profiles are charted individually in Figure 3.4.

Clinical Description

Generally, both the heroin and non-heroin addict samples are within the normal limits on the validity scales, L, F, and K. However, there are elevations on the F scale, which are believed to be related to self-depreciation and deflated feelings of self-esteem, and according to Gilberstadt and Duker (1965) are indicative of either confused thinking or self-depreciation.

The Minnesota Multiphasic Personality Inventory

Starke R. Hathaway and J. Charnley McKinley



. ——— Addict Sample X ------ Non-Addict Sample

Figure 3.4.--Comparison of incarcerated heroin addict mean sample profile and incarcerated non-heroin addict mean profile.

High F scores are sometimes described as follows:

1. May suggest a basic indecisiveness as to the applicability and significance of the items.

2. Other scales are probably invalid either because the subject was unable to understand the items, or he answered carelessly, or because extensive scoring or recording mistakes were made.

3. T Sc in the high 70's often reflects defensiveness.

Both samples were elevated beyond a T Sc of 70 with K corrections on the psychopathic deviate or Pd scales (with differences being only in degree of elevations).

Pryor (1971) stated that:

> The Pd scale was originally constructed in a prison population (Hathaway and McKinley, 1944), and is the most consistent of the MMPI scales in differentiating inmates from other groups. According to Drake and Oetting (1959), persons scoring high on the Pd scale typically have a history of delinquency and appear to be uncontrolled by the ordinary mores of society. They also tend to have a fairly high level of intelligence and present a superficially appealing personality (pp. 43-44).

Elevations on the Pd scale suggest nonconformity and a rejection of average social conventions. Prison and delinquent groups, as expected from the derivation of the scale, show marked elevations. Peak scores on the psychopathic deviate scale can often be interpreted similarly. The scale was developed to reflect the concept of "psychopathic deviancy," which refers to people who are unable to form satisfactory emotional relationships or appreciate the

feelings of others and who cannot anticipate the consequences of their own actions or behaviors. They continually engage in antisocial and self-defeating behavior, in spite of adequate intelligence and opportunity (Lanyon, 1968).

Other scale elevations beyond a T Sc of 70 (with K corrections) were the Hypomania or Ma scale and the Schizophrenia or Sc scale. Hypomania or Ma scale elevation combined with the Psychopathic Deviate or Pd (with high scores) are described by Dahlstrom and Welsh (1960):

> Persons with this profile pattern show clear manifestations of psychopathic behavior, the hypomania seemingly energizing or activating the pattern related to . . . Pd scale. That is, these people tend to be overactive and impulsive, irresponsible and untrustworthy, shallow and superficial in their relationships. To satisfy their own desires and ambitions, they may expend great amounts of energy and effort, but they find it difficult to stick to duties and responsibilities imposed by others (p. 192).

The Schizophrenia or Sc scale was the least elevated on the profiles of the two samples (with the exception of a marginal higher elevation--in degree only--on the Sc scale of the non-addict profile), and appears to add to the psychopathology of both samples. The Sc scale suggests a union with the total profile, and the extreme similarity between the heroin addict and the non-addict (incarcerated) further supports the belief that personality characteristics do not materially change following addiction, even though the procurement, use, and effects of drugs necessarily demand changes in the individual's daily activities.

An analysis of Figure 3.4 adequately shows that no significant differences are noted between the profiles of the incarcerated heroin addict and the incarcerated non-addict. (Further proof can be examined when the writer presents the results of the analysis of variance performed on differences between mean scores of the experimental group and mean scores of the control group on each variable in the study.)

Supportive Research Conclusions

> While research evidence suggests that habitual and prolonged use of the opiates, barbiturates, tranquilizers, stimulants, and hallucinogens is associated with manifest psychopathology (McAree and Zheutlin, 1969; Smart and Fejer, 1969; and Smart and Jones, 1970), there is some disagreement as to whether there is an "addiction prone" personality (Smart and Jones, 1970), and if so, what this personality is like. Pescore (1943) reported that 88.1% of 1036 hospitalized adult drug addicts studied were psychopathic or sociopathic, 6.3% were neurotic, and 5.6% psychotic. Gerard and Kornestsky (1954) found, however, that among adolescent addicts, 47% were either overt or borderline schizophrenic. Smart and Fejer (1969) observed mixtures of persons with conduct disorders and schizophrenia in their sample in which 96% of the chronic drug users had unusual MMPS's. Gendreau and Gendreau (1970), however, found no significant differences on the MMPI between heroin addicts and non-addicts.
>
> These data are consistent with others' findings (Gerard and Kornetsky, 1954), and (Smart and Fejer, 1969) and suggest incipient psychosis, especially so-called "pseudopsychopathic" schizophrenia, may often be implicated in adolescent drug-use cases severe enough to require hospitalization. The inability of the MMPI to distinguish between drug users and non-users in this sample suggests, however, that there are other parameters relevant to chronic drug abuse than those tapped by the MMPI (Greaves, 1971).

Hill, et al. (1962) provided evidence that social deviance is a common personality factor in alcoholics and

prisoners, as well as in heroin addicts. Using factor-analytic techniques, these authors found a marked similarity among MMPI profile patterns for these groups and demonstrated that elevation on scale 4 was characteristically high. They suggested that, except for the behavior which is peculiarly determined by the particular addiction or criminal activity, no personality characteristics other than social deviance are associated with alcoholism, narcotic addiction, or criminality.

While some researchers report validating evidence delineating the ability of the MMPI to dichotomize between addict-inmates and non-addict inmates, it appears that no unitary concept or concepts exist. Further, variations in profile(s) configurations associated with specific elevations on scale 4 (along with other scales; i.e. 2, 4, 7, 8, and 9) indicate there may be different behavioral manifestations of sociopathy, criminal activity per se, and incarceration. Greater refinements of concepts relating to sociopathy or sociopathological samples used in research must be instrumented in future research studies.

Finally, while several psychometric scales have been developed for describing addict type (Hill, Haertzen and Glasser, 1960; Monroe, Miller and Lyer, 1960-63), there are no standardized techniques available for adequately measuring the natural habitats and personality of drug addicts; and until such instruments are developed, results are merely speculations.

Total Inmate BPI Profile

Profile (14)

Assigned Variable Number	14
Scores above the 80th percentile or below the 20th percentile-scales	14 (80th + percentile)
Mean score	8.157

The mean scores, assigned variable numbers, number of subjects, and standard deviations on the scales of the BPI for the total inmate sample are presented in Table 6 and Figure 4.1.

Clinical Description

Pathology is reflected at the higher end of the scales. Scoring high on several dimensions usually indicates multiple problems. Even one high score may be indicative of serious difficulty. When most scales are elevated near or above the 80th percentile, the individual is usually quite disturbed or indirectly asking for help and is likely to manifest his problems in other ways as well. On the other hand, when scores are low and there is no elevation on the Validity and Lie scales, it suggests that the individual is most likely normal (Howell, Payne and Roe, 1972).

14 - Hostility-Kindness (20 items)	HIGH SCORES: Hostility, anger, challenging, aggressiveness, verbally assertive, "eye-for-eye" attitude, threatening, intolerant, violent, vengeful. LOW SCORES: Friendliness, easy going, accepting, kind, forgiving, cooperative, peaceful.

Table 6.--Inmate sample BPI results.[a]

	Variable	Total Inmate Sample			Heroin Addicts			Non-Addicts		
		N	M	SD	N	M	SD	N	M	SD
1	Invalid-Valid	70	0.243	0.647	35	0.143	0.494	35	0.343	0.765
2	Lie-Honest	70	4.186	2.504	35	4.057	2.326	35	4.314	2.698
3	Defensive-Open	70	8.071	3.544	35	8.457	3.928	35	7.686	3.123
4	Psychic Pain-Psychic Comfort	70	9.643	4.644	35	9.143	4.373	35	10.143	4.912
5	Depressive-Optimism	70	8.843	4.282	35	8.771	4.159	35	8.914	4.461
6	Self Degradation-Self Esteem	70	5.914	3.678	35	5.629	3.078	35	6.200	4.220
7	Dependence-Self Sufficiency	70	6.400	3.858	35	5.971	4.069	35	6.829	3.642
8	Unmotivated-Achieving	70	6.357	2.514	35	6.286	2.630	35	6.429	2.429
9	Social Withdrawal-Gregariousness	70	8.343	4.465	35	7.400	3.173	35	9.286	5.344
10	Family Discord-Family Harmony	70	9.114	5.274	35	8.143	5.018	35	10.086	5.414
11	Sexual Immaturity-Sexual Maturity	70	6.014	3.751	35	6.171	4.197	35	5.857	3.300
12	Social Deviancy-Social Conformity	70	12.986	3.334	35	13.686	3.315	35	12.286	3.250
13	Impulsiveness-Self Control	70	9.671	4.370	35	9.600	4.748	35	9.743	4.025
14	Hostility-Kindness	70	8.157	4.031	35	8.971	3.730	35	7.343	4.207
15	Insensitivity-Empathy	70	6.257	2.418	35	6.429	2.160	35	6.086	2.672

[a]Raw scores.

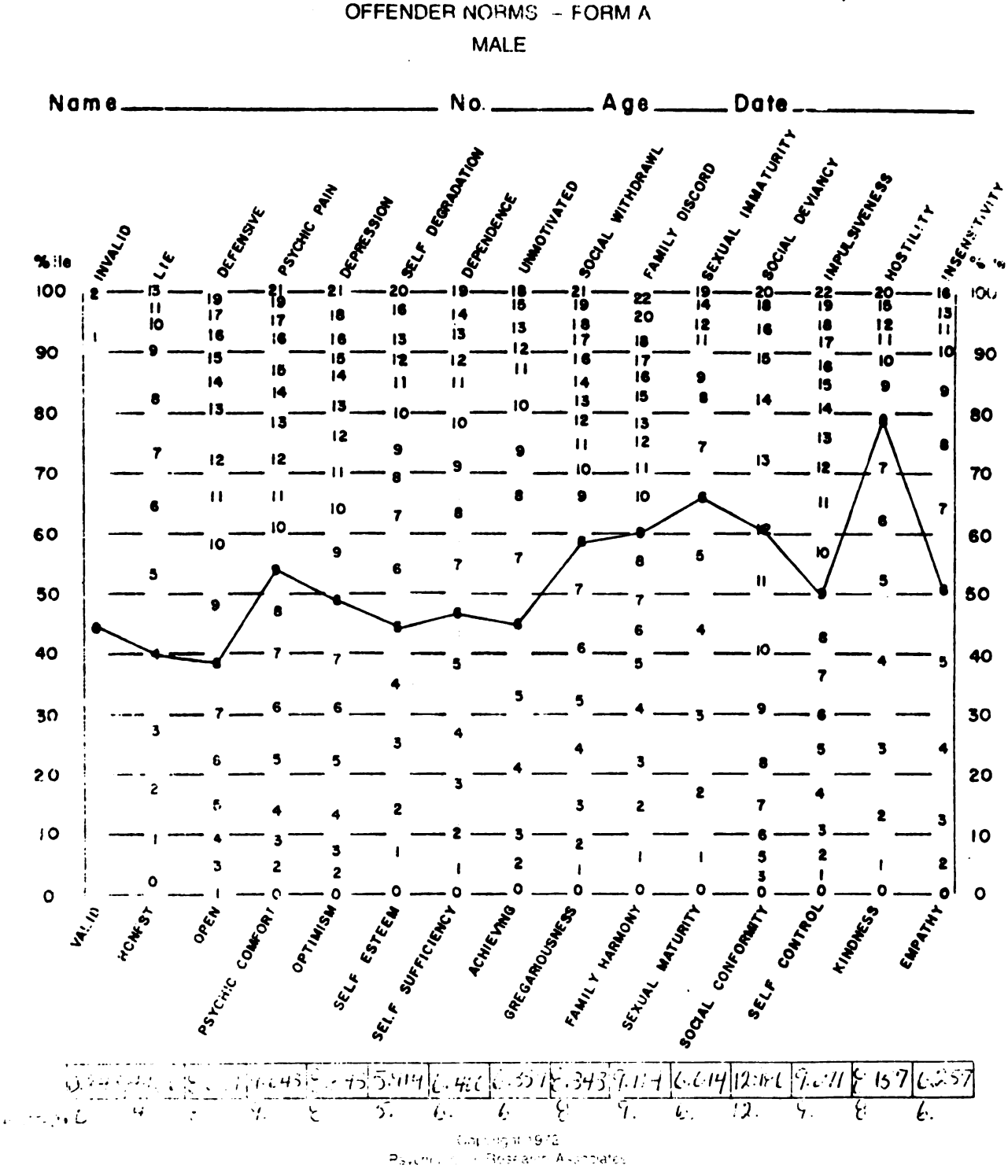


Figure 4.1.--Total incarcerated inmate sample mean profile.

Incarcerated Heroin Addict BPI Profile

Profile (14)

Assigned Variable Number	14
Scores above the 80th percentile or below the 20th percentile-scales	14 (80th + percentile)
Mean score	8.971

Figure 4.2 and Table 6 allow the reader to examine the mean scores, assigned variable numbers, number of subjects, and standard deviations on the scales of the Bipolar Psychological Inventory for the incarcerated heroin addict profile.

Clinical Description

The most outstanding elevated scale on the BPI is the Hostility-Kindness, or assigned variable number 14. This elevated scale is the only significant deviation (above the 80th percentile), and this is restricted to the degree of elevation. However, a slightly high elevation is noticeable on the Social Deviancy-Social Conformity, or 13th scale, which is interpreted by Howell, Payne and Roe (1972), when viewed with the total inmate BPI profile, as presented below:

13 - Social Deviancy-Social Conformity
(22 items)

HIGH SCORES: Social deviancy, antisocial, criminal behavior, societal conflict, anti-establishment, irresponsible, psychopathic, law breaking, rebellious.

BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS -- FORM A

MALE

Name _____ No. _____ Age _____ Date _____

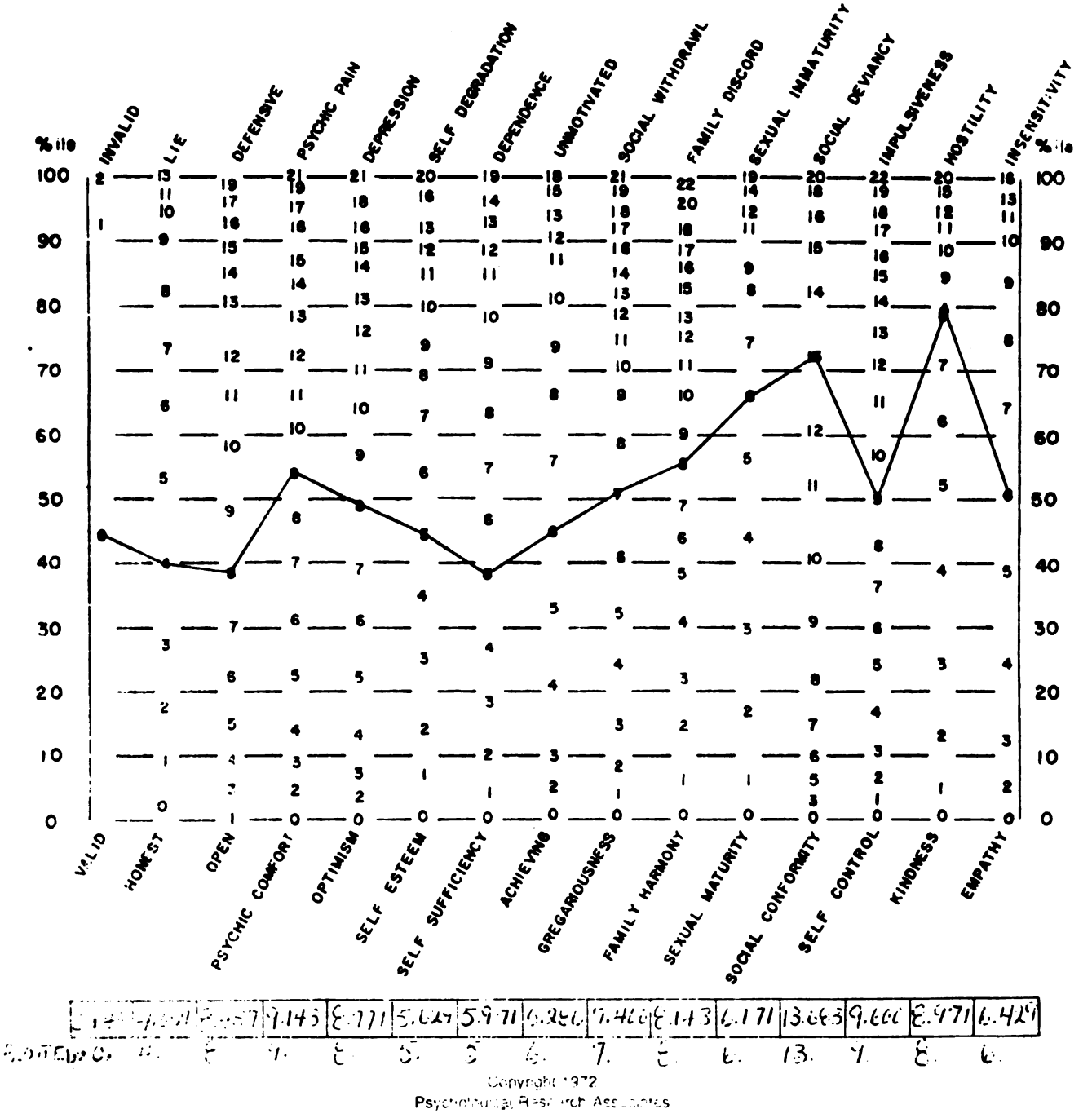


Figure 4.2.--Incarcerated heroin addict mean profile.

LOW SCORES: Social conformity, law abiding, ethical, socially sensitive, conforming, pro-social attitude.

Incarcerated Non-Addict BPI Profile

Profile (14)

Assigned Variable Number	14
Scores above the 80th percentile or below the 20th percentile-scales	None (scale 14 was the highest elevation)
Mean score	7.343

Figure 4.3 and Table 6 allow the reader to examine the plotted mean scores, assigned variable numbers, standard deviations, and number of subjects.

Clinical Description

The non-addict profile, as seen from Figure 4.3 and Table 6, fell well within the normal range on all of the BPI's validity scales (Invalid-Valid, and Lie-Honest), as well as on all other psychological dimensions. The non-addict sample profile did not produce any significant elevations on a single scale of the BPI (pathological demarcation line, beyond the 80th percentile or below the 20th percentile).

Elevations were noted on the BPI Psychic Pain-Psychic Comfort, Self Degradation-Self Esteem, Dependence-Self Sufficiency, Social Withdrawal-Gregariousness, and Family Discord-Family Harmony scales. Again, none of these elevations were at or beyond pathological levels.

BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name _____ No. _____ Age _____ Date _____

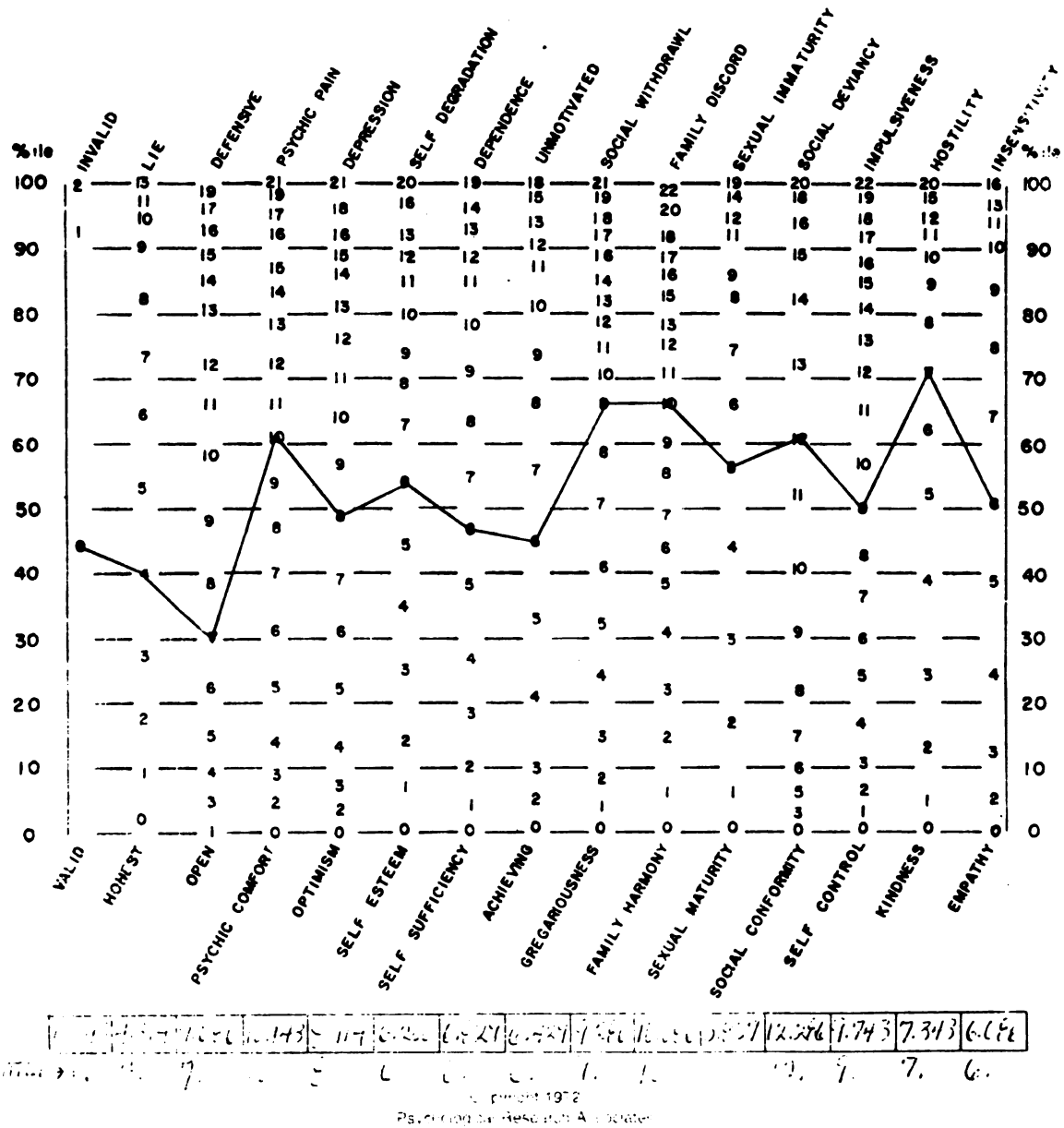


Figure 4.3.--Incarcerated non-addict mean profile.

BPI Comparative Summary for Both Samples

Figure 4.4 contains the plotted mean scores for examining the differences between the two samples.

Profile (14)		Profile (14 highest elevation)	
01-Incarcerated Heroin Addicts Assigned Variable Number	14	02-Incarcerated Non-Addicts Assigned Variable Number	14
Scores above the 80th percentile or below the 20th percentile-scales	14	Scores above the 80th percentile or below the 20th percentile-scales	None
Mean score	8.971	Mean score	7.343
SD	3.730	SD	4.207

Clinical Description

Basically, both samples fell within the normal limits on the Invalid-Valid and the Lie-Honest scales. Elevations on the Hostility-Kindness scale suggest hostility, aggressiveness, verbal assertiveness, intolerance, violence, and vengefulness.

Although marginal differences can be viewed between the two samples on the scales of the Bipolar Psychological Inventory, the Dependence-Self Sufficiency scale was the only one significant at the .05 level of confidence. However, this finding is not significant when evaluated with the instrument's prior set pathological demarcation line--beyond the 80th percentile or below the 20th percentile.

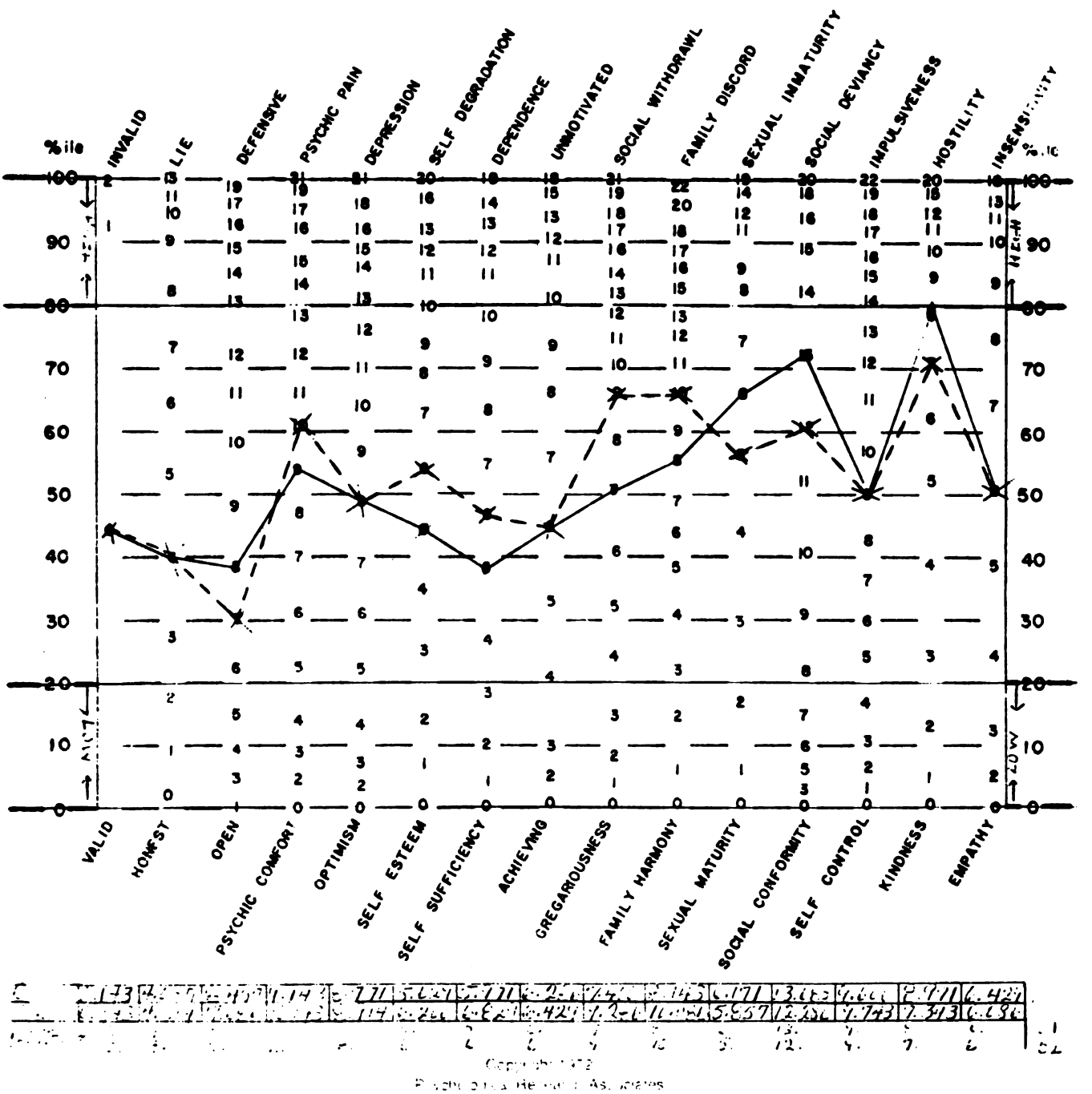
The analysis of variance on the remaining 14 scales of the BPI revealed no other differences between the mean scores of the experimental group and the control group,

BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS -- FORM A

MALE

Name _____ No. _____ Age _____ Date _____



. ———— Addict Sample X -------- Non-Addict Sample

Figure 4.4.--Comparison of incarcerated heroin addict mean sample profile and incarcerated non-heroin addict mean profile.

despite an elevation on the BPI Hostility-Kindness scale beyond the pathological demarcation line by the experimental group.

Scale Correlations (MMPI and BPI)

One purpose of this section is to examine how the variables of the MMPI relate to variables on the BPI for the population under investigation. The basic principle behind all relationship studies tends to follow from John Stuart Mills' canon of concomitant variation (Sax, 1968):

> Whatever phenomenon varies in any manner whenever another phenomenon varies in some particular manner, is either a cause or an effect of that phenomenon, or is connected with it through some fact of causation (Mill, 1930, p. 263).

Hypothesis 3: Significant relationships will exist between the BPI scales and the scales of the MMPI.

Assumption 2: Personality scales and characteristics, as measured by the dependent variables, have a potential relationship to heroin addiction.

Assumption 3: A correlational relationship will exist between the dependent variables and addiction to heroin.

Assumption 4: The BPI will reveal more numerous and more highly significant correlations with incarcerated non-addicts than will the MMPI.

BPI and MMPI Intercorrelations

This section presents the significant correlations between the scales of the BPI and those of the MMPI for the combined sample. Appendices E through G present the intercorrelations, both significant and non-significant, between

the scales of the BPI and those of the MMPI. Also included in this section are: the heroin addict-inmate matrix of intercorrelation of the MMPI-BPI variables, and the non-addict inmate matrix of intercorrelation of the BPI-MMPI variables.

Intercorrelations Between BPI Scales and the MMPI Scales for the Combined Samples

(1) Invalid-Valid Scale.--Presented in Table 7 are the intercorrelations between 14 scales of the MMPI and 15 scales of the BPI. No correlations are noted between the BPI Invalid-Valid scale and any scale of the MMPI. According to Pryor (1971):

> The Invalid-Valid Scale was constructed merely to identify individuals who might not be reading the items or who were answering in a random manner. There is no scale on the MMPI which measures exactly the same characteristic, but high scores on the F scale (T 80) suggest random responses (Drake and Oetting, 1965).

(2) Lie-Honest Scale.--The Lie-Honest scale of the BPI correlated positively with the L scale of the MMPI ($p<.01$). A correlational level of .308 ($p<.01$) was obtained between the BPI L scale and the K scale of the MMPI.

Other significant, though negative, correlations with the BPI L scale and the MMPI scales are: The F ($r=-.247$, $p<.05$), and the Mf ($r=-.247$, $p<.05$).

> Both of the scales claimed to assess the degree to which subjects are answering in a perfectionistic

Table 7.--Total inmate sample intercorrelation matrix of the MMPI and BPI variables (70).

BPI SCALES	MMPI SCALES													
	16 ?	17 L	18 F	19 K	20 Hs	21 D	22 Hy	23 Pd	24 Mf	25 Pa	26 Pt	27 Sc	28 Ma	29 Si
1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	--	.384**	-.247*	.308**	--	--	--	--	-.247*	--	--	--	--	--
3	--	--	--	--	--	--	--	--	-.236*	--	--	--	--	--
4	--	--	.430**	-.605**	.355**	.545**	.362**	.390**	--	.555**	.550**	.491**	--	.547**
5	--	--	.519**	-.463**	.334**	.510**	.378**	.559**	--	.625**	.605**	.585**	--	.509**
6	--	--	.470**	-.438**	.404**	.472**	.403**	.383**	--	.624**	.557**	.597**	--	.560**
7	--	--	.287*	-.344**	.254*	.379**	.277*	.275*	--	.369**	.469**	.363**	--	.459**
8	--	--	.277*	--	--	--	--	--	--	.237*	--	.284*	--	.260*
9	--	--	.353**	-.271*	--	--	--	--	--	.287*	--	.316**	--	.496**
10	--	--	.499**	--	--	--	--	.397**	.319**	.284*	--	.249**	.250*	.274*
11	--	-.251*	.525**	-.406**	--	--	--	--	.402**	.305**	.353**	.473**	--	.408**
12	--	-.437**	.379**	-.316**	--	-.265*	--	--	--	--	--	.288*	.434**	--
13	--	-.357**	.580**	-.610**	--	--	--	--	--	.465**	.364**	.474**	.341**	.325**
14	--	-.434**	.532**	-.460**	--	--	--	.250*	--	.274*	.251*	.457**	.549**	--
15	--	-.233*	.386**	-.298*	--	--	--	--	--	--	--	.270*	.469**	--

*p<.05

**p<.01

manner. The negative correlation between the F Scale of the MMPI and the BPI L Scale is expected in that the BPI Lie Scale attempts to measure the socially desirable direction of responses and the MMPI F Scale attempts to assess the socially undesirable direction responses (Pryor, 1971).

(3) Defensive-Open.--The only correlation noted between the BPI Defensive-Open scale and the MMPI scales (at the $p<.05$ or .01 level of significance) was on the Mf scale ($r=-.236$, $p<.05$).

(4) Psychic Pain-Psychic Comfort[1].--Table 7 visually indicates that the Psychic Pain-Psychic Comfort scale of the BPI correlated significantly and positively with the F, Hs, D. Hy, Pd, Pa, Pt, Sc, and Si scales of the MMPI at the p .01 level of confidence, and significantly negatively correlated with the K scale ($r=-.605$, $p<.01$).

From the total number of significant correlations (10), it appears that these two instruments-scales are measuring the same (or partially the same) psychological traits or dimensions.

(5) Depression-Optimism[1].--An examination of Table 7 indicates that the Depression-Optimism scale of the BPI was significantly positively correlated with the F, Hs, D, Hy, Pd, Pa, Pt, Sc, and Si scales of the MMPI, and significantly negatively correlated with the K scale ($r=-.463$, $p<.01$).

---

[1]Highest number of intercorrelations between the two instruments-scales (#10).

The BPI Depression-Optimism scale and the MMPI Paranoia or Pa scale engendered the highest of all intercorrelations between the MMPI and the BPI scales ($r=.625$, $p<.01$).

(6) Self Degradation-Self Esteem[1].--The Self Degradation-Self Esteem scale, as viewed from Table 7, correlated significantly and positively with the F, Hs, D, Hy, Pd, Pa, Pt, Sc, and Si scales of the MMPI. Further analysis of Table 7 depicts a significantly negative correlation with the MMPI K scale ($r=-.438$, $p<.01$). This scale (6-BPI and Pa-MMPI) produced the second highest of all intercorrelations between the MMPI and the BPI scales ($r=.624$, $p<.01$).

Payne (1971) described this scale as attempting to assess, along with self-degradation, "the self critical, inferiority feelings, dissatisfaction with self, self depreciation, poor self-image, and the ego-strength of the individual."

From the total number of significant correlations (10), it appears that these two instruments-scales are measuring the same (or partially the same) psychological dimensions or traits.

---

[1]Highest number of intercorrelations between the two instruments-scales (#10).

(7) Dependence-Self Sufficiency[1].--From Table 7, it can be seen that the Dependence-Self Sufficiency scale of the BPI is correlated significantly and positively with nine scales of the MMPI: F, Hs, D, Hy, Pd, Pa, Pt, Sc, and Si. Also significantly but negatively correlated is the K scale of the MMPI ($r=-.344$, $p<.01$).

(8) Unmotivated-Achieving.--Table 7 presents the correlations between the BPI Unmotivated-Achieving scale and the scales of the MMPI. The results show that the Unmotivated-Achieving scale is correlated positively and significantly with the F, Pa, Sc, and Si scales of the MMPI. No other correlations were noted at the .05 or the .01 level of confidence.

(9) Social Withdrawal-Gregariousness.--Observation via Table 7 reveals that the Social Withdrawal-Gregariousness scale of the BPI is correlated significantly with the F, Pa, Sc, and Si scales of the MMPI, and correlated significantly but negatively with the K scale ($r=-.271$, $p<.05$).

The Si scale of the MMPI was developed after the others. Item content of the Si scale includes: sensitivities, insecurities and worries, denial of impulses, uneasiness in social situations, and social participation. Generally, high scores tend to indicate withdrawn tendencies,

---

[1]Highest number of intercorrelations between the two instruments-scales (#10).

aloofness, and anxiousness in interactions with people. Scores above 70 Sc on occasion may identify schizoid factors.

Payne (1970) delineated this scale (BPI Social Withdrawal-Gregariousness) as follows: The individual scoring high on the scale is "characterized as a loner who avoids interaction and confrontation. He would therefore be classified as introverted and would likely be schizoid." High score coding of the Si scale is found among persons showing introvertive characteristics, especially shyness, social insecurity, and social withdrawal (Drake and Oetting, 1965).

The high correlation noted between the BPI Social Withdrawal-Gregariousness scale and the MMPI Si scale ($r=.496$, p .01) suggests that these two scales are attempting to measure the same traits or psychological dimensions.

(10) Family Discord-Family Harmony.--Table 7 describes the correlations between the BPI Family Discord-Family Harmony scale and the scales of the MMPI. Significant positive correlations between the BPI Family Discord-Family Harmony scale and the MMPI scales were: F, Pd, Mf, Pa, Sc, Ma, and Si. No negative correlations were noted at the .05 or the .01 level of confidence.

(11) Sexual Immaturity-Sexual Maturity.--The Sexual Immaturity-Sexual Maturity scale of the BPI

correlations with the scales of the MMPI can be viewed from Table 7. Significant positive correlations follow: F, Mf, Pa, Pt, Sc, and Si. Significant but negative correlations with the BPI scale under discussion were the L and K scales of the MMPI ($r=-.251$, $p<.05$ and $r=-.406$, $p<.01$, respectively).

(12) Social Deviancy-Social Conformity.--This scale's correlations with the MMPI scales can be seen from Table 7 to correlate positively and significantly with the MMPI F, Sc, and Ma scales, and to correlate negatively but significantly with the L, K, and D scales of the MMPI ($r=-.437$, $p<.01$; $r=-.316$, $p<.01$; and $r=-.265$, $p<.05$, respectively).

(13) Impulsiveness-Self Control.--Table 7 shows that the BPI Impulsiveness-Self Control scale correlates positively and significantly with the F, Pa, Pt, Sc, Ma, and Si scales of the MMPI, and significantly but negatively with the L and K scales ($r=-.357$, $p<.01$ and $r=-.610$, $p<.01$, respectively.

(14) Hostility-Kindness.--Table 7 reveals that the correlations between the BPI Hostility-Kindness scale are positive and significant with the F, Pd, Pa, Pt, Sc, and Ma scales of the MMPI. It also correlates negatively but significantly with the MMPI L and K scales ($r=-.434$, $p<.01$ and $r=-.460$, $p<.01$, respectively).

(15) Insensitivity-Empathy.--The BPI Insensitivity-Empathy scale and the scales of the MMPI are presented in Table 7. Significant positive correlations between the scales under discussion follow: F, Sc, and Ma. Also noted in Table 7 are significant but negative correlations with the L and K scales of the MMPI.

Description of the BPI Insensitivity-Empathy Scale.--

HIGH SCORE: Cruel, insensitive, morbid, punitive, calloused, sadistic.

LOW SCORE: Empathy, concern, sensitive to others, kind, considerate, sympathetic.

Significantly positive correlations between the BPI Insensitivity-Empathy or 15 scale and the scales of the MMPI.--

F r=.386, p<.01: The F Scale of the MMPI represents an attitude quite antithetical to that denoted by the L and K Scales. Instead of expressing a tendency to minimize, deny, or evade, the admission of pathology, it represents its exaggeration.

Sc r=.270, p<.05: The Sc Scale is based upon a group of patients characterized by bizarre and unusual thought or behavior, and a subjective life tending to be dichotomized from the world of reality. Many of the items reflect the bizarre mentation, the social alienation, the feelings of persecution included in the classic description of schizophrenia, and the peculiarities of perception.

Ma r=.469, p<.01: This scale elevated, implies a tendency to be overactive both bodily and mentally, with a tendency to skip around rapidly from one thing to another. This scale has reference to the kind of elevated mood found in manic patients. Three basic traits found in this type of patient are reflected in the scales; overactivity, emotional excitement, and flight or "push" of ideas. While some of the scale items reflect the hyperactivity, excitement, and flight of ideas of the hypomanic patient, others express certain

family relationship attitudes; and the remainder allude to a preoccupation with somatic concerns.

Significantly but negatively correlated with the BPI Insensitivity-Empathy or 15 scale and the scales of the MMPI.--

L r=-.233, p<.05: There are 15 items in the L Scale, all descriptive of trivial and nearly universal faults, which most people are willing to admit without exorbitant defensiveness.

The item content attempts to measure aggressive feelings, "bad thought," temptations and lack of control or conformity. Generally; minimal kinds of foibles most people tend to have. It is seen then, that L assesses falsification by the individual's attempt to place self in a more socially acceptable light. High L indicates greater and higher deviations on the clinical scales (which are ?) than may otherwise be evident.

K r=-.298, p<.05: The K Scale was designed to ameliorate the predictive validity of some of the original scales (McKinley and Hathaway, 1956). An important facet of the K Scale is that in addition to its use as an index of validity, it has also been adapted as a statistical corrector for some of the other clinical scales.

K Scale items include personal inadequacies, tendencies toward mental disorders, self-control and criticism of others. Typical characteristics discerned include cynicism, euphoria, hospitalization, shyness, hostility, family dissension and worry.

Intercorrelational Matrix Comparison of the BPI and the MMPI Scales

Correlations for both the incarcerated heroin addict sample and the non-addict sample, along with the demographic data, variable 30--age, variable 31--education, and variable 32--racial categories can be examined and analyzed in Appendices E, F, and G.

If the reader analyzes the intercorrelational matrices in Appendices E through G, he will become appreciative of the internal consistency of each of the personality

scales, to each other and to their individual scales, in their attempt to dichotomize the specific groups under investigation.

Interpretations of the Analysis of Variance Tables on the 32 Variables

Although only one scale of the BPI was significant beyond the .05 level, all of the results of the remaining variables are presented to permit examination of implied assumptions with defined meanings.

Table 8.1.--Analysis of Variable One; Invalid-Valid (BPI)

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	3.15369860	3	1.05123287	2.6978	0.053
Error	25.71772997	66	0.38966258		
Total (about mean)	28.87142857	69			

Table 8.2.--Analysis of Variable Two; Lie-Honest (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	15.98062032	3	5.32687344	0.8439	0.475
Error	416.60509396	66	6.31219839		
Total (about mean)	432.58571428	69			

Table 8.3.--Analysis of Variable Three; Defensive-Open (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	39.54703617	3	13.18234539	1.0519	0.376
Error	827.09582096	66	12.53175486		
Total (about mean)	866.64285713	69			

Table 8.4.--Analysis of Variable Four; Psychic Pain-Psychic Comfort (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	55.38831779	3	18.46277260	0.8505	0.471
Error	1432.68311077	66	21.70731986		
Total (about mean)	1488.07142857	69			

Table 8.5.--Analysis of Variable Five; Depression-Optimism (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	42.45441571	3	14.15147190	0.7638	0.518
Error	1222.81701285	66	18.52753050		
Total (about mean)	1265.27142856	69			

Table 8.6.--Analysis of Variable Six; Self Degradation-Self Esteem (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	28.83895365	3	9.61298455	0.7013	0.555
Error	904.64676063	66	13.70676910		
Total (about mean)	933.48571427	69			

Table 8.7.--Analysis of Variable Seven; Dependence-Self Sufficiency (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	123.79060336	3	41.26353445	3.0159	0.036*
Error	903.00939663	66	13.68196056		
Total (about mean)	1026.79999998	69			

*P<.05

Table 8.7 displays the data and the analysis for variable seven of the Bipolar Psychological Inventory: Dependence-Self Sufficiency. The difference between the two groups is significant beyond the .05 level, although not significant at the BPI's previously set pathological demarcation level:

> Pathology is reflected at the highest end of the scale. Scoring high on several dimensions usually indicates multiple problems. Even one high score may be indicative of serious difficulty. When most scales are elevated near or above the 80th percentile, the individual is usually quite disturbed or indirectly asking for help and is likely to manifest his problems in other ways as well (Howell, Payne and Roe, 1972).

Further examination of differences between the means and the standard deviations of both groups suggests that such differences are not totally a result of means and standard deviations alone, but possibly of item content:

Incarcerated Heroin Addicts
Mean 8.971 SD 3.730

Incarcerated Non-Heroin Addicts
Mean 7.343 SD 4.203

Table 8.8.--Analysis of Variable Eight; Unmotivated-Achieving (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	27.65340187	3	9.21780062	1.4896	0.225
Error	408.41802670	66	6.18815192		
Total (about mean)	436.07142857	69			

Table 8.9.--Analysis of Variable Nine; Social Withdrawal-Gregariousness (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	64.68055320	3	21.56018440	1.0853	0.362
Error	1311.09087536	66	19.86501326		
Total (about mean)	1375.77142856	69			

Table 8.10.--Analysis of Variable Ten; Family Discord-Family Harmony (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	145.36897343	3	48.45632448	1.8031	0.155
Error	1773.71674085	66	26.87449607		
Total (about mean)	1919.08571428	69			

Table 8.11.--Analysis of Variable 11; Sexual Immaturity-Sexual Maturity (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	22.79394871	3	7.59798290	0.5289	0.664
Error	948.19176558	66	14.36654190		
Total (about mean)	970.98571427	69			

Table 8.12.--Analysis of Variable 12; Social Deviancy-Social Conformity (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	64.48855800	3	21.49618600	2.0196	0.120
Error	702.49715628	66	10.64389631		
Total (about mean)	766.98371427	69			

Table 8.13.--Analysis of Variable 13; Impulsiveness-Self Control (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	30.43630422	3	10.14543474	0.5203	0.670
Error	1287.00655290	66	19.50009929		
Total (about mean)	1317.44285712	69			

Table 8.14.--Analysis of Variable 14; Hostility-Kindness (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	92.45750671	3	30.81916890	1.9771	0.126
Error	1028.81392184	66	15.58808973		
Total (about mean)	1121.27142856	69			

Table 8.15.--Analysis of Variable 15; Insensitivty-Empathy (BPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	7.47380246	3	2.49126749	0.4153	0.743
Error	395.89762611	66	5.99844888		
Total (about mean)	403.37142856	69			

Again, although none of the scales of the MMPI were significant beyond the .05 level, all of the results are presented to permit examination of implied assumptions with defined meanings.

Table 9.1.--Analysis of Variable 16; ? Cannot Say (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	64.79926169	3	21.59975390	0.1591	0.923
Error	8959.84359527	66	135.75520599		
Total (about mean)	9024.64285707	69			

Table 9.2.--Analysis of Variable 17; L-Lie (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	235.14971033	3	78.38323678	1.9382	0.132
Error	2669.13600391	66	40.44145461		
Total (about mean)	2904.28571427	69			

Table 9.3.--Analysis of Variable 18; F (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	66.68933164	3	22.22977721	0.1298	0.942
Error	11305.08209682	66	172.28912268		
Total (about mean)	11371.77142835	69			

Table 9.4.--Analysis of Variable 19; K (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	7.58318850	3	2.52772950	0.0352	0.991
Error	4734.35966861	66	71.73272225		
Total (about mean)	4741.94285703	69			

Table 9.5.--Analysis of Variable 20; Hs (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	468.67821817	3	156.22607272	0.7974	0.500
Error	12930.46463895	66	195.91613089		
Total (about mean)	13399.14285707	69			

Table 9.6.--Analysis of Variable 21; D (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	262.61303871	3	87.53767957	0.4936	0.688
Error	11704.47267556	66	177.34049508		
Total (about mean)	11967.08571410	69			

Table 9.7.--Analysis of Variable 22; Hy (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	559.88230889	3	186.62743630	1.2233	0.308
Error	10068.98911953	66	152.56044121		
Total (about mean)	10628.87142849	69			

Table 9.8.--Analysis of Variable 23; Pd (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	162.77408860	3	54.25802953	0.3496	0.790
Error	10243.16876841	66	155.19952679		
Total (about mean)	10405.94285703	69			

Table 9.9.--Analysis of Variable 24; Mf (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	62.77672036	3	20.92557345	0.2225	0.880
Error	6206.59470820	66	94.03931376		
Total (about mean)	6269.37142849	69			

Table 9.10.--Analysis of Variable 25; Pa (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	193.94759079	3	64.64919693	0.4240	0.736
Error	10063.42383766	66	152.47611875		
Total (about mean)	10257.37142849	69			

Table 9.11.--Analysis of Variable 26; Pt (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	271.20893387	3	90.40297796	0.5160	0.673
Error	11563.07678032	66	175.19813304		
Total (about mean)	11834.28571415	69			

Table 9.12.--Analysis of Variable 27; Sc (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	140.66417267	3	46.88805756	0.2122	0.888
Error	14582.77868438	66	220.95119219		
Total (about mean)	14723.44285703	69			

Table 9.13.--Analysis of Variable 28; Ma (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	707.27798147	3	235.75932716	1.7589	0.164
Error	8846.49344707	66	134.03777950		
Total (about mean)	9553.77142835	69			

Table 9.14.--Analysis of Variable 29; Si (MMPI).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	90.50522467	3	30.16840822	0.4047	0.750
Error	4920.58048952	66	74.55424984		
Total (about mean)	5011.08571422	69			

Table 10.1 presents the analysis of the data between the two groups on age. This variable is significant beyond the .05 level of confidence.

Ho: As a person matures he impregnates specific positive and negative responses and reacts to certain situations in set expected stereotyped age patterns.

Table 10.1.--Analysis of Variable 30; Age (demographic data).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	197.02693585	3	65.67564528	2.8720	0.043*
Error	1509.25877842	66	22.86755725		
Total (about mean)	1706.28571427	69			

*P<.05

Table 10.2.--Analysis of Variable 31; Education (demographic data).

Source of Variance	Sum of Squares	d.f.	Mean Square	F	Significance
Regression (about mean)	50.03818355	3	16.67939452	2.9285	0.040*
Error	375.90467358	66	5.69552536		
Total (about mean)	425.94285714	69			

*p<.05

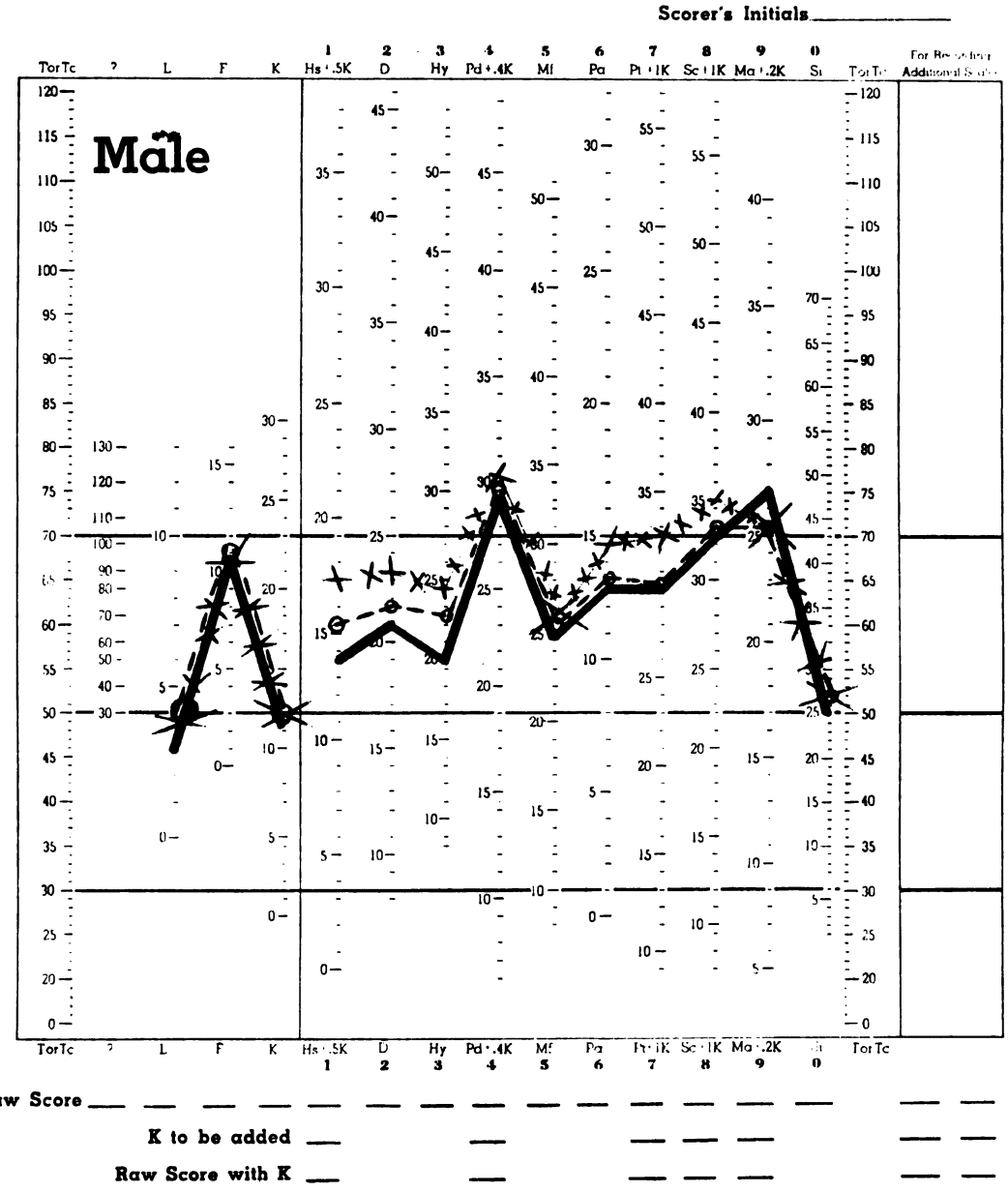
Analysis of Variable 32; Race (Demographic Data)

The analysis of variance results revealed no significant differences at the .05 level of confidence among racial categories (Black, White, and Mexican). The actual significance level was 0.852.

Since sample size is a very important component in interpreting results, caution is indicated with the racial profiles that follow. Generally, a n of 30 is required to satisfactorily acknowledge the F test as meaningful. However, since no differences were found between the two groups on the BPI and the MMPI (with the exception of scale seven--although not elevated at the pathological demarcation level at or beyond the 80th percentile), the researcher plotted the mean scores for further examination by the reader. Again, caution is indicated, since only one of the racial categories met adequate sample size, combined with other limitations: White-39, Black-23, Mexican-8.

The Minnesota Multiphasic Personality Inventory

Starke R. Hathaway and J. Charnley McKinley



04 Black .———— 05 White 0----- 06 Mexican *****

Figure 5.1.--MMPI racial categories profile.

Table 11.--Inmate racial categories sample MMPI results.[a]

Variable		Black Inmate Sample			White Inmate Sample			Mexican Inmate Sample		
		N	M	SD	N	M	SD	N	M	SD
16	?	23	4.870	9.850	39	5.436	13.212	8	3.875	5.842
17	L	23	46.217	4.917	39	50.007	7.260	8	49.250	4.652
18	F	23	67.826	11.984	39	68.103	13.661	8	67.500	12.638
19	K	23	49.609	7.739	39	50.154	8.384	8	50.625	10.322
20	Hs	23	56.870	10.020	39	60.000	16.147	8	65.250	11.016
21	D	23	60.913	10.331	39	62.205	14.797	8	66.875	12.461
22	Hy	23	56.478	7.833	39	61.231	14.418	8	64.500	11.174
23	Pd	23	74.217	8.581	39	75.026	14.206	8	77.375	12.293
24	Mf	23	59.435	8.089	39	60.949	10.674	8	61.000	8.142
25	Pa	23	64.130	10.279	39	65.000	12.765	8	69.750	14.868
26	Pt	23	64.522	10.634	39	64.641	13.852	8	70.625	16.026
27	Sc	23	70.217	13.480	39	71.333	14.978	8	74.500	17.287
28	Ma	23	75.391	11.007	39	71.821	12.361	8	71.375	11.186
29	Si	23	50.174	7.912	39	52.436	9.005	8	52.375	8.228

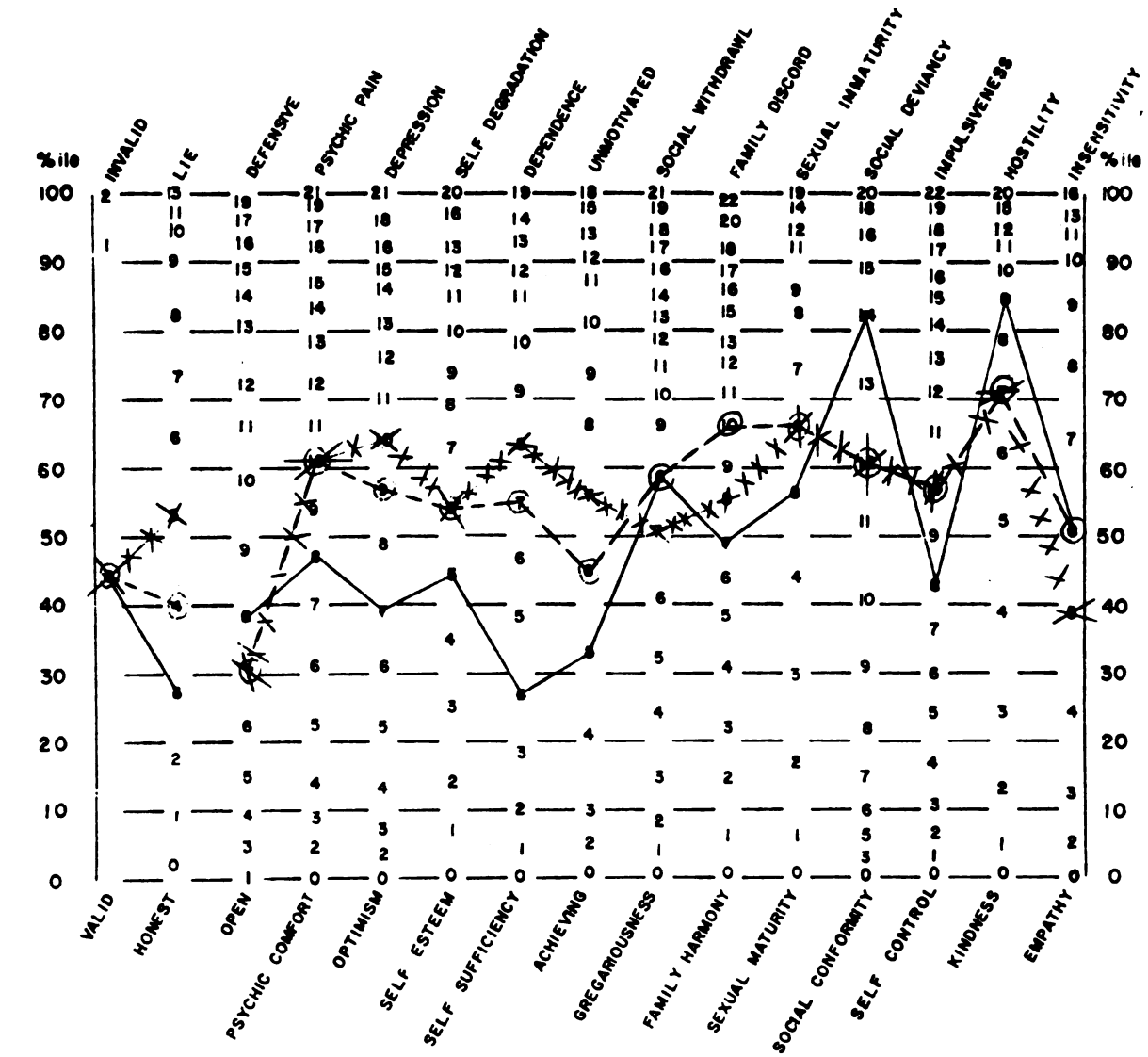
[a]T Sc with K corrections.

BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name _____ No. _____ Age _____ Date _____



04 Black .———— 05 White 0----- 06 Mexican *****

Figure 5.2.--BPI racial categories profile.

Table 12.--Inmate racial categories sample BPI results.[a]

	Variable	Black Inmate Sample			White Inmate Sample			Mexican Inmate Sample		
		N	M	SD	N	M	SD	N	M	SD
1	Invalid-Valid	23	0.087	0.288	39	0.256	0.715	8	0.625	0.916
2	Lie-Honest	23	3.957	2.421	39	4.103	2.604	8	5.250	2.252
3	Defensive-Open	23	8.957	3.309	39	7.744	3.740	8	7.125	3.044
4	Psychic Pain-Psychic Comfort	23	8.478	3.273	39	10.231	4.793	8	10.125	6.896
5	Depressive-Optimism	23	7.783	2.954	39	9.231	4.602	8	10.000	5.682
6	Self Degradation-Self Esteem	23	5.174	2.588	39	6.154	4.120	8	6.875	4.121
7	Dependence-Self Sufficiency	23	4.652	3.284	39	7.051	3.509	8	8.250	5.445
8	Unmotivated-Achieving	23	5.522	2.502	39	6.641	2.497	8	7.375	2.200
9	Social Withdrawal-Gregariousness	23	8.304	3.994	39	8.564	5.030	8	7.375	2.774
10	Family Discord-Family Harmony	23	7.391	4.869	39	10.282	5.385	8	8.375	4.926
11	Sexual Immaturity-Sexual Maturity	23	5.304	2.670	39	6.256	3.905	8	6.875	5.540
12	Social Deviancy-Social Conformity	23	14.000	3.075	39	12.513	3.379	8	12.375	3.583
13	Impulsiveness-Self Control	23	8.739	4.614	39	10.077	4.233	8	10.375	4.438
14	Hostility-Kindness	23	9.478	4.316	39	7.487	3.999	8	7.625	2.504
15	Insensitivity-Empathy	23	6.565	2.483	39	6.179	2.394	8	5.750	2.550

[a]Raw scores.

Summary

The analysis of data in Chapter IV presented the hypotheses under investigation; the MMPI profiles for the total inmates, the heroin addict inmates, and the non-addict inmates; and all the profiles of the BPI groups. Tentative interpretations were noted. The relationships between the 15 scales of the BPI and the 14 scales of the MMPI were also presented and discussed via intercorrelational matrices (Product-Moment). The fourth step in the organization of the analysis of the data presented and examined the differences between the mean scores of the experimental group and the control group. This analysis was performed on all 15 variables of the BPI and the 14 variables of the MMPI for each of the two groups. The .05 level of significance was established as the critical area for accepting or rejecting differences.

Finally, since no differences were found between the two groups on the MMPI and the BPI (with the exception of scale seven--although not elevated at the pathological level, beyond the 80th percentile), an analysis of variance was performed on the demographic data--variables 30-Age, 31-Education, and 32-Race.

The analysis of variance results for the racial categories (Black, White, and Mexican) were found not significant at the .05 level of confidence.

Table 10.1 presented the analysis of the data between the two groups on the demographic variable--age. The groups were found to be significantly different beyond the .05 level.

Finally, Table 10.2 presented the analysis of the data between the two groups on the demographic variable--education. The groups were found to be significantly different beyond the .05 level.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

> The cause of addiction is not drugs but human weakness. Addiction usually is a symptom of a personality maladjustment rather than a disease in its own right. The psychiatric conditions which underlie drug addiction are chiefly the neuroses and the character disorders. . . . They (neurotic patients) include nervous, tense individuals with a great deal of anxiety and many somatic complaints; compulsive neurotics; persons with conversion hysteria--strange paralyses, anesthesias, etc. Individuals with character disorders were formerly termed psychopaths. Usually they are irresponsible, selfish, immature, thrill-seeking individuals who are constantly in trouble--the type of person who acts first and thinks afterwards. The majority of addicts do not fall clearly into either the neurotic or character disorder groups but have characteristics of both classes (Isbell, Public Health Service Publication No. 94, 1951).

This final chapter is devoted to a summary of the study, a discussion of conclusions drawn from the data and their analyses, and concludes with recommendations and implications for future research.

Summary

Purpose

The purpose of this study was to examine what relationships exist between the scales of the Minnesota Multiphasic Personality Inventory (MMPI) and the scales of the Bipolar Psychological Inventory (BPI), tested on an incarcerated heroin addicted/non-heroin addicted population, and

to ascertain which instrument would reveal more numerous and more highly significant correlations of personality characteristics to heroin addiction. A second purpose was to review and examine the effectiveness of the BPI and the MMPI scales, individually and to each other, in assessing characteristics of incarcerated heroin addicts and non-addicts. A third purpose was that of exploring psychological dimensions and other areas that led to the development of the BPI. The overview of the 15 scales of the BPI and the 14 scales of the MMPI, reliability and validity of the scales, administration procedures for each inventory, and scoring methods, along with the review of literature, served as introductory material for discussion of both instruments.

The present study was the first research (known to the researcher) performed to date, comparing the 14 scales of the MMPI with the 15 scales of the BPI on an incarcerated heroin addict/non-addict population.

Instrumentation

The Minnesota Multiphasic Personality Inventory (MMPI) and the Bipolar Psychological Inventory (BPI) were used in this study. Personality factors which both instruments attempt to assess include:

Minnesota Multiphasic Personality Inventory (MMPI)

1. Hypochondriasis--Hs
2. Depression--D
3. Hysteria--Hy
4. Psychopathic Deviate--Pd
5. Masculinity-Femininity--Mf
6. Paranoia--Pa
7. Psychasthenic--Pt
8. Schizophrenia--Sc
9. Hypomania--Ma
0. Social Introversion--Si

Validity Scales

?. Cannot Say
L. Lie
F. Validity
K. Correction

Bipolar Psychological Inventory (BPI)

1. Invalid.....Valid
2. Lie.....Honest
3. Defensive.....Open
4. Psychic Pain.....Psychic Comfort
5. Depression.....Optimism
6. Self Degradation.....Self Esteem
7. Dependence.....Self Sufficiency
8. Unmotivated.....Achieving
9. Social Withdrawal.....Gregariousness
10. Family Discord.....Family Harmony
11. Sexual Immaturity.....Sexual Maturity
12. Social Deviancy.....Social Conformity
13. Impulsiveness.....Self Control
14. Hostility.....Kindness
15. Insensitivity.....Empathy

Procedure

To screen incarcerated heroin addicts from incarcerated non-addicts, the control group, specific precautions were taken. All inmates at the Ingham County Jail at Mason, Michigan, were initially screened by the Intake-Referral Coordinator of the Ingham County Jail Inmate Rehabilitation Program (ICJIRP), and re-screened by the Drug Abuse Treatment

Staff, to determine the evidence of drug use/abuse. The records of all inmates tested were carefully reviewed; known addicts and known non-addicts were dichotomized into the experimental and the control groups. Further, each inmate who was included in either of the two final groups was interviewed. Each inmate was carefully questioned regarding his drug history, with the assurance that the information obtained would be held in confidence.

The Multiple-Checking-System controlled for confounding variables such as drug use/abuse, duration of addiction, previous exposure to therapy and psychological testing, history and/or presence of psychosis, and physical addiction to heroin. (See pp. 72-73 for a detailed summary of the screening process.)

The MMPI and the BPI were administered originally to 89 inmates. However, the study's Multiple-Checking System, implemented to assure authenticity of results, deleted all but 75 inmates. Five of these inmates were eliminated for other reasons.

The inmates in both groups were administered the group form of the MMPI and the BPI--Form A. Generally, the tests were completed in a group setting; eight addicts/non-addicts, however, were tested individually.

Design and Analysis

Examination of individual scales of the MMPI and the BPI was performed, along with their overall patterning

in terms of the interrelations among the scales. The means, standard deviations, and significance levels comparing each scale on the MMPI and the BPI for the experimental and the control group were plotted and analyzed.

An analysis of the data presented the hypotheses and assumptions under investigation, and the MMPI and BPI profiles for all groups. Intercorrelational matrices between the two instruments were presented and discussed, along with the demographic variables.

An analysis of variance was performed for each of the 15 variables of the BPI, the 14 variables of the MMPI, and the 3 variables of the demographic data. This total of 32 analyses of variance was performed and presented in tables to ascertain statistically significant differences between incarcerated heroin addict inmates and incarcerated non-heroin addict inmates for each of the variables.

Conclusions

Findings and Discussion

The following results of the study are outlined according to previously stated hypotheses and assumptions:

Special Note: Special attention was directed toward the inmates' reading and comprehension levels. According to The Stanford Diagnostic Reading Test and The Wide Range Achievement Test results, the inmates scored well beyond the seventh grade reading and comprehension levels.

Hypothesis 1: Heroin addicted persons will demonstrate personality characteristics (profiles) which are unique or consistent within their population as measured by the MMPI and the BPI.

Hypothesis 2: Significant differences will be found in performance (profiles) as measured by the dependent variables.

Assumption 1: There is a heroin addiction profile, with explicit characteristics that will be described by the MMPI and the BPI (profiles).

MMPI

The research results tend to agree with Hill, et al. (1962), in that social deviance is a common personality factor in alcoholics, prisoners, and heroin addicts. They suggested that except for the behavior which is peculiarly determined by the particular addiction or criminal activity, no personality characteristic other than social deviance is associated with alcoholism, narcotic addiction, or criminality.

Further analysis of the present data suggested that scales Ma and Sc of the MMPI are also associated with narcotic addiction and/or criminality.

The incarcerated heroin addicted persons demonstrated personality characteristics (profiles) which were consistent within their population as well as with the incarcerated non-heroin addicted persons.

The MMPI comparative summary for both samples was different only in marginal degrees. An examination of the comparative summary illustrated in Figure 3.4 reveals

similar profile patterns in overall configuration, elevations on scales 4, 8, and 9, dominate both the heroin addicts and the non-addicts profiles.

Generally, both groups fell within the normal limits on the validity scales, L, F, and K. However, both samples were elevated on the F scale, which is believed to be related to self-depreciation and deflated feelings of self-esteem, and according to Gilberstadt and Duker (1965) is indicative of either confused thinking or self-depreciation.

Both samples were also elevated beyond a T Sc of 70 with K corrections on the Psychopathic Deviate or Pd scale (with differences being only in degree of elevations).

> According to Drake and Oetting (1959), persons scoring high on the Pd scale typically have a history of delinquency and appear to be uncontrolled by the ordinary mores of society. They also tend to have a fairly high level of intelligence and present a superficially appealing personality (pp. 43-44).

Other scale elevations beyond a T Sc of 70 with K corrections were the Hypomania or Ma scale, and the Schizophrenia or Sc scale:

> (Pd-Ma Combined)
> Persons with this profile pattern show clear manifestations of psychopathic behavior, the hypomania seemingly energizing or activating the pattern related to . . . Pd scale. That is, these people tend to be overactive and impulsive, irresponsible and untrustworthy, shallow and superficial in their relationships. To satisfy their own desires and ambitions, they may expend great amounts of energy and effort, but they find it difficult to stick to duties and responsibilities imposed by others (Dahlstrom and Welsh, 1960).

This Schizophrenia or Sc scale was the least elevated on the profiles beyond a T Sc of 70 with K corrections, for the two samples (with the exception of a marginally higher elevation, in degree only, on the non-addict profile), and appears to add to the psychopathology of both samples. The Sc scale suggests a union with the total profile, and the marked similarity between the incarcerated heroin addict and the non-addict profile further supports the belief that personality characteristics do not materially change following addiction, even though the procurement, use, and effects of drugs necessarily demand changes in the individual's daily activities.

Further supportive evidence obtained in the analysis of variance on all 14 variables of the MMPI for each of the two groups indicated no significant differences were found on any of the MMPI variables between the two groups at the .05 level of confidence.

The BPI Comparative Summary For Both Samples

Figure 4.4 reveals that both samples fell within the normal limits on the Invalid-Valid and the Lie-Honest scales. Noted elevations on the Hostility-Kindness scale suggested hostility, aggressiveness, verbal assertiveness, intolerance, violence, and vengefulness. Although marginal differences were noted between the two groups on the scales of the BPI, the Dependence-Self Sufficiency scale

was the only one significant at the .05 level of confidence. However, this finding was not significant when evaluated with the instruments' previously set pathological demarcation line (beyond the 80th percentile or below the 20th percentile). The analysis of variance on the remaining 14 scales of the BPI revealed no other differences between the mean scores of the experimental group and the control group, despite an elevation on the BPI Hostility-Kindness scale beyond the pathological demarcation line by the experimental group.

Hypothesis 3: Significant relationships will exist between the BPI scales and the scales of the MMPI.

Assumption 2: Personality scales and characteristics, as measured by the dependent variables, have a potential relationship to heroin addiction.

Assumption 3: A correlational relationship will exist between the dependent variables and addiction to heroin.

Assumption 4: The BPI will reveal more numerous and more highly significant correlations with incarcerated non-heroin addicts than will the MMPI.

Pryor (1971) initiated the first research attempt to assess the validity of the BPI. Because of the exploratory nature of his study, formal hypotheses were not listed. However, one of his implied hypotheses at this time was "there would be significant relationships between the BPI scales and the scales of the MMPI." His findings were supportive of his implied hypothesis.

The analysis of variance on the first two demographic variables--age and education--revealed that both variables were significant beyond the .05 level of confidence, between the two groups. The analysis of variance results revealed no significant differences at the .05 level of confidence among racial categories (Black, White, and Mexican). The actual significance level at the .05 level of confidence was 0.852.

Since sample size is a very important component in interpreting results, caution is indicated with the racial profiles. Generally, a n of 30 is required to satisfactorily acknowledge the F test as meaningful. However, since no differences were found between the two groups on the BPI and the MMPI (with the exception of scale 7--although not elevated at or beyond the pathological demarcation level, the 80th percentile), the researcher plotted the mean scores for further examination by the reader. Again, caution is indicated, since only one of the racial categories met adequate sample size, combined with other limitations: Whites-39, Blacks-23, and Mexicans-8.

An analysis of the present data indicates a large number of Bipolar Psychological Inventory correlations with the scales of the Minnesota Multiphasic Personality Inventory, suggestive of proximity in attempting to measure similar psychological traits or psychological scale dimensions.

Significant positive and negative correlations can be examined and analyzed via Table 7.

> Personality scales and characteristics as measured by the dependent variables did in fact have a relationship to heroin addiction.
>
> A correlational relationship did exist between the variables (dependent) and addiction to heroin.
>
> The BPI and the MMPI both revealed numerous and highly significant correlations with incarcerated non-heroin addicts. Both instruments were in close proximity in terms of number of correlations; therefore to dichotomize the two would result, again, in only marginal differences.

From the results discussed above, the findings suggest that the MMPI and the BPI, in combination, represent complementary therapeutic and diagnostic tools for a large variety of psychological uses. Results also indicate their further importance in evaluating populations "unlimited," particularly the "sociopathic" labeled groups.

Although an analysis of numerous research results suggested there are measurable personality differences between incarcerated and non-incarcerated heroin addicts with respect to the incidence and extent of sociopathy, incarceration appears to be at least one of the multiple confounding variables that precludes a dichotomy between the incarcerated heroin addict and incarcerated persons who are not addicts.

In Tables 13.1 and 13.2 the incarcerated non-heroin addict sample is presented via a matrix of intercorrelations

Table 13.1.--Incarcerated non-heroin addict intercorrelation of the MMPI variables.

	16	17	18	19	20	21	22	23	24	25	26	27	28	29
16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17			-.412*	.596**	--	--	--	--	--	--	--	-.370*	--	--
18				-.586**	--	--	--	.503**	--	.609**	.425**	.720**	.465**	.353*
19												-.361*	--	-.607**
20						.696**	.815**	.462**	--	.461**	.541**	.431**	--	.530**
21							.629**	.380*	--	--	.607**	.338*	-.508**	.630**
22								.526**	--	.421**	.518**	.333*	--	.374*
23										.787**	.550**	.666**	--	--
24										--	--	--	--	--
25											.436**	.625**	--	--
26												.750**	--	.518**
27													--	--
28														-.331*
29														--

*p<.05 **p<.01

Table 13.2.--Incarcerated non-heroin addict intercorrelation of the BPI variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2				-.339*	--	-.336*	--	--	--	--	--	--	--	--	--
3						.380*	.414*	--	--	--	--	--	--	.402*	--
4					.838**	.827**	.634**	--	.402*	--	--	--	.419**	--	--
5						.891**	.578**	--	.507**	--	--	--	.394*	--	--
6							.557**	--	.490**	--	--	--	.355*	.350*	--
7								.431**	--	--	--	--	--	--	--
8												.342*	--	--	--
9										.472**	.599**	.356*	.332*	--	--
10											.336*	--	--	--	--
11												.487**	.389*	--	--
12													.516**	.539**	.522**
13														.441**	.437**
14															.409**
15															--

*p<.05 **p<.01

between the MMPI/MMPI variables and the BPI/BPI variables, respectively. The intercorrelation of variables and their possible predictability of each other is considered one measure of internal consistency, which is one form of reliability. Both the BPI and the MMPI appear to possess this characteristic or strength.

Recommendations

The need for investigations into the effectiveness of various diagnostic and therapeutic experiences remains practically unlimited. Further studies involving the BPI and the MMPI in clinical experiences may serve to determine their actual potential as predicting agents with specific groups.

Further reliability and validity studies should be conducted for all scales of the BPI, possibly compared with the MMPI and other psychologically related instruments, in furthering the attempt to assess the reliability and validtiy of the BPI scales.

One interesting study might include a comparison between Jordan's Attitude Toward Drug Users Scales and the scales of the BPI or the MMPI. This study could possibly reflect the importance of positive or negative attitude-responses, and their influence on the scales of the BPI or the MMPI (Jordan, Kaples, Maclean, and Nicholson, 1971).

Replication of this study should be repeated at the Ingham County Jail, hospitals, residential treatment centers,

and other therapeutic communities to ascertain whether the same results of personality variable comparisons will engender the same results.

Since age and educational factors influence results on the MMPI and the BPI, further investigations of these factors should be considered.

Further investigations examining alleged measurable personality differences between larger, though carefully selected samples of incarcerated and non-incarcerated heroin addicts may lend some credence to the BPI's further consideration as a reliable psychological inventory.

The need for longitudinal and cross-sectional studies is indicated, to ascertain the consistency of specific profiles across developmental periods.

Finally, no diagnostic or therapeutic instrument is of any value unless it assists in the psycho-rehabilitation process. "Unless the BPI profiles can be utilized to help direct therapy and rehabilitation little has been gained by its construction" (Pryor, 1971).

APPENDICES

APPENDIX A

GLOSSARY

APPENDIX A

GLOSSARY

Abb.	An abcess which forms at the site of injection on needle addicts, largerly as a result of impure drugs or unsterile needles, or works. A swollen, inflamed area in body tissues.
Ace	A one-year sentence. Also bullet. "He laid an ace on me for that score."
Acid	(LSD - 25) Lysergic acid diethylamine, an omnipotent psychomimetic drug, engendered synthetically, which duplicates in a highly concentrated form the same hallucinogenic agent found in peyote, mescaline and psilocybin. It appears on the contraband market in the form of liquid in ampules and sugar lumps on which a drop of the concentrated drug has been deposited, or sometimes in powder form.
Acid dropper	An acid head. One who uses LSD.
Acid head	An acid dropper. One who uses LSD.
Action	The selling of drugs (narcotics): Anything pertaining to illegal/criminal activities.
Artillery	The works/outfit used to inject drugs hypodermically, that is, sometimes, a medicine dropper fitted with a hollow needle.
Away	Locked up in jail. Incarcerated.
Back-up	To allow the blood to return into the glass/works (dropper or glass syringe) during a vein shot.
*Bo gard	Selfishly holding on to something usually shared. "Bogarding a joint" - not passing the joint freely when smoking with peers, friends and etc..
*Bold	Literally a descriptive word for someone who is adventuresome, forth-right. Also the word is used to delineate anything that stands out in a positive way to the perceiver/speaker. "Those strides are sure bold, man."

Boss	A good or wonderful choice.
*Bummer	Mood/emotional depressing event. "Wow, getting busted was a real bummer."
*Busted	Getting caught. Usually for illegal activities.
Busted	To be arrested, put away, downed, nailed, or knocked out.
*Box	Record player or stereo set.
Buzzer	A homosexual; a prison guard, or an enforcement officer's badge.
*Cop	Acquire. "Let;s go cop some reefer" - To buy drugs.
Cop	To obtain. To try to steal or rob.
*Cop an attitude	A sudden emotional reaction to a specific or generalized stimulus. "I was getting along good with the dude until I rapped about his mother and then the dude cops an attitude. Meaning: The person became upset at the nature of the comments and then became defensive to the point that he had a negative, or hostile response set.
*Cop out	Plead guilty in court.
Cop out	To plead guilty. Generally used by all underworld people and many law enforcement officers.
*Deal	Sell drugs (push).
*Deep	Used to delineate a person or event that is either introspective or complicated.
*Dig it	To understand. "Can you dig it," or be interested in the current happenings.
Ding	marihuana.
*Do	An amount of heroin in a single high. "Did you get your do?"
Do popper	A needle addict.

*Dope	A term describing heroin to a junkie or jail inmate; and marijuana to pot heads and middle class/college pot smokers.
Dope	Narcotics.
*Dry run	A cancelled court appearance after an accused individual has been taken to court from jail.
*Far out	Good, groovy.
*Fire-up	To shoot up heroin. Mainlining.
Flash	Euphoria following injection of narcotics.
Flashback	A recurrence of some of the features of the LSD state days or months after the last dose. It can be invoked by physical or psychological stress, or by medications such as antihistamines, or by marihuana.
*Getting down	Getting serious or to the main issue. "This chick and I quit jiving and got down to it."
Gap	To yawn and drool (salivate). The female genitalia.
*Head	Marijuana smoker
Heist	To rob or steal. To life someone's stash (narcotics).
*Hip/hep	Replaced "cool" in colloquial expression. Meaning o.k. or "in."
*Hitting a vein	Mainlining.
Home	The vein into which drugs are injected (favorite spots).
*Homey	A friend. Usually people from the same geographical area or town.
*Honkie	Generally refers to a negatively perceived white person.
Horn	To sniff (snort) cocaine or heroin. Also blow.
*Hot shot	Injection of pure heroin which is usually fatal.

Hot shot	An deadly poison, such as Cyanide (Sodium) and other poison concealed in narcotics to kill troublesome addicts, or to delete/remove an informer.
*Jack/man/dude	An individual addressed in greeting or discussion.
*Jam	Music.
*Jive I	Heroin.
*Jive II	Style of behavior used usually to impress others or to con in some fashion. "He's just jive" - meaning: "He's" is generally a phony or he is superficial.
*Joint	Marijuana cigarette
Joint	The complete works/outfit with which to take drugs hypodermically, in contrast to a regulation hypodermic syringe. (see artillery).
*Joy poppin	A reference to getting high by a non-addict.
Joy popper	A person, (not a confirmed addict) who takes an occasional injection of drugs/narcotics. Sometimes joy popping is the beginning of a permanent addiction.
*Key I	Short for turnkey or guard.
*Key II	Short for kilo: Rarely found sales unit of marijuana.
*Kites	Informal jail correspondence: Notes, or letters.
Later	Never mind. A laconic phrase meaning meaning "forget it."
Miss Emma	Morphine.
Nailed	Busted, arrested, or jailed.
On ice	In jail, incarcerated, or a police stakeout in in the vicinity.
*Peckerwood	Exceptionally derogatory adjective describing a white man, a honkey, etc..

*Quads	Methaquaalone/barbituate in current popular street use.
*Quinne	Commonly used substance with a bitter taste: Used to cut pure heroin.
*Rap partner	Jail slang for people in on the same criminal charge togeather.
*Reds	Downers/barbiturates
Red devil	A Seconal capsule. Also called Red Bird.
*Ride out	Found guilty at court and given a ride to an institution by the authorities.
*Rip off/rip	To steal.
Roach	The end of a marijuana cigarette.
Rush	The first exciting euphoria from injecting opiates. See flash.
*Partner (running)	Junkies who shoot-up togeather.
*Shit	Heroin or various drugs. The term used is inquiring about: "You got any shit, man?"
*Shooting up	Mainlining.
*Skating	Jail slang for the active avoidance of responsibility.
Shoot gravy	To reheat a boot shot when a vein is missed and reinjecting the mixture of blood, water and the drug(s).
*Skin poppin	Subcutaneous drug injection.
*Snitch	Informer.
*Snortin	(See tooting)
*Spike	Syringe, or needle.
*Squares	Jail slang for a pack of cigarettes.

*Strides	Slacks/pants.
Tabs	5 mg methedrine tablets.
*That's bad	Jive for "That's good."
*The world	Outside of an institution.
*Tootin	Injesting heroin by sniffing the powder into the system via the nostrils.
*Two-days & a wake-up	Refers to the amount of time left on an inmate's sentence. In this case being two days left on the sentence and release the following morning at 8:oo A.M..
Twisted	Under the influence of narcotics.
Uffi or uhffi	Morphine. Rare (New York City and Detroit areas).
*Vibes/Viberations	Negative or positive impressions derived from subjective interpretation of affection display or iconic expressions. A "feeling" one has toward another as to the credibility or motivation." "Don't deal any shit to that dude, he gives me bad vibes."
Viper	A grass/marijuana smoker.
*Walk out	Released at court.
Works	Instruments for administering drugs/narcotics hypodermically.
*Works	Apparatus used in shooting up heroin.
Yen	A crave for drugs/narcotics, even though the user/abuser is no longer using at the time.
Zonked	Under the influence of drugs/narcotics.

*Collective (pooled) definition of terms, as used by heroin addicts incarcerated in the Ingham County Jail in Mason, Michigan, January, 1971- March, 1973.

APPENDIX B

FREQUENCIES AND PERCENTAGES OF THE TOTAL SAMPLE ON THE 32 VARIABLES

APPENDIX B

Table 14.--Frequencies and percentages of the total sample on the 32 variables.

Variable 1.									
Scores	0	1	2	4					
Frequencies	58	9	2	1					
Percentages	82.86	12.86	2.86	1.43					
Variable 2.									
Scores	0	1	2	3	4	5	6	7	8
Frequencies	2	9	9	9	14	9	4	4	5
Percentages	2.86	12.86	12.86	12.86	20.00	12.86	5.71	5.71	7.14
Scores	9	10							
Frequencies	4	1							
Percentages	5.71	1.43							
Variable 3.									
Scores	1	2	3	4	5	6	7	8	9
Frequencies	1	3	3	6	4	5	9	10	6
Percentages	1.43	4.29	4.29	8.57	5.71	7.14	12.86	14.29	8.57
Scores	10	11	12	13	14	15	16	17	
Frequencies	4	8	4	2	2	1	1	1	
Percentages	5.71	11.43	5.71	2.86	2.86	1.43	1.43	1.43	
Variable 4.									
Scores	1	2	3	4	5	6	7	8	9
Frequencies	1	3	2	3	5	5	8	5	4
Percentages	1.43	4.29	2.86	4.29	7.14	7.14	11.43	7.14	5.71
Scores	10	11	12	13	14	15	16	17	18
Frequencies	5	6	4	2	5	3	2	1	5
Percentages	7.14	8.57	5.71	2.86	7.14	4.29	2.86	1.43	7.14
Scores	19								
Frequencies	1								
Percentages	1.43								

Table 14.--Continued.

Variable 5.											
Scores	1	2	3	4	5	6	7	8	9	10	11
Frequencies	1	3	3	6	3	3	9	6	8	6	5
Percentages	1.43	4.29	4.29	8.57	4.29	4.29	12.86	8.57	11.43	8.57	7.14
Scores	12	13	14	15	16	17	19	22			
Frequencies	5	2	3	2	2	1	1	1			
Percentages	7.14	2.86	4.29	2.86	2.86	1.43	1.43	1.43			
Variable 6.											
Scores	0	1	2	3	4	5	6	7	8	9	10
Frequencies	1	4	5	10	9	9	6	7	4	5	2
Percentages	1.43	5.71	7.14	14.29	12.86	12.86	8.57	10.00	5.71	7.14	2.86
Scores	11	12	14	16	18						
Frequencies	3	1	2	1	1						
Percentages	4.29	1.43	2.86	1.43	1.43						
Variable 7.											
Scores	0	1	2	3	4	5	6	7	8	9	10
Frequencies	1	5	6	9	2	8	9	3	7	6	3
Percentages	1.43	7.14	8.57	12.86	2.86	11.43	12.86	4.29	10.00	8.57	4.29
Scores	11	12	13	14	18						
Frequencies	2	5	1	2	1						
Percentages	2.86	7.14	1.43	2.86	1.43						
Variable 8.											
Scores	1	2	3	4	5	6	7	8	9	10	11
Frequencies	1	2	3	15	7	12	5	10	7	4	2
Percentages	1.43	2.86	4.29	21.43	10.00	17.14	7.14	14.29	10.00	5.71	2.86
Scores	12										
Frequencies	2										
Percentages	2.86										

Table 14.--Continued.

Variable 9.											
Scores	2	3	4	5	6	7	8	9	10	11	12
Frequencies	4	3	8	6	7	6	6	7	5	4	4
Percentages	5.71	4.29	11.43	8.57	10.00	8.57	8.57	10.00	7.14	5.71	5.71
Scores	13	16	17	18	19	20					
Frequencies	2	1	3	2	1	1					
Percentages	2.86	1.43	4.29	2.86	1.43	1.43					
Variable 10.											
Scores	1	2	3	4	5	6	7	8	9	10	11
Frequencies	4	4	1	2	8	8	4	6	6	2	2
Percentages	5.71	5.71	1.43	2.86	11.43	11.43	5.71	8.57	8.57	2.86	2.86
Scores	12	13	15	16	17	18	19	20	21		
Frequencies	5	4	5	1	1	2	2	2	1		
Percentages	7.14	5.71	7.14	1.43	1.43	2.86	2.86	2.86	1.43		
Variable 11.											
Scores	1	2	3	4	5	6	7	8	9	10	11
Frequencies	3	9	7	7	9	13	3	4	6	1	2
Percentages	4.29	12.86	10.00	10.00	12.86	18.57	4.29	5.71	8.57	1.43	2.86
Scores	12	14	18	19							
Frequencies	2	2	1	1							
Percentages	2.86	2.86	1.43	1.43							
Variable 12.											
Scores	6	7	8	9	10	11	12	13	14	15	16
Frequencies	2	5	3	2	2	6	7	11	8	6	8
Percentages	2.86	7.14	4.29	2.86	2.86	8.57	10.00	15.71	11.43	8.57	11.43
Scores	17	18	20								
Frequencies	5	4	1								
Percentages	7.14	5.71	1.43								

Table 14.--Continued.

Variable 13.											
Scores	0	1	2	3	5	6	7	8	9	10	11
Frequencies	1	2	2	1	4	8	6	5	6	3	6
Percentages	1.43	2.86	2.86	1.43	5.71	11.43	8.57	7.14	8.57	4.29	8.57
Scores	12	13	14	15	16	17	18	19	20		
Frequencies	5	9	5	1	2	1	1	1	1		
Percentages	7.14	12.86	7.14	1.43	2.86	1.43	1.43	1.43	1.43		
Variable 14.											
Scores	0	1	2	3	4	5	6	7	8	9	10
Frequencies	1	1	2	5	4	5	10	6	4	7	4
Percentages	1.43	1.43	2.86	7.14	5.71	7.14	14.29	8.57	5.71	10.00	5.71
Scores	11	12	13	14	15	17	18	19			
Frequencies	5	8	3	1	1	1	1	1			
Percentages	7.14	11.43	4.29	1.43	1.43	1.43	1.43	1.43			
Variable 15.											
Scores	1	2	3	4	5	6	7	8	9	10	11
Frequencies	1	4	4	7	9	12	15	8	3	3	3
Percentages	1.43	5.71	5.71	10.00	12.86	17.14	21.43	11.43	4.29	4.29	4.29
Scores	13										
Frequencies	1										
Percentages	1.43										
Variable 16.											
Scores	0	1	2	3	4	5	6	7	8	10	14
Frequencies	26	15	6	2	4	2	3	3	1	1	1
Percentages	37.14	21.43	8.57	2.86	5.71	2.86	4.29	4.29	1.43	1.43	1.43
Scores	17	19	30	48	52	59					
Frequencies	1	1	1	1	1	1					
Percentages	1.43	1.43	1.43	1.43	1.43	1.43					

Table 14.--Continued.

Variable 17.										
Scores	40	44	46	50	53	56	60	63	66	
Frequencies	8	16	14	14	4	7	2	4	1	
Percentages	11.43	22.86	20.00	20.00	5.71	10.00	2.86	5.71	1.43	
Variable 18.										
Scores	44	46	48	50	53	55	58	60	62	64
Frequencies	1	1	2	2	4	1	3	7	6	3
Percentages	1.43	1.43	2.86	2.86	5.71	1.43	4.29	10.00	8.57	4.29
Scores	66	68	70	73	76	78	80	82	84	86
Frequencies	8	6	7	1	2	1	1	5	1	1
Percentages	11.43	8.57	10.00	1.43	2.86	1.43	1.43	7.14	1.43	1.43
Scores	88	90	92	98	99					
Frequencies	1	2	1	1	2					
Percentages	1.43	2.86	1.43	1.43	2.86					
Variable 19.										
Scores	31	36	38	40	42	44	46	48	49	51
Frequencies	1	1	3	4	6	7	4	7	4	7
Percentages	1.43	1.43	4.29	5.71	8.57	10.00	5.71	10.00	5.71	10.00
Scores	53	55	57	59	61	62	64	66	70	
Frequencies	5	4	4	4	1	4	1	1	2	
Percentages	7.14	5.71	5.71	5.71	1.43	5.71	1.43	1.43	2.86	
Variable 20.										
Scores	34	41	44	47	49	52	54	57	59	62
Frequencies	1	2	1	10	4	4	12	6	6	7
Percentages	1.43	2.86	1.43	14.29	5.71	5.71	17.14	8.57	8.57	10.00
Scores	65	67	72	75	80	82	85	88	90	98	99
Frequencies	2	1	3	3	1	1	1	1	1	2	1
Percentages	2.86	1.43	4.29	4.29	1.43	1.43	1.43	1.43	1.43	2.86	1.43

Table 14.--Continued.

Variable 21.										
Scores	34	39	41	44	46	48	51	53	56	58
Frequencies	1	2	1	1	2	4	5	4	7	3
Percentages	1.43	2.86	1.43	1.43	2.86	5.71	7.14	5.71	10.00	4.29
Scores	60	63	65	68	70	72	75	77	80	84
Frequencies	6	5	6	1	3	4	3	5	1	3
Percentages	8.57	7.14	8.57	1.43	4.29	5.71	4.29	7.14	1.43	4.29
Scores	87	89	99							
Frequencies	1	1	1							
Percentages	1.43	1.43	1.43							
Variable 22.										
Scores	38	42	44	45	47	49	51	53	56	58
Frequencies	1	1	1	4	3	4	4	6	9	5
Percentages	1.43	1.43	1.43	5.71	4.29	5.71	5.71	8.57	12.86	7.14
Scores	60	62	64	65	69	73	75	80	82	86
Frequencies	6	2	4	8	1	1	2	1	2	1
Percentages	8.57	2.86	5.71	11.43	1.43	1.43	2.86	1.43	2.86	1.43
Scores	87	91	95							
Frequencies	1	2	1							
Percentages	1.43	2.86	1.43							
Variable 23.										
Scores	43	46	50	53	57	60	62	64	67	69
Frequencies	1	1	1	1	2	5	1	2	4	3
Percentages	1.43	1.43	1.43	1.43	2.86	7.14	1.43	2.86	5.71	4.29
Scores	71	74	76	79	81	83	86	88	90	93
Frequencies	4	8	7	8	5	2	3	5	1	1
Percentages	5.71	11.43	10.00	11.43	7.14	2.86	4.29	7.14	1.43	1.43

Table 14.--Continued.

Variable 23. Continued										
Scores	95	97	99							
Frequencies	1	1	3							
Percentages	1.43	1.43	4.29							
Variable 24.										
Scores	34	45	47	49	51	53	55	57	59	61
Frequencies	1	1	3	6	1	5	6	6	9	5
Percentages	1.43	1.43	4.29	8.57	1.43	7.14	8.57	8.57	12.86	7.14
Scores	63	65	67	69	71	73	74	76	78	84
Frequencies	3	4	3	6	2	4	1	1	1	2
Percentages	4.29	5.71	4.29	8.57	2.86	5.71	1.43	1.43	1.43	2.86
Variable 25.										
Scores	41	44	47	50	53	56	59	62	65	67
Frequencies	1	1	2	3	8	8	5	5	5	7
Percentages	1.43	1.43	2.86	4.29	11.43	11.43	7.14	7.14	7.14	10.00
Scores	70	73	76	79	82	85	91	99		
Frequencies	3	6	3	2	7	2	1	1		
Percentages	4.29	8.57	4.29	2.86	10.00	2.86	1.43	1.43		
Variable 26.										
Scores	42	44	48	50	52	54	56	58	60	62
Frequencies	1	2	2	2	5	3	6	6	3	3
Percentages	1.43	2.86	2.86	2.86	7.14	4.29	8.57	8.57	4.29	4.29
Scores	64	66	69	71	73	75	77	79	81	83
Frequencies	9	2	2	2	3	5	3	2	3	1
Percentages	12.86	2.86	2.86	2.86	4.29	7.14	4.29	2.86	4.29	1.43
Scores	89	91	97	99						
Frequencies	1	1	1	2						
Percentages	1.43	1.43	1.43	2.86						

Table 14.--Continued.

Variable 27.										
Scores	44	46	48	50	51	53	55	57	59	61
Frequencies	1	1	1	1	2	3	1	4	4	3
Percentages	1.43	1.43	1.43	1.43	2.86	4.29	1.43	5.71	5.71	4.29
Scores	63	65	67	69	71	73	74	76	78	80
Frequencies	3	2	7	1	2	4	5	2	2	4
Percentages	4.29	2.86	10.00	1.43	2.86	5.71	7.14	2.86	2.86	5.71
Scores	82	84	86	88	90	92	97	99		
Frequencies	3	1	1	3	1	1	1	6		
Percentages	4.29	1.43	1.43	4.29	1.43	1.43	1.43	8.57		
Variable 28.										
Scores	45	50	53	55	58	60	63	65	68	70
Frequencies	1	1	1	1	3	6	3	8	8	5
Percentages	1.43	1.43	1.43	1.43	4.29	8.57	4.29	11.43	7.14	7.14
Scores	73	78	81	83	86	88	91	93		
Frequencies	7	8	2	3	5	5	2	4		
Percentages	10.00	11.43	2.86	4.29	7.14	7.14	2.86	5.71		
Variable 29.										
Scores	35	37	38	39	40	42	43	44	45	46
Frequencies	1	1	1	1	2	2	7	2	1	4
Percentages	1.43	1.43	1.43	1.43	2.86	2.86	10.00	2.86	1.43	5.71
Scores	47	48	51	52	53	54	55	56	58	60
Frequencies	4	5	5	3	3	4	3	2	3	2
Percentages	5.71	7.14	7.14	4.29	4.29	5.71	4.29	2.86	4.29	2.86
Scores	61	62	63	64	65	66	69	71		
Frequencies	1	3	2	2	3	1	1	1		
Percentages	1.43	4.29	2.86	2.86	4.29	1.43	1.43	1.43		

Table 14.--Continued.

Variable 30.											
Scores	17	18	19	20	21	22	23	24	25	26	
Frequencies	8	6	4	12	4	6	5	4	5	3	
Percentages	11.43	8.57	5.71	17.14	5.71	8.57	7.14	5.71	7.14	4.29	
Scores	27	28	29	30	32	34	44				
Frequencies	3	1	1	4	2	1	1				
Percentages	4.29	1.43	1.43	5.71	2.86	1.43	1.43				
Variable 31.											
Scores	7	8	9	10	11	12	13	14	15	16	17
Frequencies	4	7	10	11	8	16	3	2	5	2	2
Percentages	5.71	10.00	14.29	15.71	11.43	22.86	4.29	2.86	7.14	2.86	2.86
Variable 32.											
Scores	4	5	6								
Frequencies	23	39	8								
Percentages	32.86	55.71	11.43								

APPENDIX C

FREQUENCIES AND PERCENTAGES OF THE INCARCERATED HEROIN ADDICTS ON THE 32 VARIABLES

APPENDIX C

FREQUENCIES AND PERCENTAGES OF THE INCARCERATED HEROIN ADDICTS ON THE 32 VARIABLES

HIGHTOWER STUDY — F C C I I ADDICTS — 32 VARIABLES

EOF ENCOUNTERED FOR OBSERVATION 36

VARIABLE 1	0	1	2							
FREQ	32	1	2							
PERCENT	91.43	2.86	5.71							
**********										
VARIABLE 2	0	1	2	3	4	5	6	7	8	9
FREQ	1	4	4	6	8	4	2	1	4	1
PERCENT	2.86	11.43	11.43	17.14	22.86	11.43	5.71	2.86	11.43	2.86
**********										
VARIABLE 3	1	2	3	4	5	6	7	8	9	10
FREQ	1	2	1	3	1	2	4	5	2	2
PERCENT	2.86	5.71	2.86	8.57	2.86	5.71	11.43	14.29	5.71	5.71
	11	12	13	14	15	17				
FREQ	3	4	2	1	1	1				
PERCENT	8.57	11.43	5.71	2.86	2.86	2.86				
**********										
VARIABLE 4	1	4	5	6	7	8	9	10	11	12
FREQ	1	3	5	1	5	4	1	3	2	2
PERCENT	2.86	8.57	14.29	2.86	14.29	11.43	2.86	8.57	5.71	5.71
	13	14	15	18						
FREQ	1	3	1	3						
PERCENT	2.86	8.57	2.86	8.57						
**********										
VARIABLE 5	1	3	4	5	6	7	8	9	10	11
FREQ	1	2	4	1	3	4	2	2	4	3
PERCENT	2.86	5.71	11.43	2.86	8.57	11.43	5.71	5.71	11.43	8.57
	12	13	14	15	17	19				
FREQ	4	1	1	1	1	1				
PERCENT	11.43	2.86	2.86	2.86	2.86	2.86				
**********										
VARIABLE 6	0	2	3	4	5	6	7	8	9	11
FREQ	1	3	5	6	4	2	6	3	3	1
PERCENT	2.86	8.57	14.29	17.14	11.43	5.71	17.14	8.57	8.57	2.86
	16									
FREQ	1									
PERCENT	2.86									
**********										

VARIABLE 7	0	1	2	3	4	5	6	8	9	11
FREQ	1	3	4	4	2	3	5	5	3	2
PERCENT	2.86	8.57	11.43	11.43	5.71	8.57	14.29	14.29	8.57	5.71

	12	14	18
FREQ	1	1	1
PERCENT	2.86	2.86	2.86

****

VARIABLE 8	2	3	4	5	6	7	8	9	10	11
FREQ	2	2	7	5	4	2	6	3	1	2
PERCENT	5.71	5.71	20.00	14.29	11.43	5.71	17.14	8.57	2.86	5.71

	12
FREQ	1
PERCENT	2.86

****

VARIABLE 9	2	4	5	6	7	8	9	10	11	12
FREQ	3	3	4	4	5	4	3	4	2	1
PERCENT	8.57	8.57	11.43	11.43	14.29	11.43	8.57	11.43	5.71	2.86

	13	16
FREQ	1	1
PERCENT	2.86	2.86

****

VARIABLE 10	1	2	3	5	6	7	8	9	10	11
FREQ	3	2	1	5	5	2	2	4	2	1
PERCENT	8.57	5.71	2.86	14.29	14.29	5.71	5.71	11.43	5.71	2.86

	12	13	15	17	20	21
FREQ	2	2	1	1	1	1
PERCENT	5.71	5.71	2.86	2.86	2.86	2.86

****

VARIABLE 11	1	2	3	4	5	6	7	8	9	10
FREQ	2	4	3	4	5	7	1	1	2	1
PERCENT	5.71	11.43	8.57	11.43	14.29	20.00	2.86	2.86	5.71	2.86

	11	12	18	19
FREQ	2	1	1	1
PERCENT	5.71	2.86	2.86	2.86

****

VARIABLE 12	7	8	10	11	12	13	14	15	16	17
FREQ	3	1	1	2	4	6	4	2	4	4
PERCENT	8.57	2.86	2.86	5.71	11.43	17.14	11.43	5.71	11.43	11.43

	18	20
FREQ	3	1
PERCENT	8.57	2.86

****

VARIABLE 13	1	2	3	5	6	7	8	9	10	11
FREQ	2	1	1	1	4	2	4	3	3	4
PERCENT	5.71	2.86	2.86	2.86	11.43	5.71	11.43	8.57	8.57	11.43

	12	13	14	16	17	18	19	20
FREQ	3	1	1	1	1	1	1	1
PERCENT	8.57	2.86	2.86	2.86	2.86	2.86	2.86	2.86

****

VARIABLE 14	3	4	5	6	7	8	9	10	11	12
FREQ	2	3	1	5	3	1	5	2	3	5
PERCENT	5.71	8.57	2.86	14.29	8.57	2.86	14.29	5.71	8.57	14.29

	13	14	15	19
FREQ	2	1	1	1
PERCENT	5.71	2.86	2.86	2.86

****

VARIABLE 15	2	3	4	5	6	7	8	9	10	11
FREQ	1	3	3	4	6	7	6	2	2	1
PERCENT	2.86	8.57	8.57	11.43	17.14	20.00	17.14	5.71	5.71	2.86

****

VARIABLE 16	0	1	2	3	4	6	7	8	10	17
FREQ	13	8	2	2	3	1	2	1	1	1
PERCENT	37.14	22.86	5.71	5.71	8.57	2.86	5.71	2.86	2.86	2.86

	59
FREQ	1
PERCENT	2.86

****

VARIABLE 17	40	44	46	50	53	56	60	63
FREQ	4	11	7	6	1	3	1	2
PERCENT	11.43	31.43	20.00	17.14	2.86	8.57	2.86	5.71

****

VARIABLE 18	48	50	53	58	60	62	64	66	68	70
FREQ	1	1	2	3	4	5	2	3	2	1
PERCENT	2.86	2.86	5.71	8.57	11.43	14.29	5.71	8.57	5.71	2.86

	76	78	80	82	86	88	98	99
FREQ	2	1	1	2	1	1	1	2
PERCENT	5.71	2.86	2.86	5.71	2.86	2.86	2.86	5.71

****

VARIABLE 19	31	38	40	42	44	46	48	49	51	53
FREQ	1	3	1	2	2	4	3	2	4	3
PERCENT	2.86	8.57	2.86	5.71	5.71	11.43	8.57	5.71	11.43	8.57
	55	57	59	61	62	70				
FREQ	1	2	2	1	3	1				
PERCENT	2.86	5.71	5.71	2.86	8.57	2.86				

****

VARIABLE 20	34	41	47	49	52	54	57	59	68	72
FREQ	1	1	6	1	1	6	3	3	4	2
PERCENT	2.86	2.86	17.14	2.86	2.86	17.14	8.57	8.57	11.43	5.71
	75	85	88	98	99					
FREQ	3	1	1	1	1					
PERCENT	8.57	2.86	2.86	2.86	2.86					

****

VARIABLE 21	39	44	46	51	56	58	60	63	65	68
FREQ	2	1	2	2	4	1	4	4	5	1
PERCENT	5.71	2.86	5.71	5.71	11.43	2.86	11.43	11.43	14.29	2.86
	70	72	75	77	80	84				
FREQ	1	2	2	2	1	1				
PERCENT	2.86	5.71	5.71	5.71	2.86	2.86				

****

VARIABLE 22	38	44	45	47	49	51	53	56	58	60
FREQ	1	1	1	1	4	2	3	6	1	2
PERCENT	2.86	2.86	2.86	2.86	11.43	5.71	8.57	17.14	2.86	5.71
	62	64	65	73	75	80	82	86		
FREQ	2	1	4	1	1	1	2	1		
PERCENT	5.71	2.86	11.43	2.86	2.86	2.86	5.71	2.86		

****

VARIABLE 23	50	60	62	64	67	74	76	79	81	86
FREQ	1	4	1	1	3	5	4	5	1	2
PERCENT	2.86	11.43	2.86	2.86	8.57	14.29	11.43	14.29	2.86	5.71
	88	93	99							
FREQ	5	1	2							
PERCENT	14.29	2.86	5.71							

****

VARIABLE 24	47	49	51	53	55	57	59	61	63	67
FREQ	1	2	1	2	3	6	4	4	1	2
PERCENT	2.86	5.71	2.86	5.71	8.57	17.14	11.43	11.43	2.86	5.71

	69	71	73	78
FREQ	4	1	3	1
PERCENT	11.43	2.86	8.57	2.86

****

VARIABLE 25	47	50	53	56	59	62	65	67	70	76
FREQ	1	1	3	4	5	4	4	2	2	2
PERCENT	2.86	2.86	8.57	11.43	14.29	11.43	11.43	5.71	5.71	5.71

	79	82	85	99
FREQ	1	3	2	1
PERCENT	2.86	8.57	5.71	2.86

****

VARIABLE 26	42	44	48	50	52	54	56	58	60	62
FREQ	1	1	1	1	2	1	3	3	2	2
PERCENT	2.86	2.86	2.86	2.86	5.71	2.86	8.57	8.57	5.71	5.71

	64	66	69	71	73	75	77	81	97	99
FREQ	3	2	1	2	1	3	1	2	1	2
PERCENT	8.57	5.71	2.86	5.71	2.86	8.57	2.86	5.71	2.86	5.71

****

VARIABLE 27	44	48	51	53	57	59	61	63	67	69
FREQ	1	1	1	1	2	4	1	2	2	1
PERCENT	2.86	2.86	2.86	2.86	5.71	11.43	2.86	5.71	5.71	2.86

	71	73	74	78	80	82	84	88	97	99
FREQ	1	2	3	2	2	1	1	2	1	4
PERCENT	2.86	5.71	8.57	5.71	5.71	2.86	2.86	5.71	2.86	11.43

****

VARIABLE 28	58	60	63	65	68	70	73	78	81	83
FREQ	1	2	2	4	2	2	4	5	2	2
PERCENT	2.86	5.71	5.71	11.43	5.71	5.71	11.43	14.29	5.71	5.71

	86	88	91	93
FREQ	2	5	1	1
PERCENT	5.71	14.29	2.86	2.86

****

VARIABLE 29	35	39	40	43	44	46	47	48	51	52
FREQ	1	1	1	6	2	2	2	1	2	2
PERCENT	2.86	2.86	2.86	17.14	5.71	5.71	5.71	2.86	5.71	5.71

	53	54	55	56	58	60	62	63	64	65
FREQ	1	3	1	1	1	2	1	1	1	3
PERCENT	2.86	8.57	2.86	2.86	2.86	5.71	2.86	2.86	2.86	8.57

****

VARIABLE 30	17	19	20	21	22	23	24	25	26	27
FREQ	1	3	6	2	4	3	2	4	2	3
PERCENT	2.86	8.57	17.14	5.71	11.43	8.57	5.71	11.43	5.71	8.57

	29	30	44
FREQ	1	3	1
PERCENT	2.86	8.57	2.86

****

VARIABLE 31	7	8	9	10	11	12	13	14
FREQ	2	6	7	3	3	10	2	2
PERCENT	5.71	17.14	20.00	8.57	8.57	28.57	5.71	5.71

****

VARIABLE 32	4	5	6
FREQ	15	12	8
PERCENT	42.86	34.29	22.86

****

TOTAL OBSERVATIONS USED= 35

APPENDIX D

FREQUENCIES AND PERCENTAGES OF THE INCARCERATED NON-ADDICTS ON THE 32 VARIABLES

APPENDIX D

FREQUENCIES AND PERCENTAGES OF THE INCARCERATED NON-ADDICTS ON THE 32 VARIABLES

HIGHTOWER STUDY — F C C I I NON-ADDICTS — 32 VARIABLES

EOF ENCOUNTERED FOR OBSERVATION 36

VARIABLE 1	0	1	4
FREQ	26	8	1
PERCENT	74.29	22.86	2.86

****

VARIABLE 2	0	1	2	3	4	5	6	7	8	9
FREQ	1	5	5	3	6	5	2	3	1	3
PERCENT	2.86	14.29	14.29	8.57	17.14	14.29	5.71	8.57	2.86	8.57

	10
FREQ	1
PERCENT	2.86

****

VARIABLE 3	2	3	4	5	6	7	8	9	10	11
FREQ	1	2	3	3	3	5	5	4	2	5
PERCENT	2.86	5.71	8.57	8.57	8.57	14.29	14.29	11.43	5.71	14.29

	14	16
FREQ	1	1
PERCENT	2.86	2.86

****

VARIABLE 4	2	3	6	7	8	9	10	11	12	13
FREQ	3	2	4	3	1	3	2	4	2	1
PERCENT	8.57	5.71	11.43	8.57	2.86	8.57	5.71	11.43	5.71	2.86

	14	15	16	17	18	19
FREQ	2	2	2	1	2	1
PERCENT	5.71	5.71	5.71	2.86	5.71	2.86

****

VARIABLE 5	2	3	4	5	7	8	9	10	11	12
FREQ	3	1	2	2	5	4	6	2	2	1
PERCENT	8.57	2.86	5.71	5.71	14.29	11.43	17.14	5.71	5.71	2.86

	13	14	15	16	22
FREQ	1	2	1	2	1
PERCENT	2.86	5.71	2.86	5.71	2.86

****

VARIABLE 6	1	2	3	4	5	6	7	8	9	10
FREQ	4	2	5	3	5	4	1	1	2	2
PERCENT	11.43	5.71	14.29	8.57	14.29	11.43	2.86	2.86	5.71	5.71

	11	12	14	18
FREQ	2	1	2	1
PERCENT	5.71	2.86	5.71	2.86

****

VARIABLE 7	1	2	3	5	6	7	8	9	10	12
FREQ	2	2	5	5	4	3	2	3	3	4
PERCENT	5.71	5.71	14.29	14.29	11.43	8.57	5.71	8.57	8.57	11.43

	13	14
FREQ	1	1
PERCENT	2.86	2.86

****

VARIABLE 8	1	3	4	5	6	7	8	9	10	12
FREQ	1	1	8	2	8	3	4	4	3	1
PERCENT	2.86	2.86	22.86	5.71	22.86	8.57	11.43	11.43	8.57	2.86

****

VARIABLE 9	2	3	4	5	6	7	8	9	10	11
FREQ	1	3	5	2	3	1	2	4	1	2
PERCENT	2.86	8.57	14.29	5.71	8.57	2.86	5.71	11.43	2.86	5.71

	12	13	17	18	19	20
FREQ	3	1	1	2	1	1
PERCENT	8.57	2.86	2.86	5.71	2.86	2.86

****

VARIABLE 10	1	2	4	5	6	7	8	9	11	12
FREQ	1	2	2	3	3	2	4	2	1	3
PERCENT	2.86	5.71	5.71	8.57	8.57	5.71	11.43	5.71	2.86	8.57

	13	15	16	18	19	20
FREQ	2	4	1	2	2	1
PERCENT	5.71	11.43	2.86	5.71	5.71	2.86

****

VARIABLE 11	1	2	3	4	5	6	7	8	9	12
FREQ	1	5	4	3	4	6	2	3	4	1
PERCENT	2.86	14.29	11.43	8.57	11.43	17.14	5.71	8.57	11.43	2.86

	14
FREQ	2
PERCENT	5.71

****

VARIABLE 12	6	7	8	9	10	11	12	13	14	15
FREQ	2	2	2	2	1	4	3	5	4	4
PERCENT	5.71	5.71	5.71	5.71	2.86	11.43	8.57	14.29	11.43	11.43

	16	17	18
FREQ	4	1	1
PERCENT	11.43	2.86	2.86

****

VARIABLE 13	0	2	5	6	7	8	9	11	12	13
FREQ	1	1	3	4	4	1	3	2	2	8
PERCENT	2.86	2.86	8.57	11.43	11.43	2.86	8.57	5.71	5.71	22.86

	14	15	16
FREQ	4	1	1
PERCENT	11.43	2.86	2.86

****

VARIABLE 14	0	1	2	3	4	5	6	7	8	9
FREQ	1	1	2	3	1	4	5	3	3	2
PERCENT	2.86	2.86	5.71	8.57	2.86	11.43	14.29	8.57	8.57	5.71

	10	11	12	13	17	18
FREQ	2	2	3	1	1	1
PERCENT	5.71	5.71	8.57	2.86	2.86	2.86

****

VARIABLE 15	1	2	3	4	5	6	7	8	9	10
FREQ	1	3	1	4	5	6	8	2	1	1
PERCENT	2.86	8.57	2.86	11.43	14.29	17.14	22.86	5.71	2.86	2.86

	11	13
FREQ	2	1
PERCENT	5.71	2.86

****

VARIABLE 16	0	1	2	4	5	6	7	14	19	30
FREQ	13	7	4	1	2	2	1	1	1	1
PERCENT	37.14	20.00	11.43	2.86	5.71	5.71	2.86	2.86	2.86	2.86

	48	52
FREQ	1	1
PERCENT	2.86	2.86

****

VARIABLE 17	40	44	46	50	53	56	60	63	66
FREQ	4	5	7	8	3	4	1	2	1
PERCENT	11.43	14.29	20.00	22.86	8.57	11.43	2.86	5.71	2.86

****

VARIABLE 18	44	46	48	50	53	55	60	62	64	66
FREQ	1	1	1	1	2	1	3	1	1	5
PERCENT	2.86	2.86	2.86	2.86	5.71	2.86	8.57	2.86	2.86	14.29

	68	70	73	82	86	90	92			
FREQ	4	6	1	3	1	2	1			
PERCENT	11.43	17.14	2.86	8.57	2.86	5.71	2.86			
**********										
VARIABLE 19	36	40	42	44	48	49	51	53	55	57
FREQ	1	3	4	5	4	2	3	2	3	2
PERCENT	2.86	8.57	11.43	14.29	11.43	5.71	8.57	5.71	8.57	5.71
	59	62	64	66	70					
FREQ	2	1	1	1	1					
PERCENT	5.71	2.86	2.86	2.86	2.86					
**********										
VARIABLE 20	41	44	47	49	52	54	57	59	62	65
FREQ	1	1	4	3	3	6	3	3	3	2
PERCENT	2.86	2.86	11.43	8.57	8.57	17.14	8.57	8.57	8.57	5.71
	67	72	81	82	90	98				
FREQ	1	1	1	1	1	1				
PERCENT	2.86	2.86	2.86	2.86	2.86	2.86				
**********										
VARIABLE 21	34	41	46	48	51	53	56	58	60	63
FREQ	1	1	2	2	3	4	3	2	2	1
PERCENT	2.86	2.86	5.71	5.71	8.57	11.43	8.57	5.71	5.71	2.86
	65	70	72	75	77	84	87	89	99	
FREQ	1	2	2	1	3	2	1	1	1	
PERCENT	2.86	5.71	5.71	2.86	8.57	5.71	2.86	2.86	2.86	
**********										
VARIABLE 22	42	45	47	51	53	56	58	60	64	65
FREQ	1	3	2	2	3	3	4	4	3	4
PERCENT	2.86	8.57	5.71	5.71	8.57	8.57	11.43	11.43	8.57	11.43
	69	75	87	91	95					
FREQ	1	1	1	2	1					
PERCENT	2.86	2.86	2.86	5.71	2.86					
**********										
VARIABLE 23	43	46	53	57	60	64	67	69	71	74
FREQ	1	1	1	2	1	1	1	3	4	3
PERCENT	2.86	2.86	2.86	5.71	2.86	2.86	2.86	8.57	11.43	8.57
	76	79	81	83	86	90	95	97	99	
FREQ	3	3	4	2	1	1	1	1	1	
PERCENT	8.57	8.57	11.43	5.71	2.86	2.86	2.86	2.86	2.86	
**********										

VARIABLE 24	34	45	47	49	53	55	59	61	63	65
FREQ	1	1	2	4	3	3	5	1	2	4
PERCENT	2.86	2.86	5.71	11.43	8.57	8.57	14.29	2.86	5.71	11.43

	67	69	71	73	74	76	84
FREQ	1	2	1	1	1	1	2
PERCENT	2.86	5.71	2.86	2.86	2.86	2.86	5.71

****

VARIABLE 25	41	44	47	50	53	56	62	65	67	70
FREQ	1	1	1	2	5	4	1	1	5	1
PERCENT	2.86	2.86	2.86	5.71	14.29	11.43	2.86	2.86	14.29	2.86

	73	76	79	82	91
FREQ	6	1	1	4	1
PERCENT	17.14	2.86	2.86	11.43	2.86

****

VARIABLE 26	44	48	50	52	54	56	58	60	62	64
FREQ	1	1	1	3	2	3	3	1	1	6
PERCENT	2.86	2.86	2.86	8.57	5.71	8.57	8.57	2.86	2.86	17.14

	69	73	75	77	79	81	83	89	91
FREQ	1	2	2	2	2	1	1	1	1
PERCENT	2.86	5.71	5.71	5.71	5.71	2.86	2.86	2.86	2.86

****

VARIABLE 27	46	50	51	53	55	57	61	63	65	67
FREQ	1	1	1	2	1	2	2	1	2	5
PERCENT	2.86	2.86	2.86	5.71	2.86	5.71	5.71	2.86	5.71	14.29

	71	73	74	76	80	82	86	88	90	92
FREQ	1	2	2	2	2	2	1	1	1	1
PERCENT	2.86	5.71	5.71	5.71	5.71	5.71	2.86	2.86	2.86	2.86

	99
FREQ	2
PERCENT	5.71

****

VARIABLE 28	45	50	53	55	58	60	63	65	68	70
FREQ	1	1	1	1	2	4	1	4	3	3
PERCENT	2.86	2.86	2.86	2.86	5.71	11.43	2.86	11.43	8.57	8.57

	73	78	83	86	91	93
FREQ	3	3	1	3	1	3
PERCENT	8.57	8.57	2.86	8.57	2.86	8.57

****

VARIABLE 29	37	38	40	42	43	45	46	47	48	51
FREQ	1	1	1	2	1	1	2	2	4	3
PERCENT	2.86	2.86	2.86	5.71	2.86	2.86	5.71	5.71	11.43	8.57

	52	53	54	55	56	58	61	62	63	64
FREQ	1	2	1	2	1	2	1	2	1	1
PERCENT	2.86	5.71	2.86	5.71	2.86	5.71	2.86	5.71	2.86	2.86

	66	69	71
FREQ	1	1	1
PERCENT	2.86	2.86	2.86

****

VARIABLE 30	17	18	19	20	21	22	23	24	25	26
FREQ	7	6	1	6	2	2	2	2	1	1
PERCENT	20.00	17.14	2.86	17.14	5.71	5.71	5.71	5.71	2.86	2.86

	28	30	32	34
FREQ	1	1	2	1
PERCENT	2.86	2.86	5.71	2.86

****

VARIABLE 31	7	8	9	10	11	12	13	15	16	17
FREQ	2	1	3	8	5	6	1	5	2	2
PERCENT	5.71	2.86	8.57	22.86	14.29	17.14	2.86	14.29	5.71	5.71

****

VARIABLE 32	4	5
FREQ	8	27
PERCENT	22.86	77.14

****

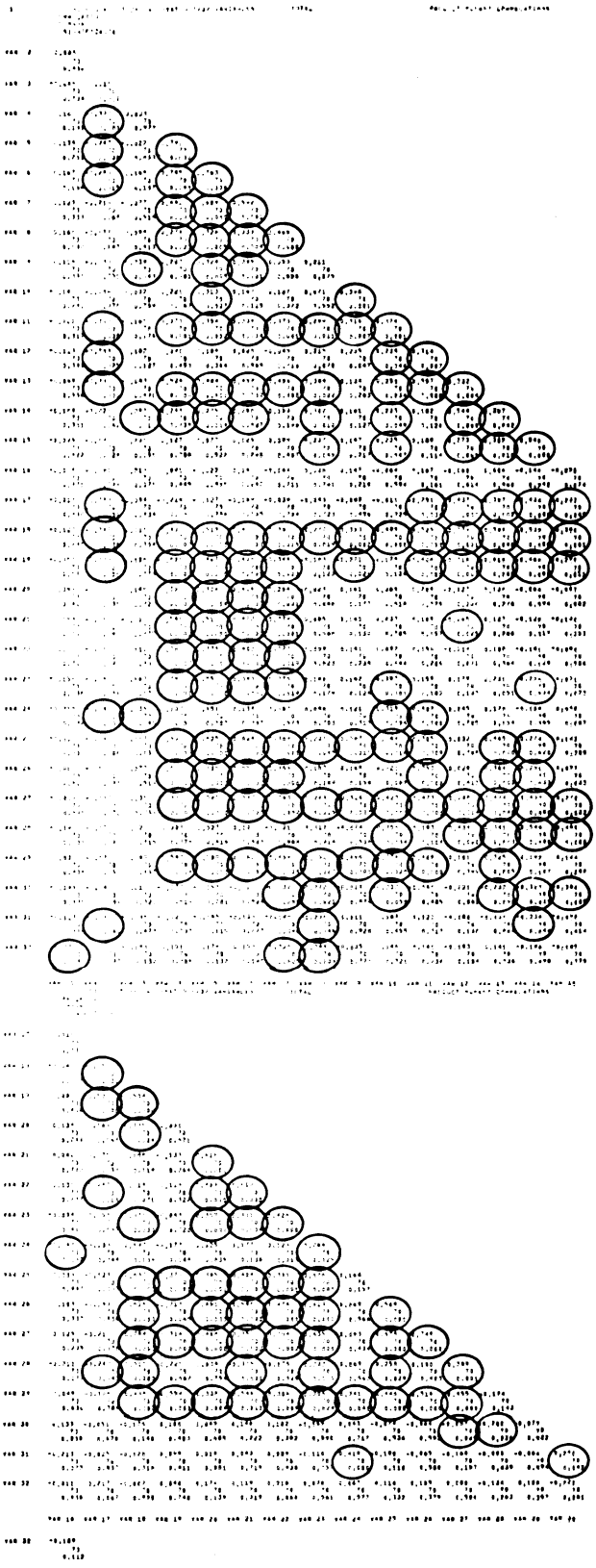
TOTAL OBSERVATIONS USED= 35

APPENDIX E

INTERCORRELATIONAL MATRIX FOR THE TOTAL INCARCERATED INMATE SAMPLE (PRODUCT-MOMENT)

APPENDIX E

INTERCORRELATIONAL MATRIX FOR THE TOTAL INCARCERATED INMATE SAMPLE (PRODUCT-MOMENT)

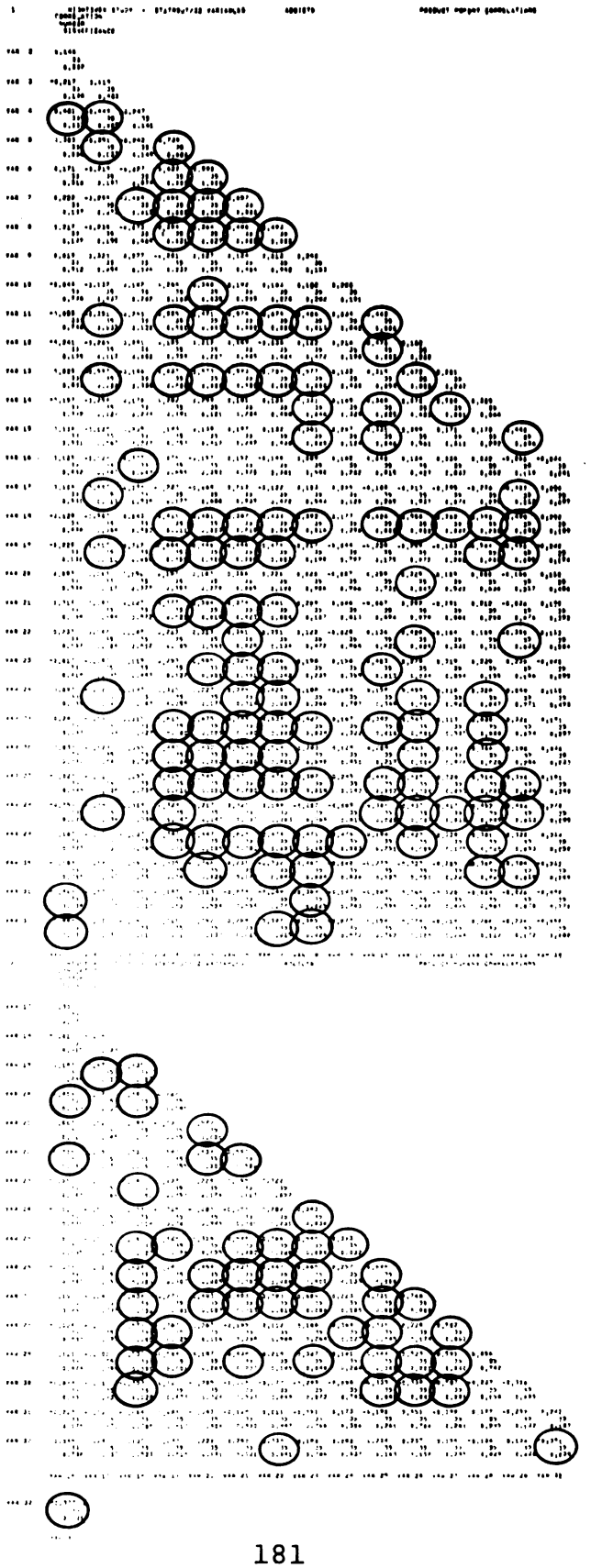


APPENDIX F

INTERCORRELATIONAL MATRIX FOR THE HEROIN ADDICT SAMPLE ON THE 32 VARIABLES (PRODUCT-MOMENT)

APPENDIX F

INTERCORRELATIONAL MATRIX FOR THE HEROIN ADDICT SAMPLE ON THE 32 VARIABLES (PRODUCT-MOMENT)

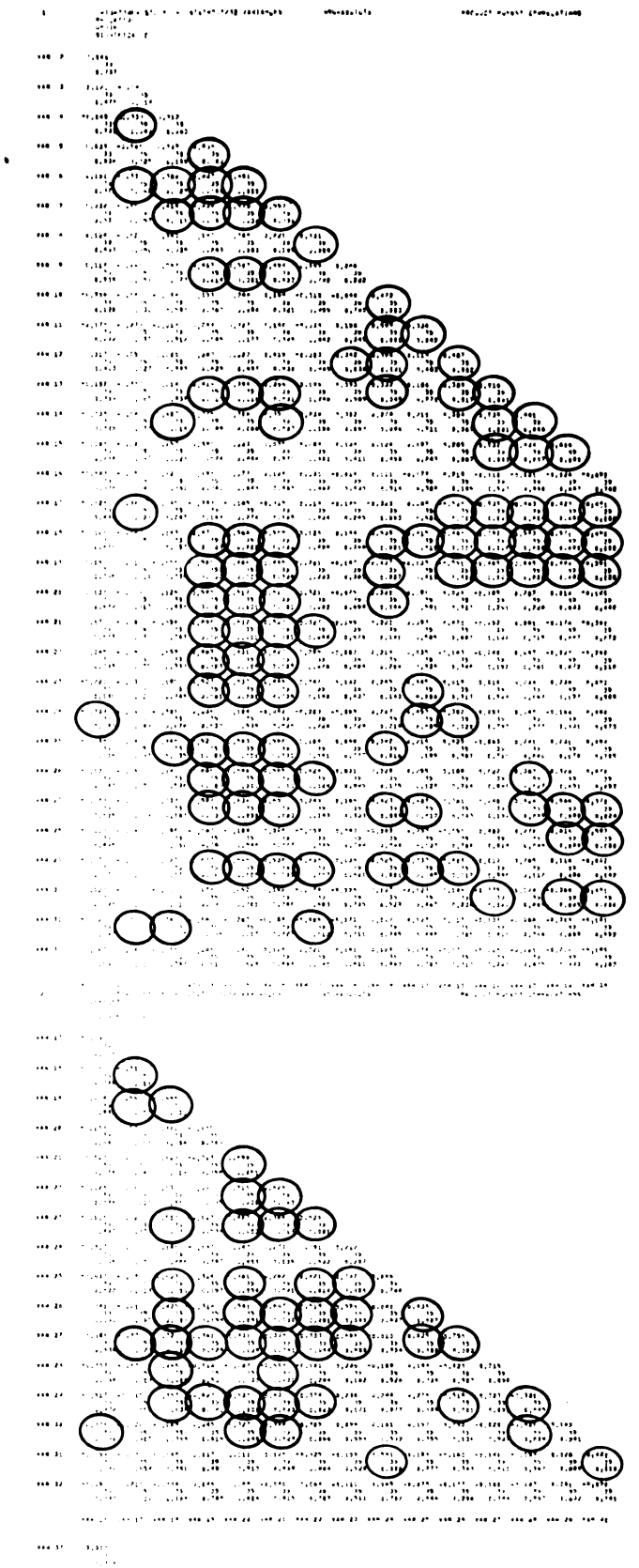


APPENDIX G

INTERCORRELATIONAL MATRIX FOR THE NON-HEROIN ADDICT SAMPLE ON THE 32 VARIABLES (PRODUCT-MOMENT)

APPENDIX G

INTERCORRELATIONAL MATRIX FOR THE NON-HEROIN ADDICT SAMPLE ON THE 32 VARIABLES (PRODUCT-MOMENT)



APPENDIX H

RANDOM SELECTIONS FROM THE INCARCERATED HEROIN ADDICT SAMPLE (10 INDIVIDUAL PROFILES FOR THE MMPI AND THE BPI)

MB _ H-1 · ALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITH-OUT K	RAW SCORE WITH-OUT K	T SCORE PROFILE — Plotted With K
				? 20 30 40 50 60 70 80 90 100 110 120 ?
				L
				F
				K
47	10			Hs (+.5K)
				D
				Hy
67	26			Pd (+.4K)
				Mf
				Pa
52	24			Pt (+1K)
44	19			Sc (+1K)
60	21			Ma (+.2K)
				Si

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →	7	17	49	13	8	13	19	20	11	26	31	11		
T SCORE →	44	53	58	66	47	43	62	50	49	69	63	43		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-PATIENT VIEWS SELF AS WELL-ADJUSTED AND SELF-RELIANT.
-SEEMS TENSE AND RESTLESS.
-INDEPENDENT OR MILDLY NONCONFORMIST.
-INCLINES TOWARD ESTHETIC INTERESTS.
-MILDLY DEPRESSED OR PESSIMISTIC.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-RESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-FEW SOMATIC COMPLAINTS. LITTLE CONCERN ABOUT BODILY HEALTH.
-HAS CAPACITY TO MAINTAIN ADEQUATE SOCIAL RELATIONSHIPS.
-HAS A COMBINATION OF PRACTICAL AND THEORETICAL INTERESTS.

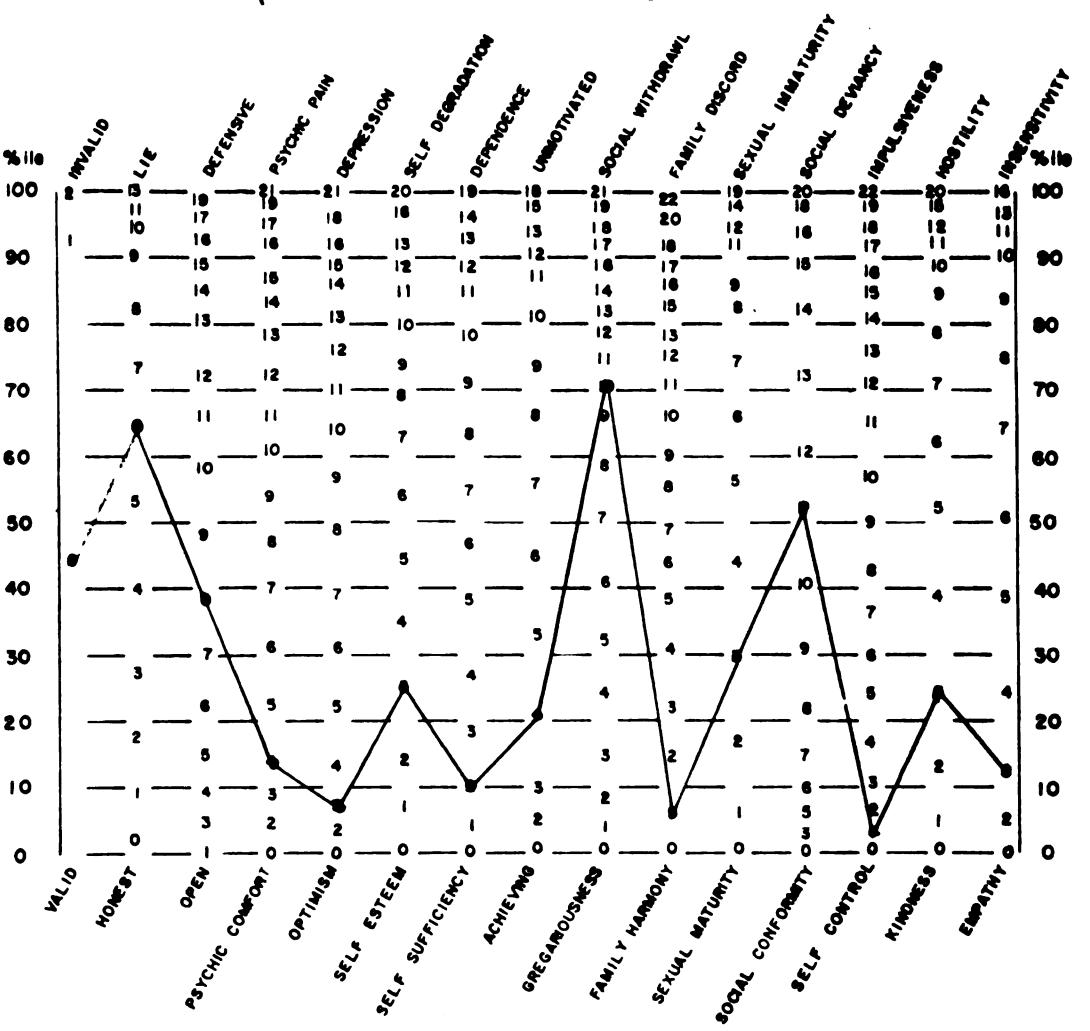
The Psychological Corporation MMPI Reporting Service
304 East 45th Street
New York, N. Y. 10017

BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name MB _ H-1 No. _____ Age _____ Date _____



0	6	8	4	3	3	2	4	10	1	3	11	1	3	3

ER _ H-2 MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITH-OUT K	RAW SCORE WITH-OUT K		T SCORE PROFILE —— Plotted With K (30 40 50 60 70 80 90 100 110 120)
			1	?	?
		43	8	L	L
		60	7	F	F
		55	15	K	K
57	14	53	6	1 Hs +.5K	1 Hs +.5K
		43	22	2 D	2 D
		56	20	3 Hy	3 Hy
79	31	78	25	4 Pd +.4K	4 Pd +.4K
		53	22	5 Mf	5 Mf
		53	9	6 Pa	6 Pa
58	27	53	12	7 Pt +1K	7 Pt +1K
57	26	52	11	8 Sc +1K	8 Sc +1K
63	22	61	19	9 Ma +.2K	9 Ma +.2K
		53	28	0 Si	0 Si

	A	R	Es	Lb	Cg	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →	6	22	47	13	11	14	16	18	13	20	26	12		
T SCORE →	45	63	54	66	53	44	53	45	52	55	53	45		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-SOMEWHAT TENSE AND RESTLESS.
-TENDS TO GIVE SOCIALLY APPROVED ANSWERS REGARDING SELF-CONTROL AND MORAL VALUES.
-SOMEWHAT REBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES. DISSATISFIED WITH FAMILY OR SOCIAL LIFE.
-MILDLY DEPRESSED OR PESSIMISTIC.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-HAS A COMBINATION OF PRACTICAL AND THEORETICAL INTERESTS.
-NORMAL MALE INTEREST PATTERN FOR WORK, HOBBIES, ETC.
-RESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-HAS CAPACITY TO MAINTAIN ADEQUATE SOCIAL RELATIONSHIPS.

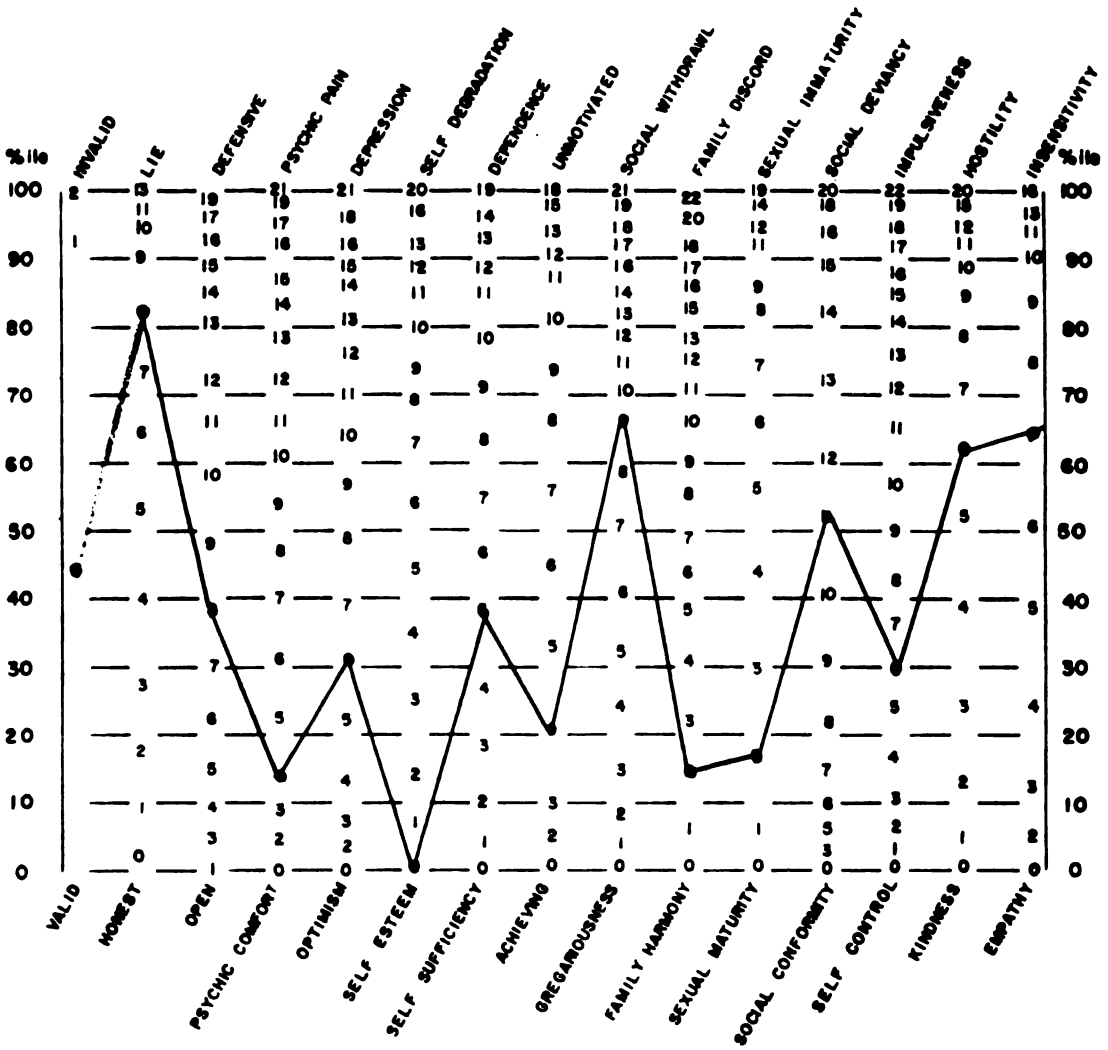
The Psychological Corporation MMPI Reporting Service
304 East 45th Street
New York, N. Y. 10017

BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name ER _ H-2 No. Age Date



0	8	8	4	6	0	5	4	9	2	2	11	6	6	7

RD _ H-3 MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE PROFILE — Plotted With K

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K		
			7	?	?
		5[illegible]	4	L	L
		7[illegible]	12	F	F
		[illegible]2	19	K	K
54	13	47	3	1 Hs +.5K	Hs 1 +.5K
		51	17	2 D	D 2
		[illegible]1	22	3 Hy	Hy 3
76	30	70	22	4 Pd +.4K	Pd 4 +.4K
		55	23	5 Mf	Mf 5
		59	11	6 Pa	Pa 6
60	28	49	9	7 Pt +1K	Pt 7 +1K
69	32	55	13	8 Sc +1K	Sc 8 +1K
65	23	[illegible]1	19	9 Ma +.2K	Ma 9 +.2K
		46	21	0 Si	Si 0

	A	R	Es	Lb	Cs	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →	6	19	47	13	7	13	14	15	8	22	28	11		
T SCORE →	[illegible]2	57	54	66	45	43	48	37	43	60	58	43		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-SOMEWHAT REBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES. DISSATISFIED WITH FAMILY OR SOCIAL LIFE.
-TENDS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.
-PROBABLY ENERGETIC AND ENTHUSIASTIC. VARIED INTERESTS.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-SENSITIVE. ALIVE TO OPINIONS OF OTHERS.
-NORMAL MALE INTEREST PATTERN FOR WORK, HOBBIES, ETC.
-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-VIEWS LIFE WITH AVERAGE MIXTURE OF OPTIMISM AND PESSIMISM.
-HAS CAPACITY TO MAINTAIN ADEQUATE SOCIAL RELATIONSHIPS.

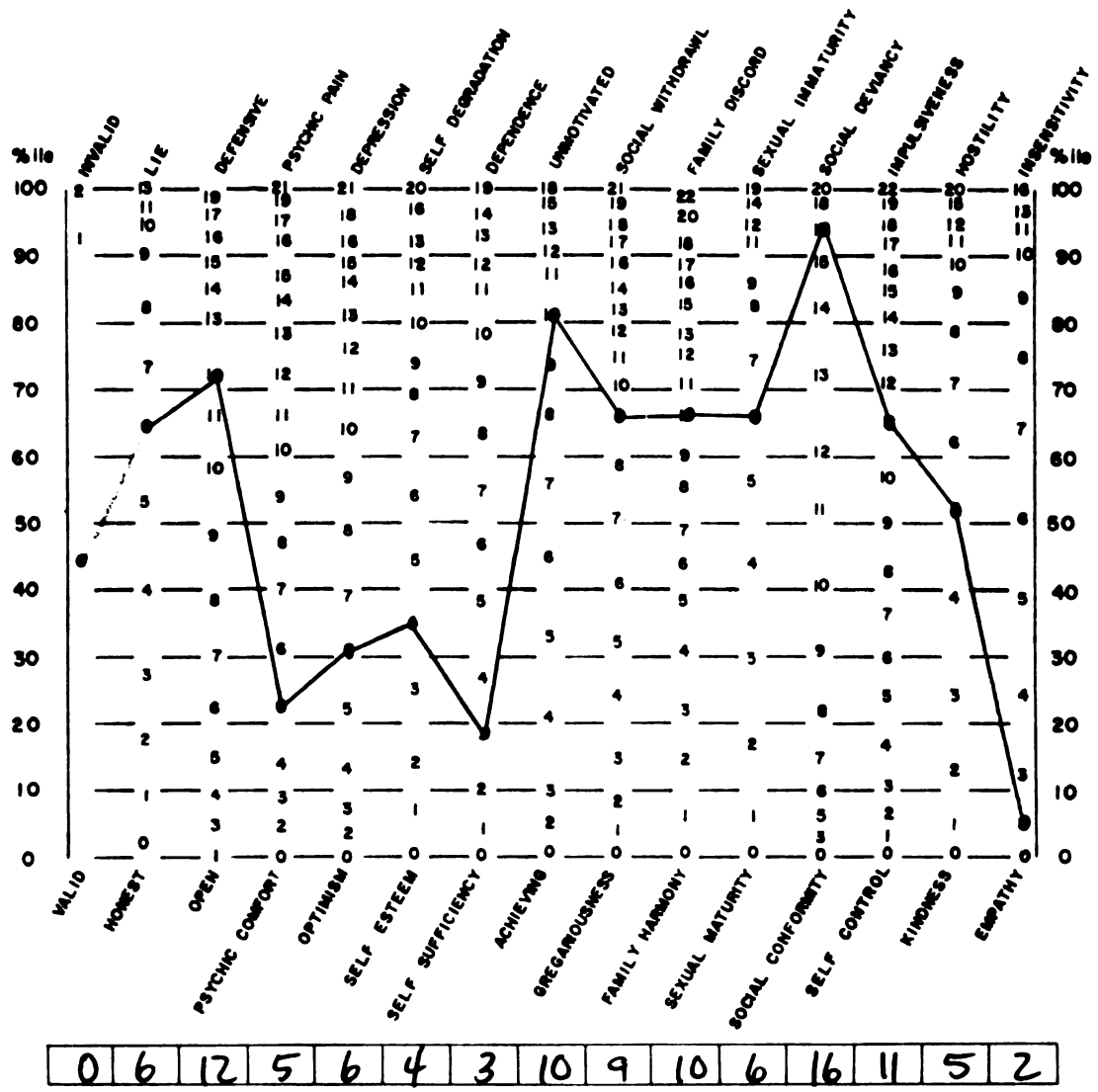
The Psychological Corporation MMPI Reporting Service
304 East 45th Street
New York, N. Y. 10017

BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name RD – H-3 _____ . No. _____ Age ___ Date _____



0	6	12	5	6	4	3	10	9	10	6	16	11	5	2

GW _ H-4 ALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K	T SCORE PROFILE — Plotted With K
				?
				L
				F
				K
75	21			Hs 1 (.5K)
				D 2
				Hy 3
88	35			Pd 4 (.4K)
				Mf 5
				Pa 6
58	27			Pt 7 (.1K)
63	29			Sc 8 (.1K)
60	21			Ma 9 (.2K)
				Si 0

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	kH		
RAW SCORE →			46											
T SCORE →			53											
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-E EMPHASIZES BUT FAILS TO SHO REAL CONCERN ABOUT SOMATIC SYMPTOMS DEPRESSION AND ANXIETY CONSPICUOUSLY ABSENT SELF-CENTERED AND DEMANDING DEPENDENT.

-S REPEAT TENSE AND RESTLESS.

-HIGHLY REBELLIOUS AND NO CONFORMIST. UNRELIABLE. SHALLOW FEELINGS AND LOYALTIES. POOR FAMILY AND SOCIAL RELATIONSHIPS.

-TENDS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.

-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.

-INTELLECTUAL AND ESTHETIC INTERESTS.

-DISRESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.

-FAVORABLY SOCIALLY OUTGOING AND GREGARIOUS.

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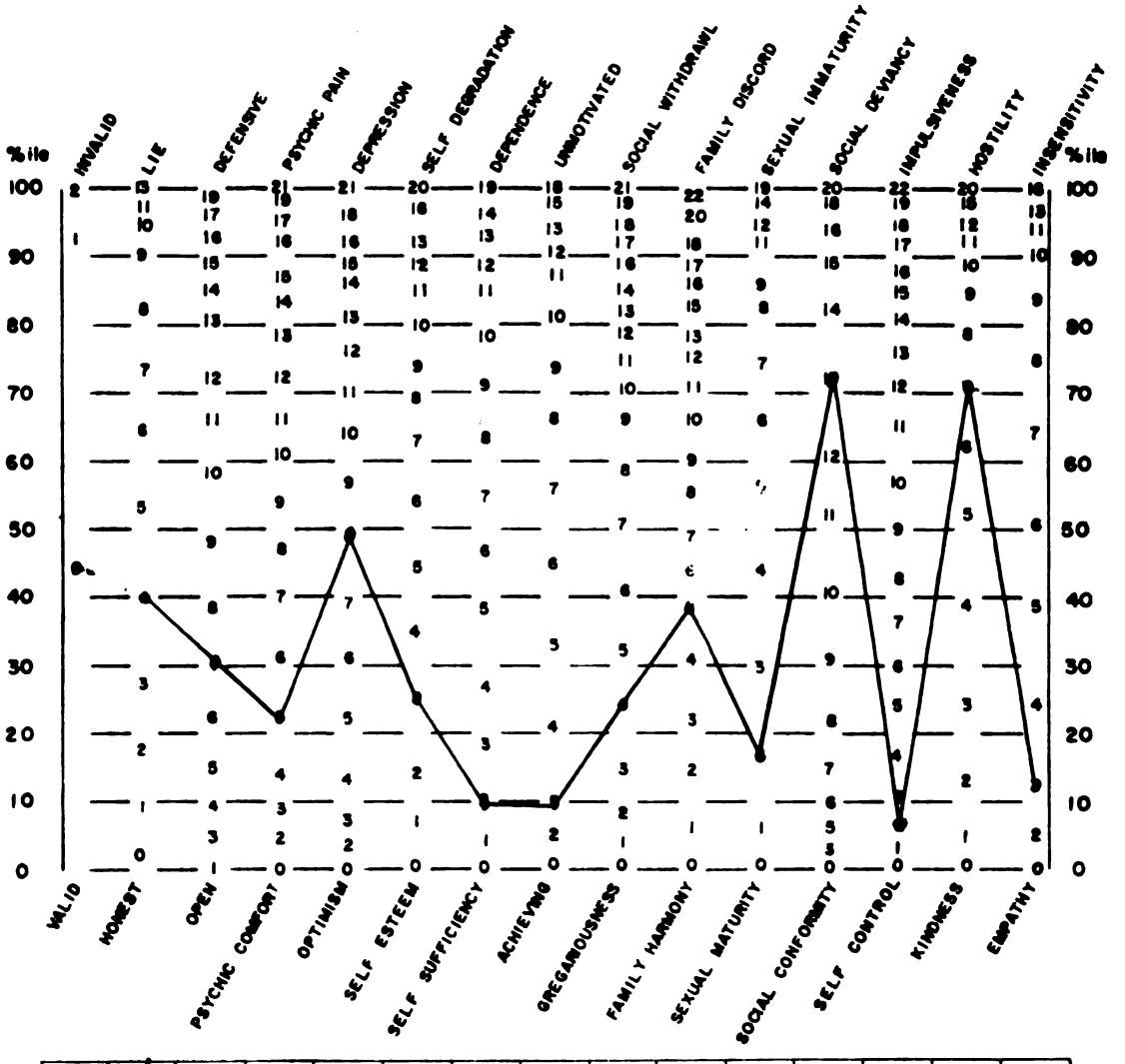
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name GW _ H-4 _____ No. _____ Age _ Date _____



0	4	7	5	8	3	2	3	4	6	2	13	2	7	3

BW _ H-5 MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K	T SCORE PROFILE — Plotted With K
			1	?
		40	1	L
		62	8	F
		51	13	K
47	10	47	3	1 Hs +.5K
		63	22	2 D
		65	14	3 Hy
60	23	60	18	4 Pd +.4K
		47	19	5 Mf
		53	9	6 Pa
56	26	54	13	7 Pt +1K
63	29	59	14	8 Sc +1K
65	23	63	20	9 Ma +.2K
		43	18	0 Si

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →	20	12	40	7	9	22	13	13	19	21	30	11		
T SCORE →	60	43	43	41	49	53	45	33	63	58	63	43		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-SOMEWHAT TENSE AND RESTLESS.
-MILDLY DEPRESSED OR PESSIMISTIC.
-TENDS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.
-INDEPENDENT OR MILDLY NONCONFORMIST.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-RESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-FEW SOMATIC COMPLAINTS. LITTLE CONCERN ABOUT BODILY HEALTH.
-NORMAL MALE INTEREST PATTERN FOR WORK, HOBBIES, ETC.
-TOUGH MINDED.
-PROBABLY SOCIALLY OUTGOING AND GREGARIOUS.

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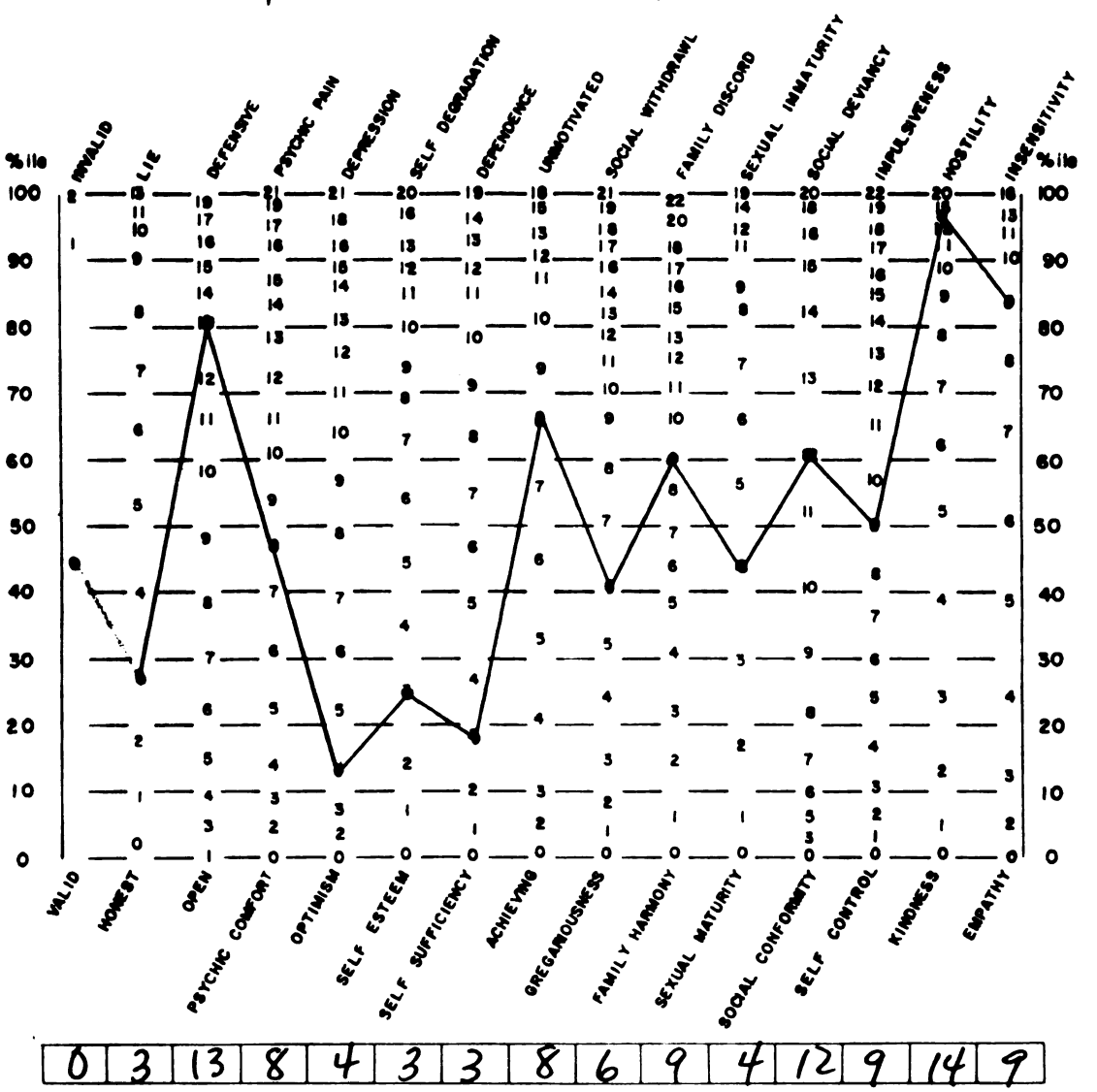
BIPOLAR PSYCHOLOGICAL INVENTORY

H

OFFENDER NORMS — FORM A

MALE

Name BW _ H-5 _____, ____ No. _____ Age ____ Date _____



0	3	13	8	4	3	3	8	6	9	4	12	9	14	9

DB _ H-6 MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITH-OUT K	RAW SCORE WITH-OUT K	T SCORE PROFILE — Plotted With K
			1	?
		[illegible]	1	L
		[illegible]	9	F
		[illegible]	11	K
52	12	[illegible]	6	1 Hs +.5K
		[illegible]	12	2 D
		[illegible]	16	3 Hy
67	26	[illegible]	22	4 Pd +.4K
		[illegible]	25	5 Mf
		[illegible]	7	6 Pa
60	28	[illegible]	17	7 Pt +1K
57	26	[illegible]	15	8 Sc +1K
86	31	[illegible]	29	9 Ma +.2K
		[illegible]	12	0 Si

20 30 40 50 60 70 80 90 100 110 120

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →	14	8	44	8	13	29	14	14	19	22	31	18		
T SCORE →	[illegible]	34	49	45	56	61	48	35	63	60	66	59		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-EXPANSIVE, IMPULSIVE, DISTRACTIBLE AND UNPREDICTABLE. PROBABLE FLIGHT OF IDEAS AND HYPERACTIVITY. CONSIDER PSYCHIATRIC EVALUATION.
-INDEPENDENT OR MILDLY NONCONFORMIST.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-INCLINES TOWARD ESTHETIC INTERESTS.
-HAS A COMBINATION OF PRACTICAL AND THEORETICAL INTERESTS.
-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-TOUGH MINDED.
-RESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-PROBABLY SOCIALLY OUTGOING AND GREGARIOUS.
-CHEERFUL AND OPTIMISTIC.

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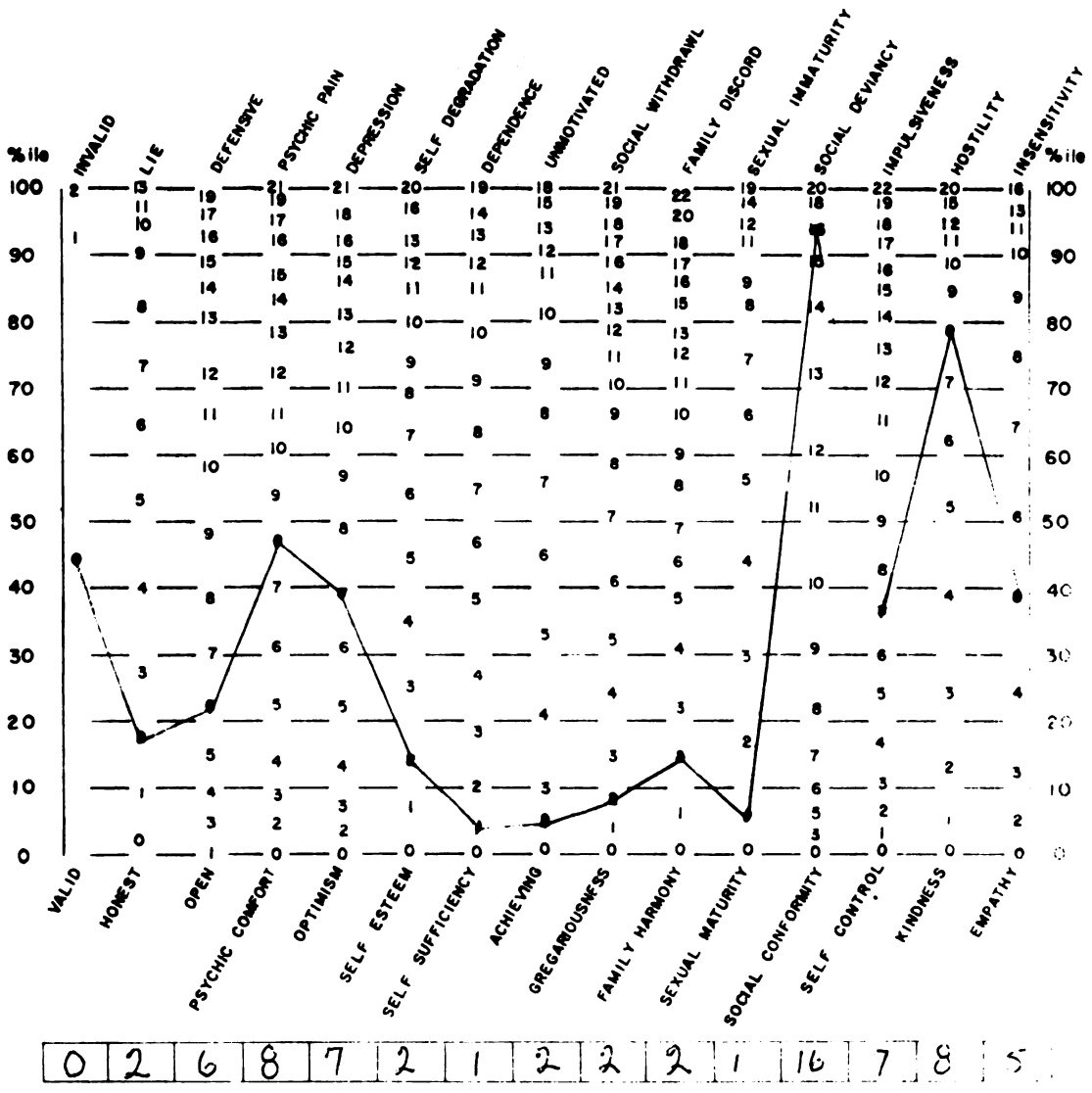
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name. DB _ H-6 ____ No. ____ Age. Date ____



0	2	6	8	7	2	1	2	2	2	1	16	7	8	5

TJ _ H-7 ALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

T SCORE PROFILE —— Plotted with K

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K	
				?
				L
				F
				K
54	13			Hs (.5K)
				D
				Hy
74	29			Pd (.4K)
				Mf
				Pa
54	25			Pt (1K)
59	27			Sc (1K)
88	32			Ma (.2K)
				Si

	A	R	Es	Lb	Ca	Dy	Do	Re	Pr	St	Cn	Wb		
RAW SCORE →		7	52	11	9	11	19	14	7	28	32	14		
T SCORE →		32	62	57	49	41	62	35	41	73	58	50		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-EMOTIONALLY SENSITIVE, IMPULSIVE, DISTRACTIBLE AND UNPREDICTABLE. PROBABLE FLIGHT OF IDEAS AND HYPERACTIVITY. CONSIDER PSYCHIATRIC EVALUATION.
-SOMEWHAT REBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES. DISSATISFIED WITH FAMILY OR SOCIAL LIFE.
-PERSONALLY SENSITIVE AND REALISTIC WITH HIGH ESTHETIC, CULTURAL AND ARTISTIC INTERESTS.
-TENDS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.
-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-RESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-VIEWS LIFE WITH AVERAGE MIXTURE OF OPTIMISM AND PESSIMISM.
-PRESENTLY SOCIALLY OUTGOING AND GREGARIOUS.

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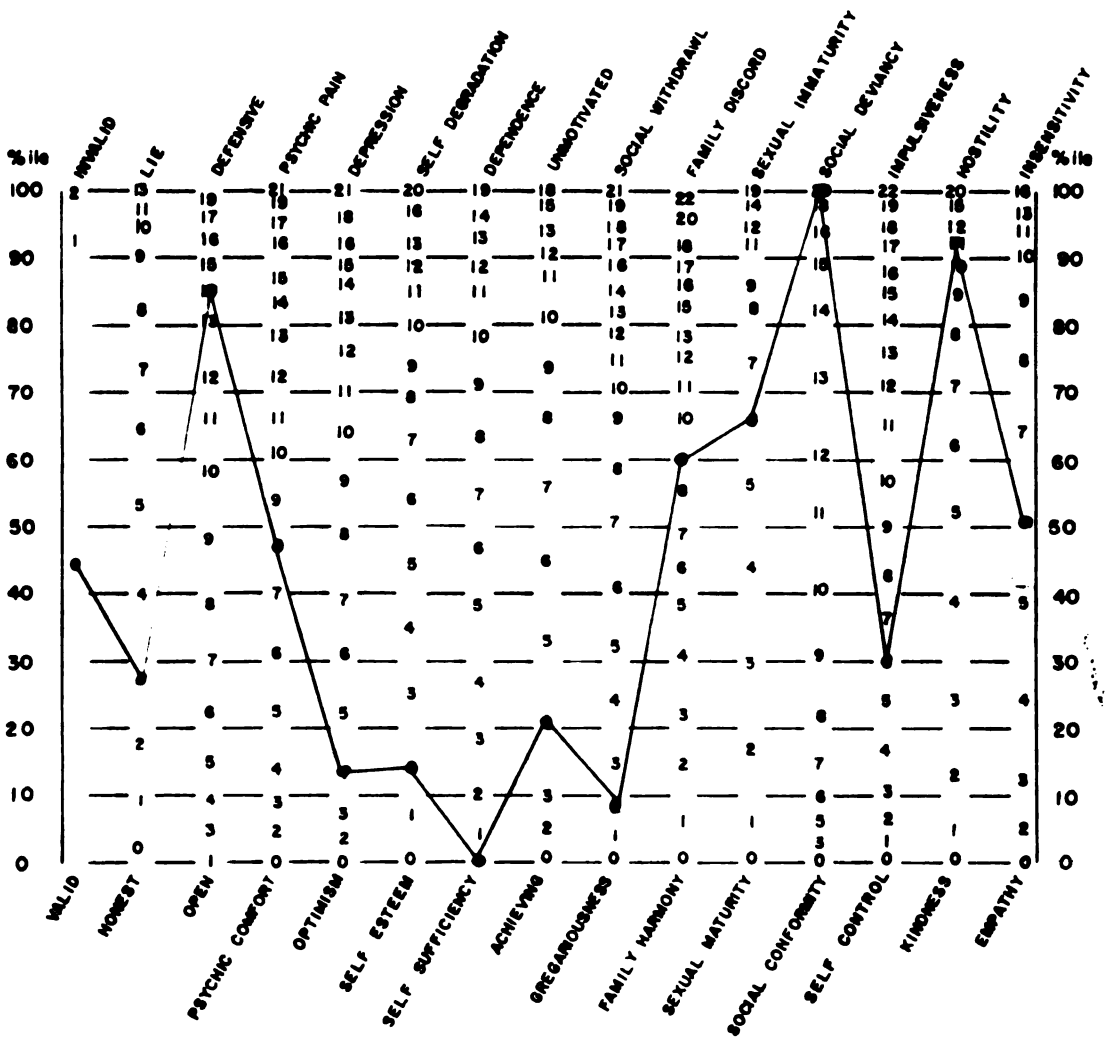
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS--FORM A
MALE

Name TJ _ H-7 _____ No. _____ Age _____ Date _____



0	3	14	8	4	2	0	4	2	9	6	20	6	11	6

BA _ H-8 MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE PROFILE —— Plotted With K

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K		
				?	
				L	
				F	
				K	
50	16			Hs (.5K)	1
				D	2
				Hy	3
79	31			Pd. (.4K)	4
				Mf	5
				Pa	6
66	31			Pt (1K)	7
59	27			Sc (1K)	8
73	26			Ma (.2K)	9
				Si	0

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	WH		
RAW SCORE →		8	46	13	8	21	14	13	14	26	33	10		
T SCORE →		34	53	46	47	55	48	33	54	69	71	41		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-PATIENT IS AWARE OF AND CONCERNED ABOUT ASOCIAL ATTITUDES AND EMOTIONAL IMPULSES BUT UNABLE TO CONTROL THEM.
-RESTLESS AND IMPULSIVE. SCATTERED INTERESTS AND ENERGIES.
PROBABLE SUPERFICIAL GAIETY AND GREGARIOUSNESS.
-SENSITIVE. ALIVE TO OPINIONS OF OTHERS.
-MILDLY DEPRESSED OR PESSIMISTIC.
-SLIGHTLY MORE THAN AVERAGE NUMBER OF PHYSICAL COMPLAINTS. SOME CONCERN ABOUT BODILY FUNCTIONS AND PHYSICAL HEALTH.
-INTERESTS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.
-INDIFFERENCE TOWARD ESTHETIC INTERESTS.
-TENSION [INDEX].
-PROBABLY SOCIALLY OUTGOING AND GREGARIOUS.

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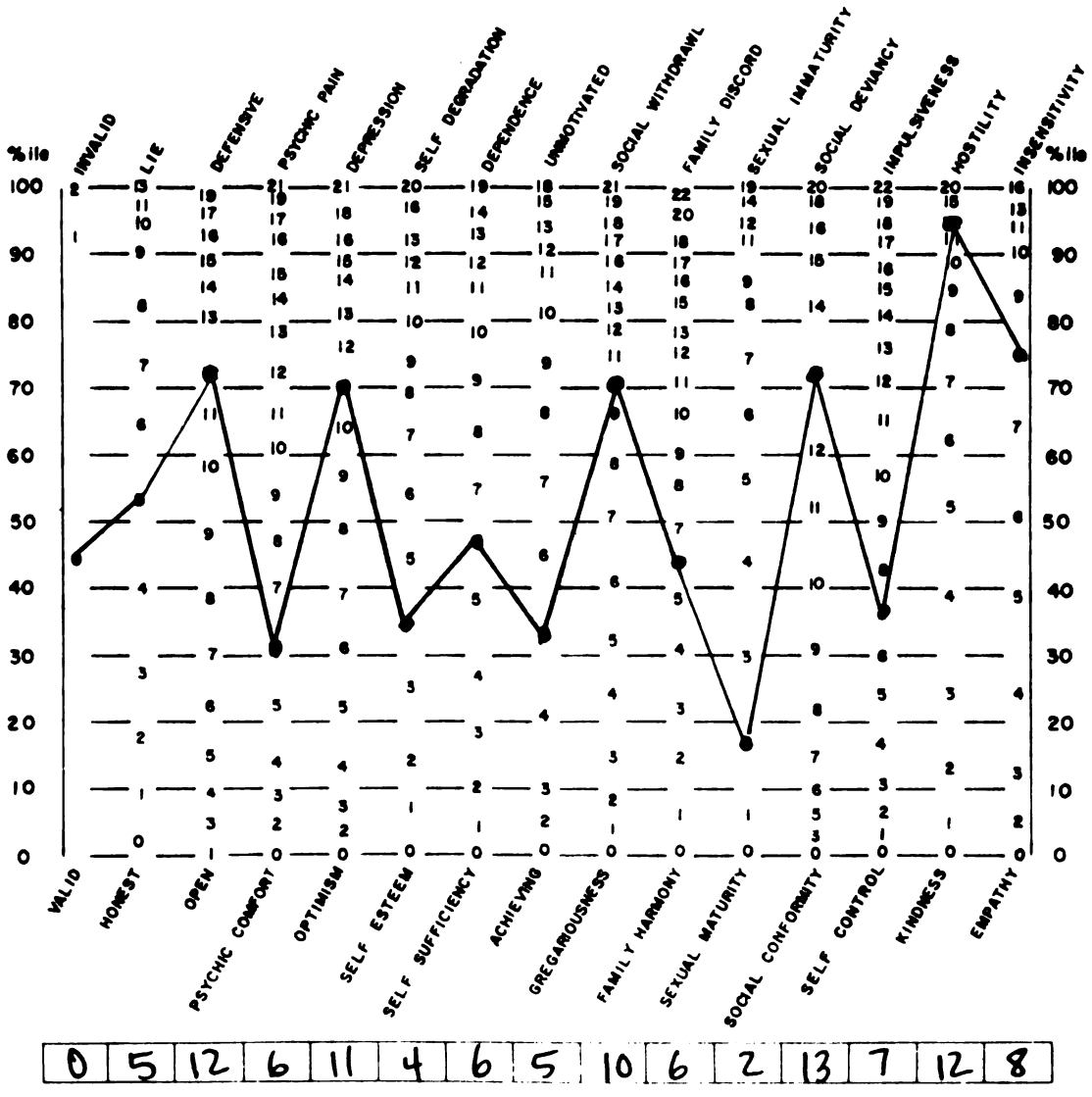
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name BA _ H-8 _____ No. _____ Age _____ Date _____



0	5	12	6	11	4	6	5	10	6	2	13	7	12	8

JJ _ H-9 [illegible]ALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

T SCORE PROFILE — Plotted With K

Scale	T Score With K	Raw Score With K	T Score Without K	Raw Score Without K
?				
L				[illegible]
F				[illegible]
K			[illegible]	[illegible]
1 Hs +.5K	54	13		[illegible]
2 D			[illegible]	[illegible]
3 Hy				[illegible]
4 Pd +.4K	74	2[illegible]	[illegible]	[illegible]
5 Mf			[illegible]	[illegible]
6 Pa				[illegible]
7 Pt +1K	50	23	[illegible]	[illegible]
8 Sc +1K	67	31		1[illegible]
9 Ma +.2K	73	2[illegible]		[illegible]
0 Si			[illegible]	[illegible]

T score scale: 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120

	A	R	Es	Lb	Ca	Dy	Do	Re	Pr	St	Cn	WH		
	First Factor	Second Factor	Ego Strength	Low Back Pain	Caudality	Dependency	Dominance	Social Responsibility	Prejudice	Social Status	Control			
RAW SCORE		[illegible]	4[illegible]	11	11	1[illegible]	21	18	11	23	[illegible]	12		
T SCORE	[illegible]	[illegible]	5[illegible]	57	53	4[illegible]	[illegible]	45	49	62	[illegible]	45		

-[illegible] T [illegible]EBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES. [illegible] SATISFIED WITH FAMILY OR SOCIAL LIFE.

-[illegible]LESS AND IMPULSIVE. SCATTERED INTERESTS AND ENERGIES. [illegible] SUPERFICIAL GAIETY AND GREGARIOUSNESS.

-[illegible] ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.

-[illegible]TIVE. ALIVE TO OPINIONS OF OTHERS.

-[illegible] TO AESTHETIC INTERESTS.

-[illegible] OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS [illegible] MEDICAL PATIENTS.

-[illegible] CAPACITY TO MAINTAIN ADEQUATE SOCIAL RELATIONSHIPS.

-[illegible] AVERAGE MIXTURE OF OPTIMISM AND PESSIMISM.

-[illegible] SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.

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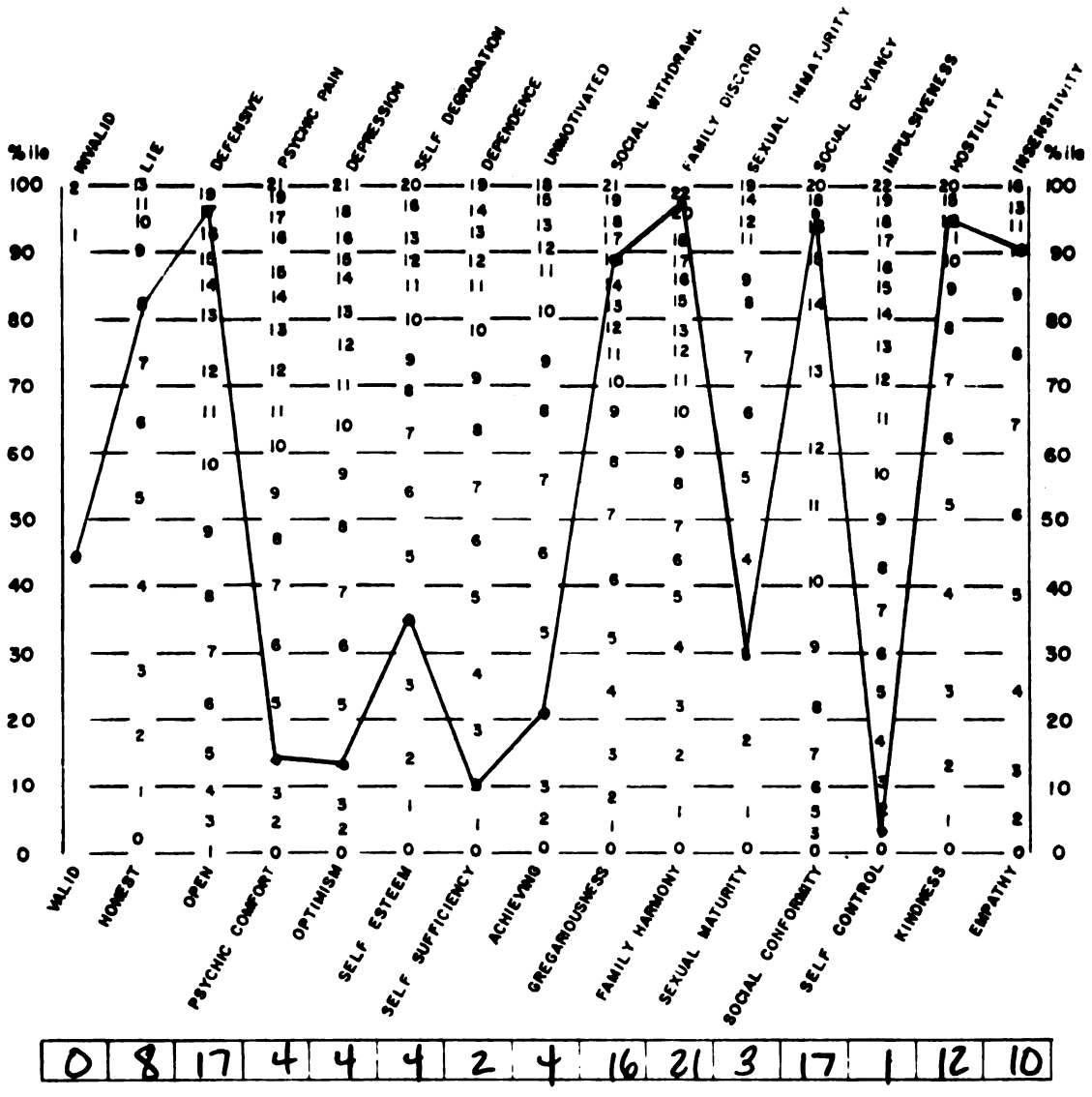
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS--FORM A
MALE

Name JJ _ H-9 _____ No. _____ Age _____ Date _____



0	8	17	4	4	4	2	4	16	21	3	17	1	12	10

DM _ H-10 [illegible]

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE PROFILE —— Plotted With K

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K	Scale
			1	?
		[illegible]	[illegible]	L
		[illegible]	[illegible]	F
		[illegible]	1[illegible]	K
59	1[illegible]		[illegible]	1 Hs +.5K
			[illegible]	2 D
		[illegible]	17	3 Hy
76	3[illegible]	[illegible]	2[illegible]	4 Pd. +.4K
		[illegible]	[illegible]	5 Mf
			[illegible]	6 Pa
64	3[illegible]	[illegible]	[illegible]7	7 Pt +1K
74	35	[illegible]	[illegible]	8 Sc +1K
70	25		[illegible]	9 Ma +.2K
			[illegible]	0 Si

. . . . 20. . . . 30. . . . 40. . . . 50. . . . 60. . . . 70. . . . 80. . . . 90. . . . 100. . . . 110. . . . 120

	A	R	Es	Lb	Ca	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE		1[illegible]	4[illegible]	1[illegible]	12	2[illegible]	1[illegible]	14	16	18	2[illegible]	15		
T SCORE		[illegible]	[illegible]	[illegible]	55	5[illegible]	[illegible]3	35	58	51	5[illegible]	52		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-S[illegible] T TENSE AND RESTLESS.

-S[illegible]T [illegible]REBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES, [illegible]TISFIE[illegible] WITH FAMILY OR SOCIAL LIFE.

-[illegible]LY SOMEWHAT ECCENTRIC, SECLUSIVE AND WITHDRAWN. MANY I[illegible]AL [illegible]FLICTS.

-[illegible]LY SENSITIVE A[illegible] I[illegible]EALISTIC WITH HIGH ESTHETIC, CULTURAL A[illegible] T[illegible] I[illegible]TERESTS.

-C[illegible]TIONS, [illegible]ORDERLY A[illegible]D SELF-CRITICAL.

-[illegible]LY [illegible]ESSE[illegible] OR PESSIMISTIC.

-[illegible]LY RESERVED I[illegible] UNFAMILIAR SOCIAL SITUATI[illegible]S.

-[illegible]TIVE, ALIVE T[illegible] OPINIONS OF OTHERS.

-[illegible]LY [illegible]E T[illegible] AVERAGE NUMBER OF PHYSICAL C[illegible]PLAINTS. SOME C[illegible] [illegible]ILY FU[illegible]CTIONS AND PHYSICAL HEALTH.

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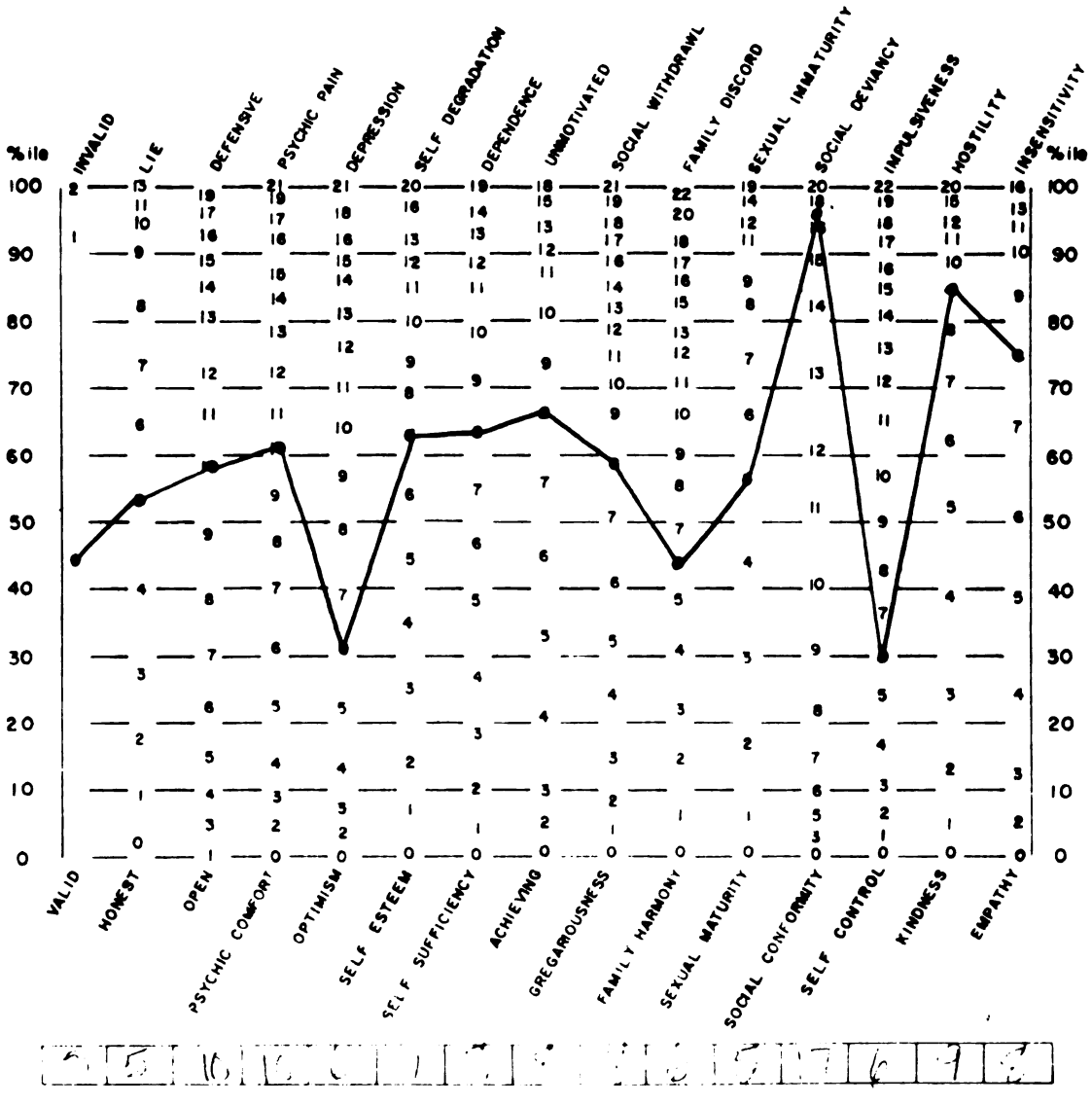
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name DM _ H-10 ____ No. _____ Age .Date _____ ____



APPENDIX I

RANDOM SELECTIONS FROM THE INCARCERATED NON-HEROIN ADDICT SAMPLE (10 INDIVIDUAL PROFILES FOR THE MMPI AND THE BPI)

CT _ NH -1 ALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE PROFILE —— Plotted With K

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K		
				?	?
				L	L
				F	F
				K	K
49	11			Hs +.5K	Hs +.5K
				D	D
				Hy	Hy
74	24			Pd +.4K	Pd +.4K
				Mf	Mf
				Pa	Pa
64	30			Pt +1K	Pt +1K
61	28			Sc +1K	Sc +1K
70	26			Ma +.2K	Ma +.2K
				Si	Si

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →		14	37	8	19	25	9	16	19	15	23	13		
T SCORE →		47	34	45	48	57	34	40	63	44	45	48		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-MAY HAVE POOR SELF-CONCEPT. PROBABLY WOULD LIKE TO DISCUSS EMOTIONAL PROBLEMS.
-SOMEWHAT REBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES. DISSATISFIED WITH FAMILY OR SOCIAL LIFE.
-PROBABLY ENERGETIC AND ENTHUSIASTIC. VARIED INTERESTS.
-SENSITIVE. ALIVE TO OPINIONS OF OTHERS.
-CONSCIENTIOUS, ORDERLY AND SELF-CRITICAL.
-PROBABLY RESERVED IN UNFAMILIAR SOCIAL SITUATIONS.
-TENDS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.
-MISSES LIFE WITH AVERAGE MIXTURE OF OPTIMISM AND PESSIMISM.
-[illegible] MALE INTEREST PATTERN FOR WORK, HOBBIES, ETC.
-[illegible]SOMATIC COMPLAINTS. LITTLE CONCERN ABOUT BODILY HEALTH.

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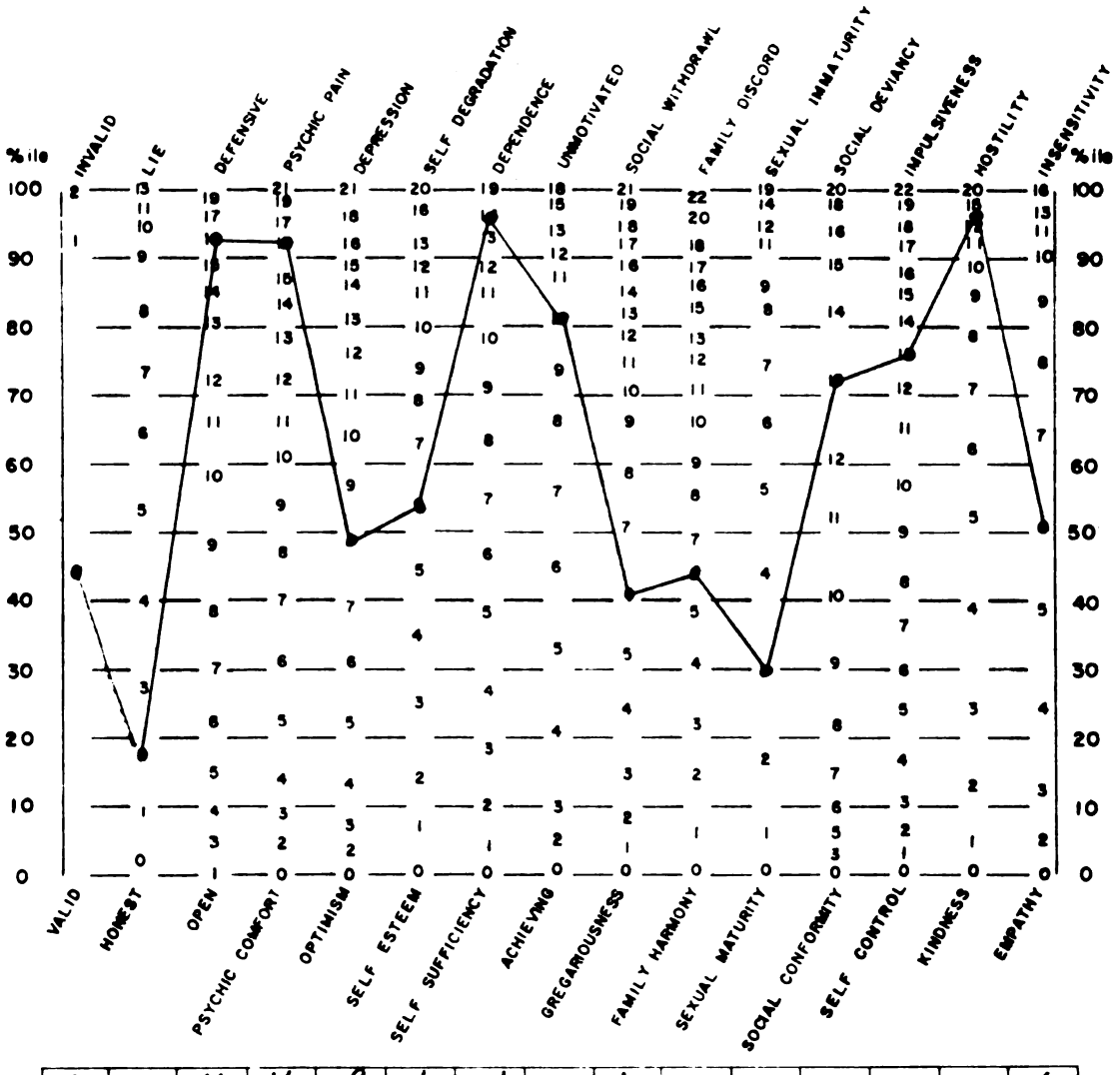
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS -- FORM A

MALE

CT _ NH -1

Name _____ No _____ Age _____ Date _____



0	2	16	16	8	6	14	10	6	6	3	13	13	13	6

PH _ MH -2 MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITH-OUT K	RAW SCORE WITH-OUT K		T SCORE PROFILE —— Plotted With K
			2	?	?
		56	6	L	L
		70	12	F	F
		49	12	K	K
57	14	58	8	1 Hs +.5K	Hs 1 +.5K
		60	21	2 D	D 2
		65	14	3 Hy	Hy 3
71	28	73	23	4 Pd +.4K	Pd 4 +.4K
		59	25	5 Mf	Mf 5
		67	14	6 Pa	Pa 6
56	26	56	14	7 Pt +1K	Pt 7 +1K
61	28	59	16	8 Sc +1K	Sc 8 +1K
68	24	68	22	9 Ma +.2K	Ma 9 +.2K
		61	34	0 Si	Si 0

	A	R	Es	Lb	Cs	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →	21	14	40	12	14	24	15	11	16	22	32	15		
T SCORE →	61	47	43	62	58	55	51	28	58	60	68	52		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-SOMEWHAT TENSE AND RESTLESS.
-TENDS TO GIVE SOCIALLY APPROVED ANSWERS REGARDING SELF-CONTROL AND MORAL VALUES.
-SOMEWHAT REBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES. DISSATISFIED WITH FAMILY OR SOCIAL LIFE.
-SENSITIVE. ALIVE TO OPINIONS OF OTHERS.
-TENDS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.
-PROBABLY RESERVED IN UNFAMILIAR SOCIAL SITUATIONS.
-MILDLY DEPRESSED OR PESSIMISTIC.
-INCLINES TOWARD ESTHETIC INTERESTS.
-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN AROUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-TOUGH MINDED.

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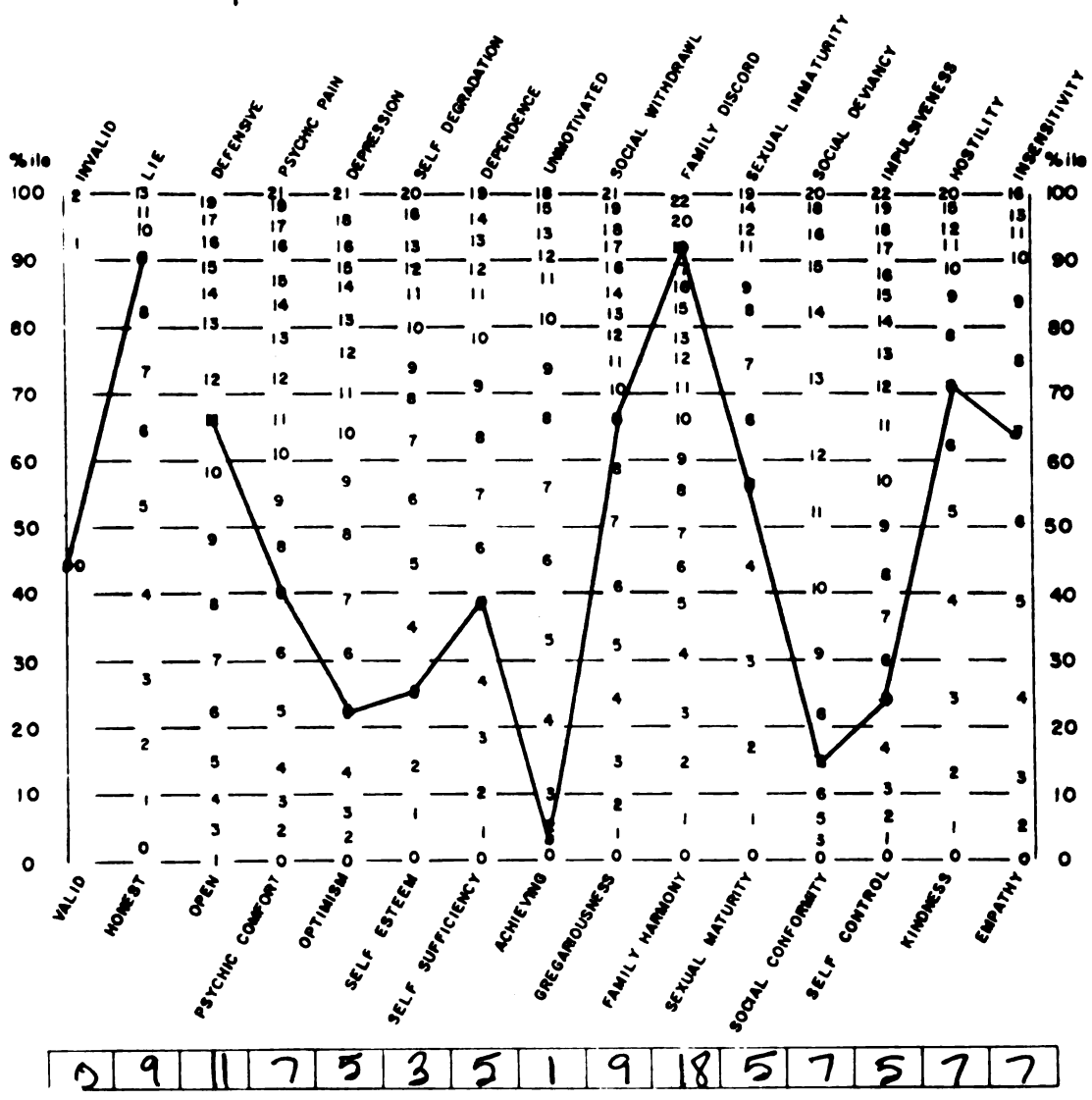
BIPOLAR PSYCHOLOGICAL INVENTORY

N1

OFFENDER NORMS — FORM A

MALE

Name PH _ NH -2 _____ No _____ Age _____ Date _____



5	9	11	7	5	3	5	1	9	18	5	7	5	7	7

BD _ NH -3 MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE PROFILE —— Plotted With K

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K	
			1	?
		43	8	L
		61	7	F
		59	17	K
52	12	47	3	1 Hs +.5K
		56	19	2 D
		44	24	3 Hy
69	27	65	20	4 Pd +.4K
		74	33	5 Mf
		56	10	6 Pa
50	23	45	6	7 Pt +1K
57	26	49	9	8 Sc +1K
73	26	71	23	9 Mo +.2K
		48	23	0 Si

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →	1	20	55	13	6	8	18	21	8	27	30	10		
T SCORE →	36	59	67	66	43	37	59	52	43	71	63	41		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-TENDS TO GIVE SOCIALLY APPROVED ANSWERS REGARDING SELF-CONTROL AND MORAL VALUES.
-PROBABLY SENSITIVE AND IDEALISTIC WITH HIGH ESTHETIC, CULTURAL AND ARTISTIC INTERESTS.
-RESTLESS AND IMPULSIVE. SCATTERED INTERESTS AND ENERGIES. PROBABLE SUPERFICIAL GAIETY AND GREGARIOUSNESS.
-SOMEWHAT REBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES. DISSATISFIED WITH FAMILY OR SOCIAL LIFE.
-HAS A COMBINATION OF PRACTICAL AND THEORETICAL INTERESTS.
-VIEWS LIFE WITH AVERAGE MIXTURE OF OPTIMISM AND PESSIMISM.
-RESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-HAS CAPACITY TO MAINTAIN ADEQUATE SOCIAL RELATIONSHIPS.

The Psychological Corporation MMPI Reporting Service
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New York, N. Y. 10017

BIPOLAR PSYCHOLOGICAL INVENTORY

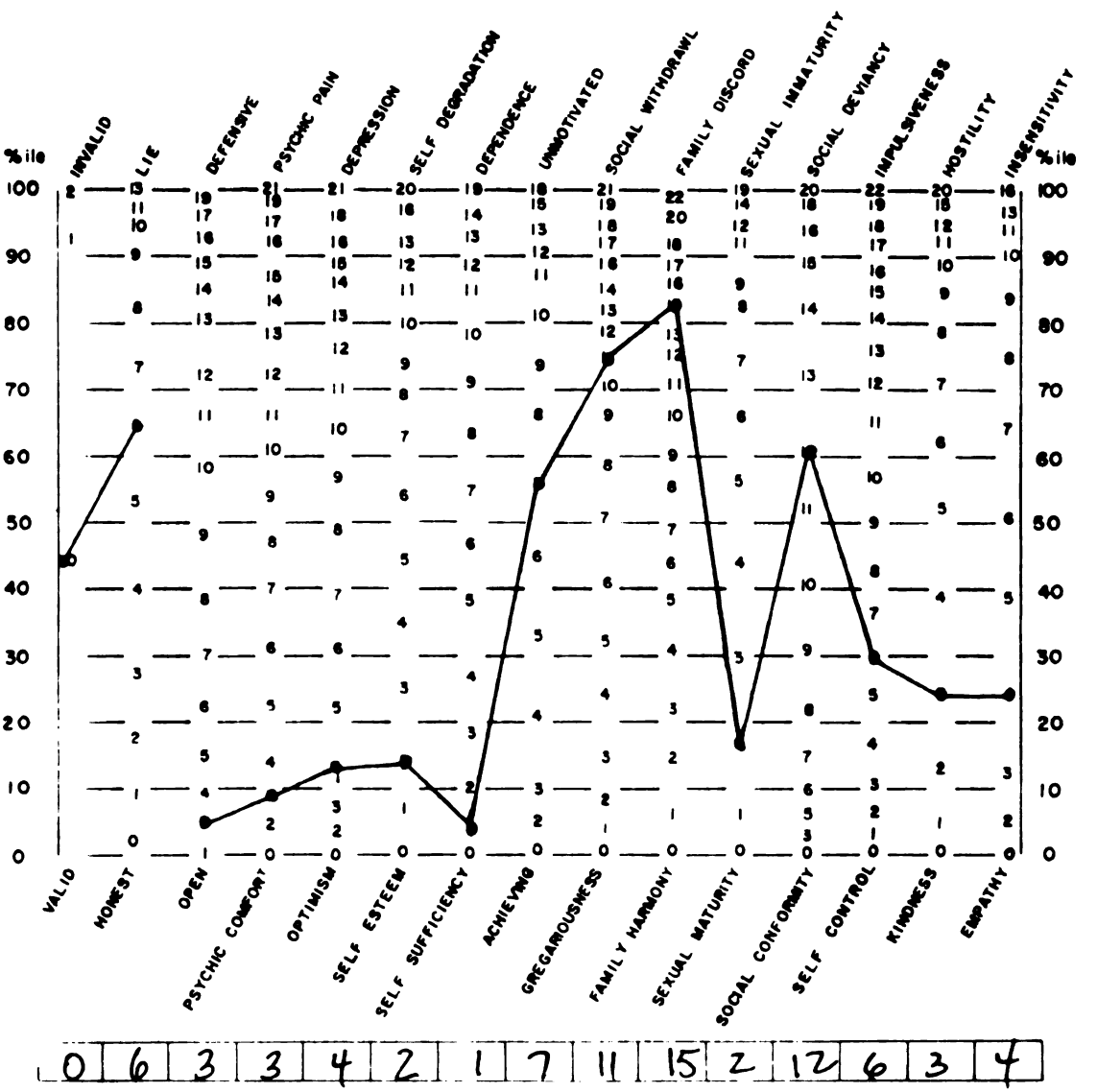
N

OFFENDER NORMS — FORM A

MALE

BD _ NH -3

Name _____ No. _____ Age ___ Date _____



0	6	3	3	4	2	1	7	11	15	2	12	6	3	4

RD _ NH -4 MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITH-OUT K	RAW SCORE WITH-OUT K		T SCORE PROFILE — Plotted With K
			1	?	?
				L	L
				F	F
				K	K
52	12			1 Hs .9K	Hs 1 .9K
				2 D	D 2
				3 Hy	Hy 3
64	25			4 Pd .4K	Pd 4 .4K
				5 Mf	Mf 5
				6 Pa	Pa 6
52	24			7 Pt .1K	Pt 7 .1K
55	25			8 Sc .1K	Sc 8 .1K
68	24			9 Ma .2K	Ma 9 .2K
				0 Si	Si 0

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →		11	55	11	4	7	18	24	4	28	20	9		
T SCORE →		60	67	57	40	35	59	59	43	73	34	38		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-TENDS TO MINIMIZE OR SMOOTH OVER FAULTS IN SELF, FAMILY AND CIRCUMSTANCES.
-TENDS TO GIVE SOCIALLY APPROVED ANSWERS REGARDING SELF-CONTROL AND MORAL VALUES.
-PROBABLY ENERGETIC AND ENTHUSIASTIC. VARIED INTERESTS.
-INDEPENDENT OR MILDLY NONCONFORMIST.
-HAS A COMBINATION OF PRACTICAL AND THEORETICAL INTERESTS.
-VIEWS LIFE WITH AVERAGE MIXTURE OF OPTIMISM AND PESSIMISM.
-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-NORMAL MALE INTEREST PATTERN FOR WORK, HOBBIES, ETC.
-RESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-PROBABLY SOCIALLY OUTGOING AND GREGARIOUS.

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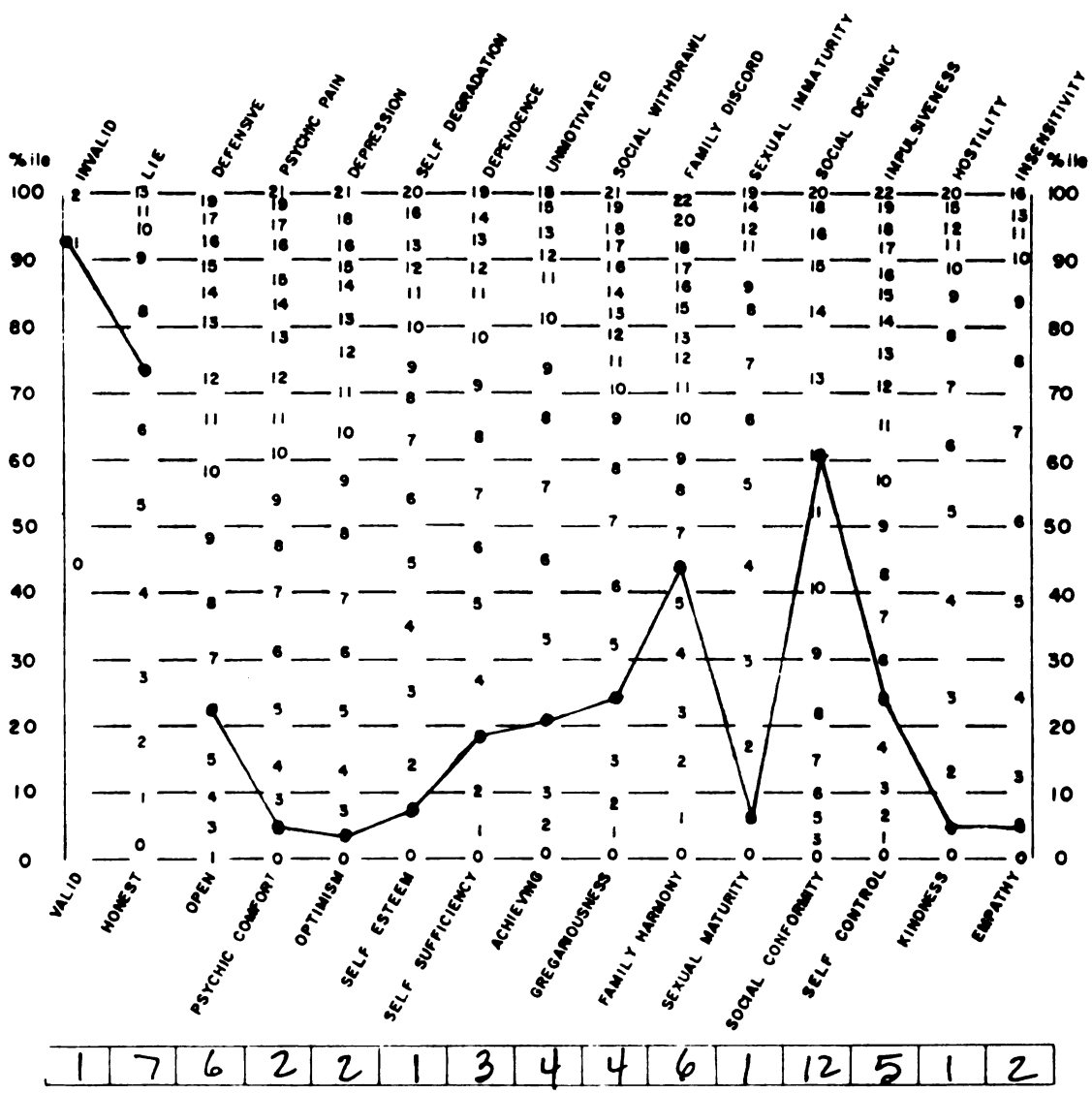
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name RD _ NH -4 No. Age Date



1	7	6	2	2	1	3	4	4	6	1	12	5	1	2

NT _ NH -5 ALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE PROFILE —— Plotted With K

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K		T SCORE PROFILE (20 30 40 50 60 70 80 90 100 110 120)	
			14	?		?
			3	L		L
			4	F		F
			13	K		K
52	17		21	Hs		Hs
			17	D		D
			22	Hy		Hy
71	24		24	Pd		Pd
			25	Mf		Mf
			9	Pa		Pa
49	22		3	Pt		Pt
51	23		4	Sc		Sc
43	22		15	Ma		Ma
			17	Si		Si

	A	R	Es	Lb	Co	Dy	Do	Re	Pr	St	Cn	WH		
RAW SCORE →		16	42	10	6	17	12	18	9	24	23	8		
T SCORE →		51	58	53	43	41	42	45	45	64	45	36		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-PATIENT PRESENTS SELF IN A FAVORABLE LIGHT REGARDING CONFORMITY, SELF-CONTROL AND MORAL VALUES.
-SOMEWHAT REBELLIOUS OR NONCONFORMIST. AVOIDS CLOSE PERSONAL TIES. DISSATISFIED WITH FAMILY OR SOCIAL LIFE.
-PROBABLY ENERGETIC AND ENTHUSIASTIC. VARIED INTERESTS.
-INCLINES TOWARD ESTHETIC INTERESTS.
-DISREGARDS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-VIEWS LIFE WITH AVERAGE MIXTURE OF OPTIMISM AND PESSIMISM.
-HAS A COMBINATION OF PRACTICAL AND THEORETICAL INTERESTS.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-PROBABLY SOCIALLY OUTGOING AND GREGARIOUS.

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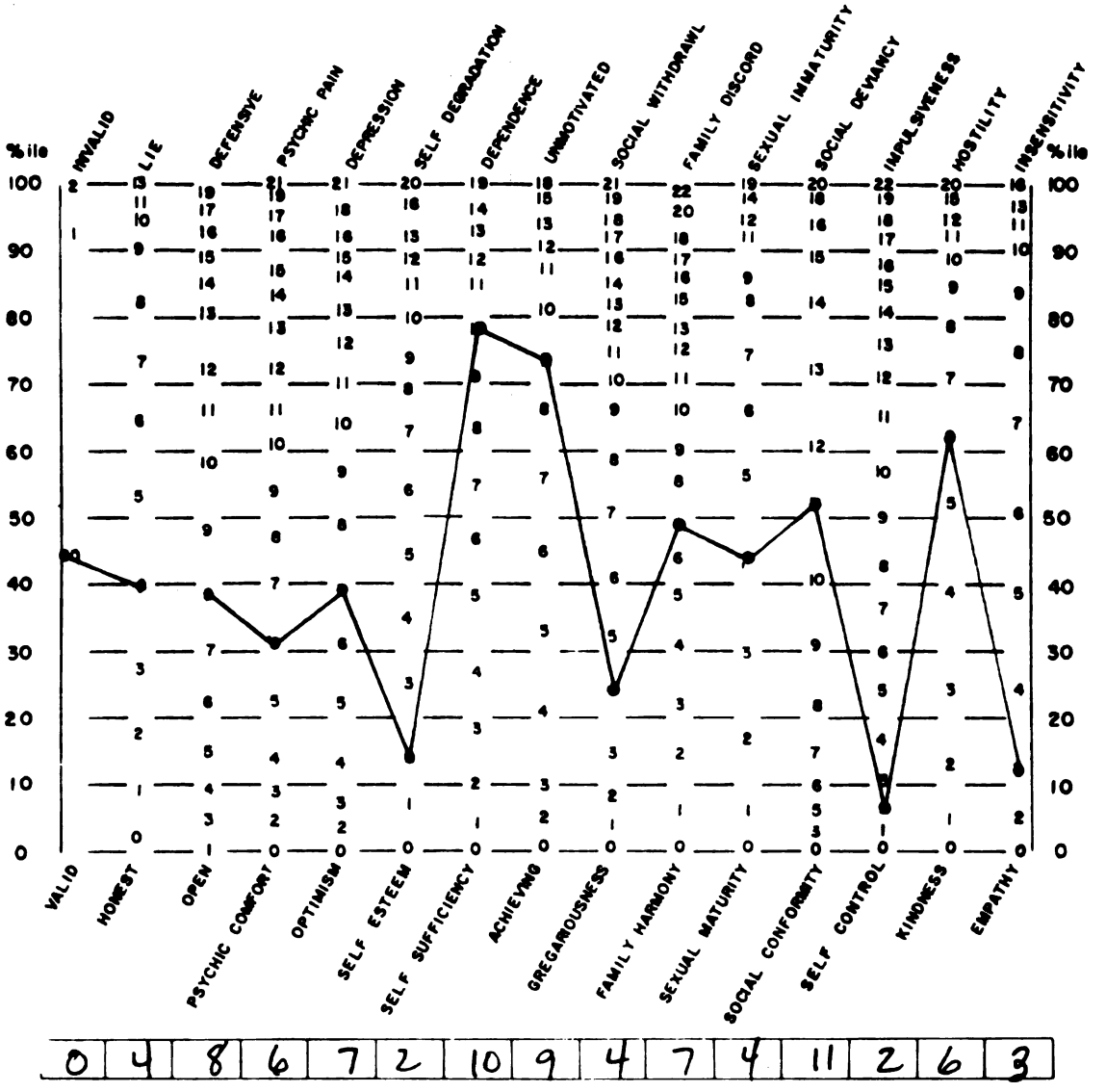
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

Name NT _ NH -5 _ No. _____ Age Date _____



0	4	8	6	7	2	10	9	4	7	4	11	2	6	3

HL _ NH -6 ; MALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

T SCORE PROFILE —— Plotted With K

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K	Scale
			1	?
		56	6	L
		66	10	F
		55	15	K
57	14	53	6	1 Hs +.5K
		63	22	2 D
		56	20	3 Hy
67	26	65	20	4 Pd +.4K
		59	25	5 Mf
		73	14	6 Pa
64	30	57	15	7 Pt +1K
65	30	57	15	8 Sc +1K
73	26	70	23	9 Ma +.2K
		52	27	0 Si

	A	R	Es	Lb	Ca	Dy	Do	Re	Pr	St	Cn	WH		
RAW SCORE	14	19	43	13	10	20	17	15	14	18	27	10		
T SCORE	52	57	48	66	51	51	56	37	54	51	55	41		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-TENDS TO GIVE SOCIALLY APPROVED ANSWERS REGARDING SELF-CONTROL AND MORAL VALUES.

-TOUCHY, OVERLY RESPONSIVE TO OPINIONS OF OTHERS. INCLINED TO BLAME OTHERS FOR OWN DIFFICULTIES.

-RESTLESS AND IMPULSIVE. SCATTERED INTERESTS AND ENERGIES. PROBABLE SUPERFICIAL GAIETY AND GREGARIOUSNESS.

-INDEPENDENT OR MILDLY NONCONFORMIST.

-TENDS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.

-CONSCIENTIOUS, ORDERLY AND SELF-CRITICAL.

-MILDLY DEPRESSED OR PESSIMISTIC.

-INCLINES TOWARD ESTHETIC INTERESTS.

-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.

-HAS CAPACITY TO MAINTAIN ADEQUATE SOCIAL RELATIONSHIPS.

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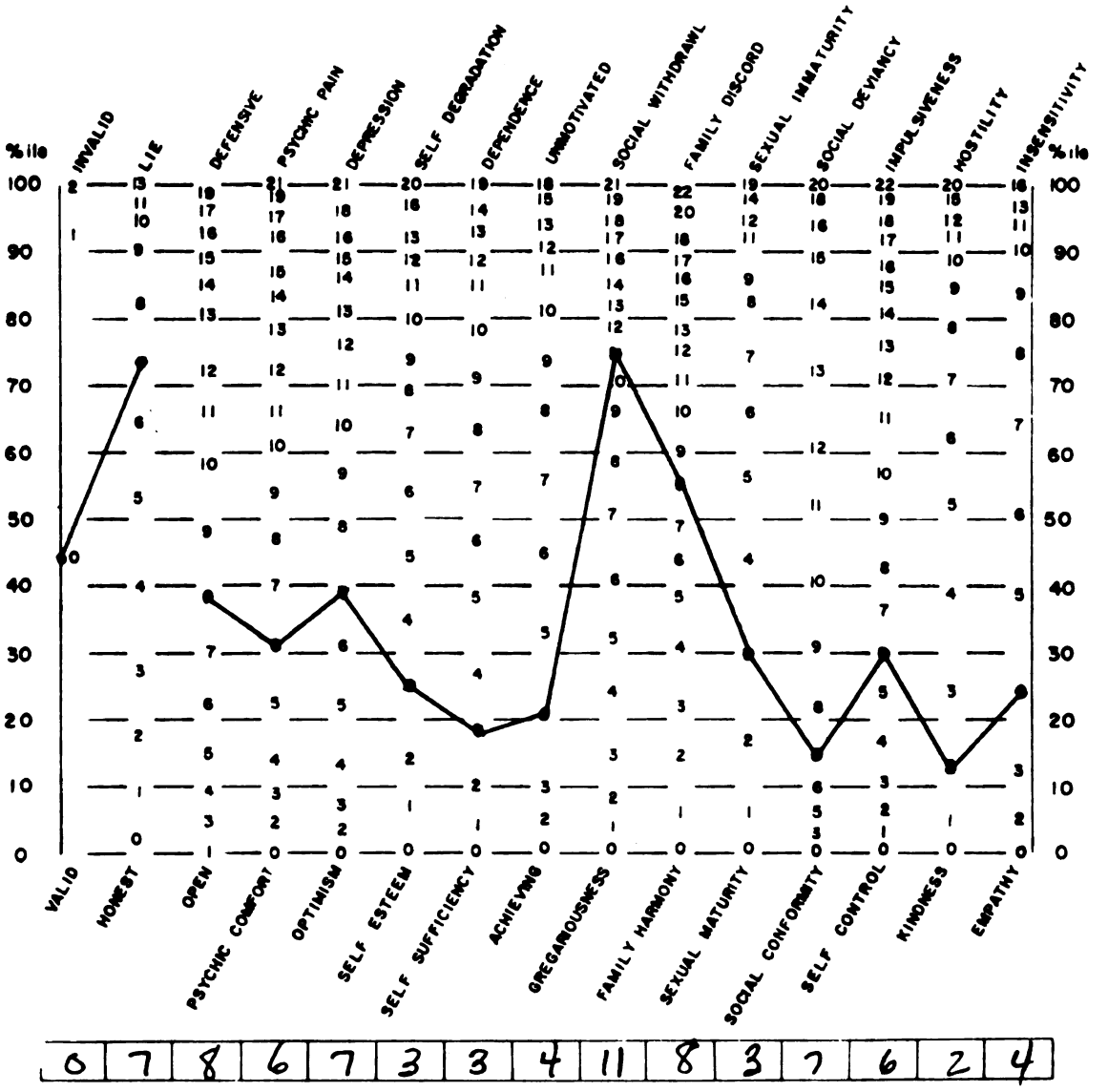
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS -- FORM A

MALE

Name HL _ NH -6 _____ No. _____ Age ___ Date _____



0	7	8	6	7	3	3	4	11	8	3	7	6	2	4

PS _ NH -7 MALE

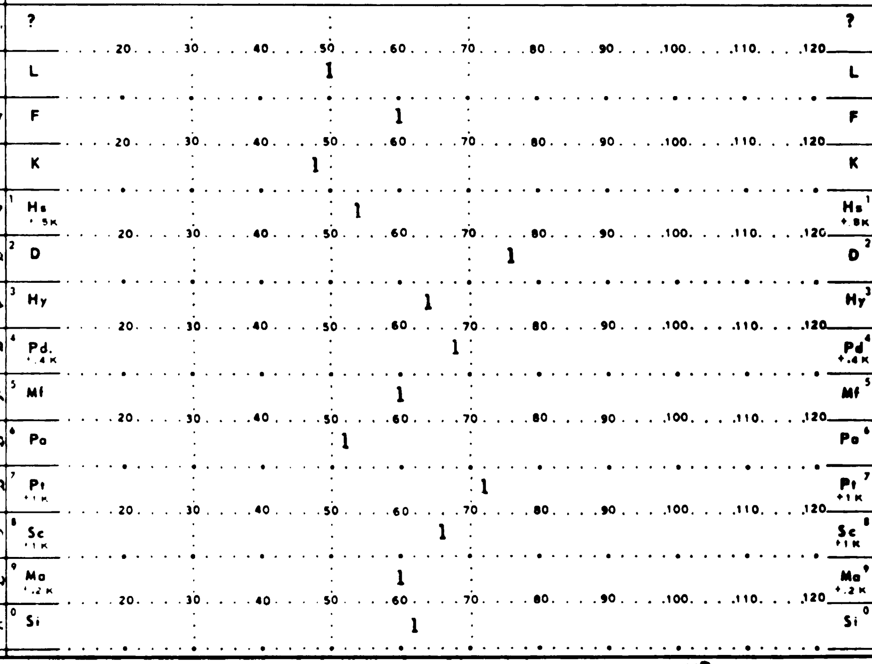
MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE PROFILE —— Plotted With K

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K	Scale
			[illegible]	?
		[illegible]	[illegible]	L
			7	F
		[illegible]	11	K
54	13	[illegible]	7	1 Hs +.5K
		77	28	2 D
		[illegible]	24	3 Hy
69	27	[illegible]	23	4 Pd. +.4K
		[illegible]	26	5 Mf
		[illegible]	9	6 Pa
73	34	[illegible]	23	7 Pt +1K
67	31	[illegible]	20	8 Sc +1K
60	21	[illegible]	13	9 Ma +.2K
		[illegible]	35	0 Si



	A	R	Es	Lb	Ca	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE	[illegible]	14	30	12	18	31	7	16	21	20	23	16		
T SCORE	[illegible]	47	27	62	66	62	28	40	67	55	45	55		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-PATIENT IS AWARE OF AND CONCERNED ABOUT ASOCIAL ATTITUDES AND EMOTIONAL IMPULSES BUT UNABLE TO CONTROL THEM.

-SOMEWHAT TENSE AND RESTLESS.

-MODERATELY DEPRESSED, WORRYING AND PESSIMISTIC.

-TENDS TOWARD ABSTRACT INTERESTS SUCH AS SCIENCE, PHILOSPHY AND RELIGION.

-PROBABLY RESERVED IN UNFAMILIAR SOCIAL SITUATIONS.

-INCLINES TOWARD ESTHETIC INTERESTS.

-NUMBER OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.

-RESPECTS OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.

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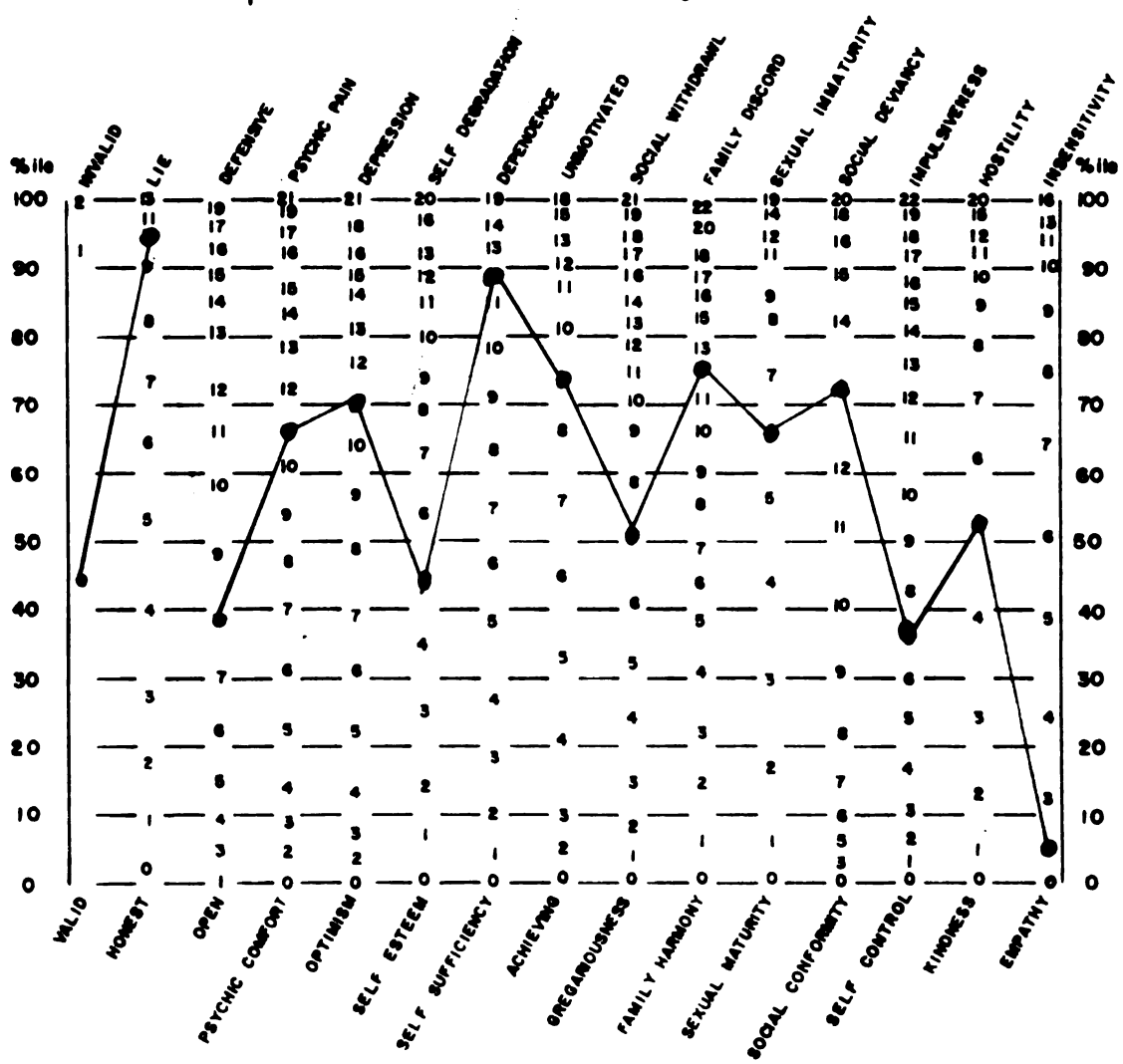
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS--FORM A
MALE

PS _ NH -7

Name _____ No. _____ Age _____ Date _____



0	10	8	11	11	5	12	9	7	12	6	13	7	5	2

HJ _ NH -8 SCALE

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE PROFILE —— Plotted With K

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITHOUT K	RAW SCORE WITHOUT K		
				?	?
				L	L
				F	F
				K	K
54	13			1 Hs +.5K	Hs 1 +.5K
				2 D	D 2
				3 Hy	Hy 3
53	21			4 Pd +.4K	Pd 4 +.4K
				5 Mf	Mf 5
				6 Pa	Pa 6
73	34			7 Pt +1K	Pt 7 +1K
74	35			8 Sc +1K	Sc 8 +1K
45	15			9 Ma +.2K	Ma 9 +.2K
				0 Si	Si 0

	A	R	Es	Lb	Ca	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →		13	23	8	16	14	11	14	15	16	20	16		
T SCORE →		45	24	45	62	47	39	35	56	46	39	55		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-MAY HAVE POOR SELF-CONCEPT. PROBABLY WOULD LIKE TO DISCUSS EMOTIONAL PROBLEMS.
-PROBABLY SOMEWHAT ECCENTRIC. SECLUSIVE AND WITHDRAWN. MANY INTERNAL CONFLICTS.
-CONSCIENTIOUS, ORDERLY AND SELF-CRITICAL.
-MODERATELY DEPRESSED, WORRYING AND PESSIMISTIC.
-SENSITIVE. ALIVE TO OPINIONS OF OTHERS.
-HAS CAPACITY TO MAINTAIN ADEQUATE SOCIAL RELATIONSHIPS.
-[illegible] OF PHYSICAL SYMPTOMS AND CONCERN ABOUT BODILY FUNCTIONS FAIRLY TYPICAL FOR MEDICAL PATIENTS.
-CONFORMS REASONABLY TO SOCIAL CODES AND MORES.
-[illegible] MALE INTEREST PATTERN FOR WORK, HOBBIES, ETC.
-LOW ENERGY AND ACTIVITY LEVEL. DIFFICULT TO MOTIVATE. APATHETIC.

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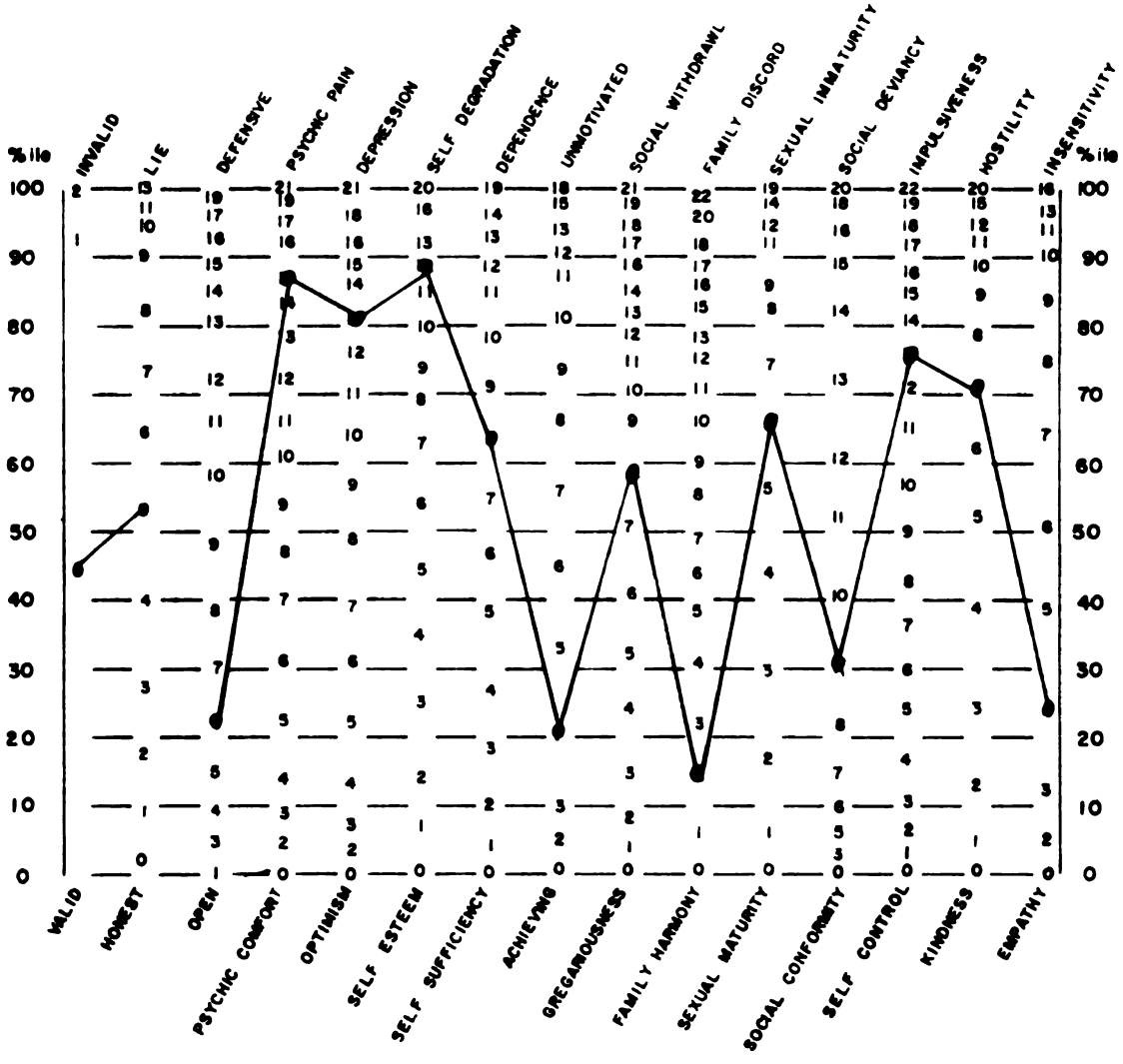
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS -- FORM A

MALE

Name HJ _ NH -8 _____ No. _____ Age _____ Date _____



0	5	6	15	13	12	8	4	8	2	6	9	13	7	4

LG _ NH -9 [illegible]

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

FILE REFERENCE

T SCORE WITH K	RAW SCORE WITH K	T SCORE WITH-OUT K	RAW SCORE WITH-OUT K		T SCORE PROFILE — Plotted With K
				?	?
				L	L
				F	F
				K	K
59	15			Hs +.5K	Hs +.5K
				D	D
				Hy	Hy
57	22			Pd +.4K	Pd +.4K
				Mf	Mf
				Pa	Pa
54	25			Pt +1K	Pt +1K
53	24			Sc +1K	Sc +1K
60	21	7		Ma +.2K	Ma +.2K
				Si	Si

	A	R	Es	Lb	Ca	Dy	Do	Re	Pr	St	Cn	WB		
RAW SCORE →			54	15	5		23	27	3	24	25	10		
T SCORE →			66	74	41		73	60	34	54	50	41		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-TENDS TO MINIMIZE OR SMOOTH OVER FAULTS IN SELF, FAMILY AND CULTURAL SURROUNDINGS.
-INCLINES TOWARD ESTHETIC INTERESTS.
-[illegible]LY ENERGETIC AND ENTHUSIASTIC. VARIED INTERESTS.
-SUBJECTIVELY MORE THAN AVERAGE NUMBER OF PHYSICAL COMPLAINTS. SOME CONCERN ABOUT BODILY FUNCTIONS AND PHYSICAL HEALTH.
-CONFORMS REASONABLY TO SOCIAL CODES AND MORES.
-HAS SUFFICIENT CAPACITY FOR ORGANIZING WORK AND PERSONAL LIFE.
-VIEWS LIFE WITH AVERAGE MIXTURE OF OPTIMISM AND PESSIMISM.
-SHOWS A COMBINATION OF PRACTICAL AND THEORETICAL INTERESTS.
-REACTS TO OPINIONS OF OTHERS WITHOUT UNDUE SENSITIVITY.
-[illegible]LY SOCIALLY OUTGOING AND GREGARIOUS.

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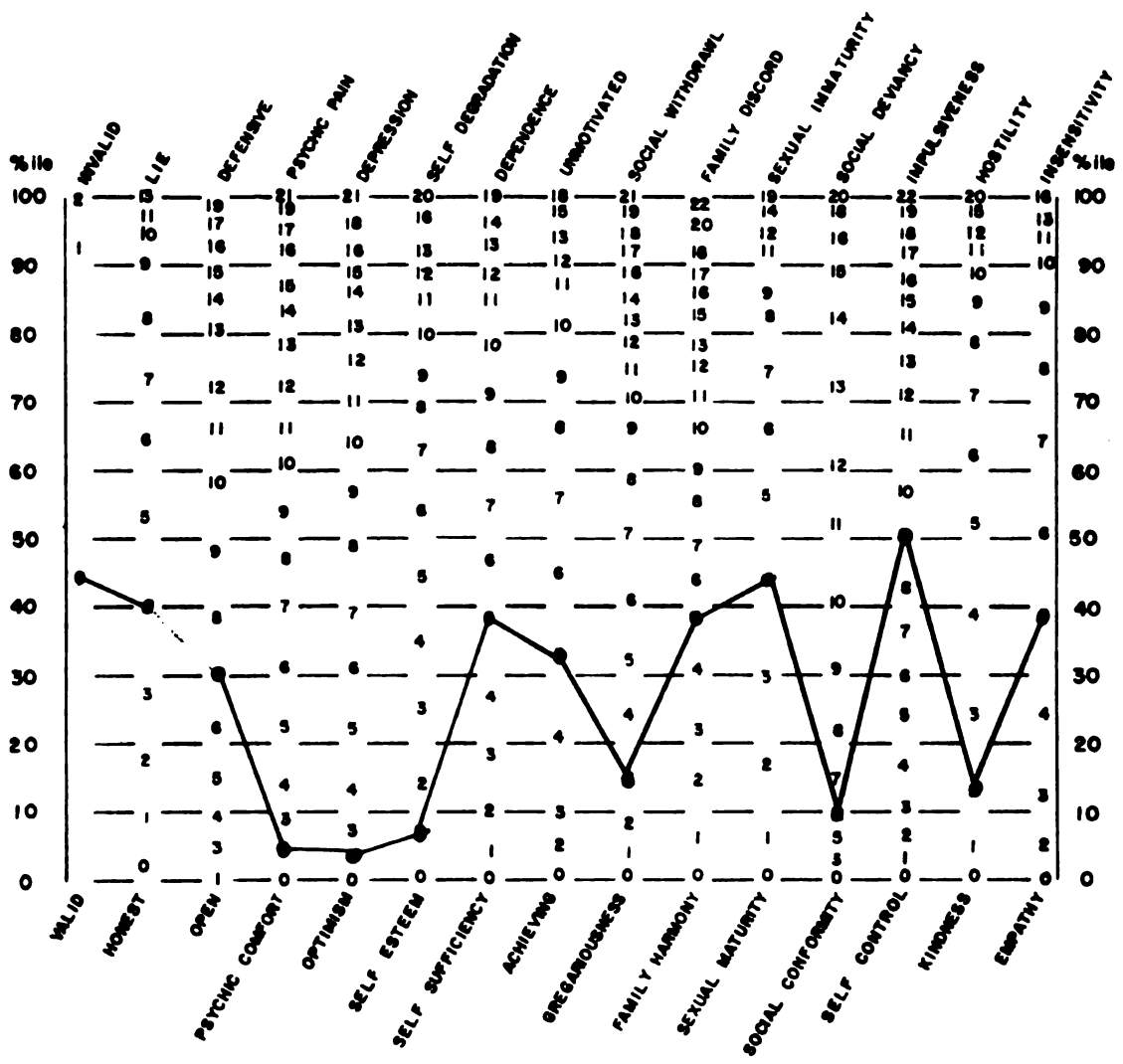
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A
MALE

Name LG _ NH -9 _____ No._____ Age._____ Date_____



0	4	7	2	2	1	5	5	3	5	4	6	9	2	5

LF _ NH -10

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

By Starke R. Hathaway, Ph. D. and J. Charnley McKinley, M.D.

T SCORE PROFILE —— Plotted With K

FILE REFERENCE

Scale	T Score with K	Raw Score with K	T Score without K	Raw Score without K
?				
L				
F				
K				
1 Hs +.5K	41	[illegible]		
2 D				
3 Hy				
4 Pd +.4K	46	17		
5 Mf				
6 Pa				
7 Pt +1K	44	2[illegible]		
8 Sc +1K	46	2[illegible]		
9 Ma +.2K	50	17		
0 Si				

	A	R	Es	Lb	Ca	Dy	Do	Re	Pr	St	Cn	Wb		
RAW SCORE	[illegible]	[illegible]	53	11	8	17	19	25	6	26	21	9		
T SCORE		[illegible]	64	57	47	47	62	52	39	69	4?	38		
	FIRST FACTOR	SECOND FACTOR	EGO STRENGTH	LOW BACK PAIN	CAUDALITY	DEPENDENCY	DOMINANCE	SOCIAL RESPONSIBILITY	PREJUDICE	SOCIAL STATUS	CONTROL			

-... LY SE SITIVE AND I EALISTIC WITH HIGH EST ETIC, CULTURAL
A ... TI TERESTS.
-... S LIFE ITH AVERAGE IXTURE OF OPTIMISM AN PESSIMISM.
-... CAPACITY TO MAINTAIN ADEQUATE SOCIAL RELATIONSHIPS.
-... ACTIVITY LEVEL.
-... L. ... RALISTIC A D CONFORMING.
-... ATION OF PRACTICAL AND THEORETICAL INTERESTS.
-... I ... DEL.
-... T A ... IES. TENDS TO BE ELAXED RE ... ING
RESP... SI ... LITIES.
-... ATI COMPLAINTS. LITTLE CONCERN ABOUT B ... ILY HEALTH.

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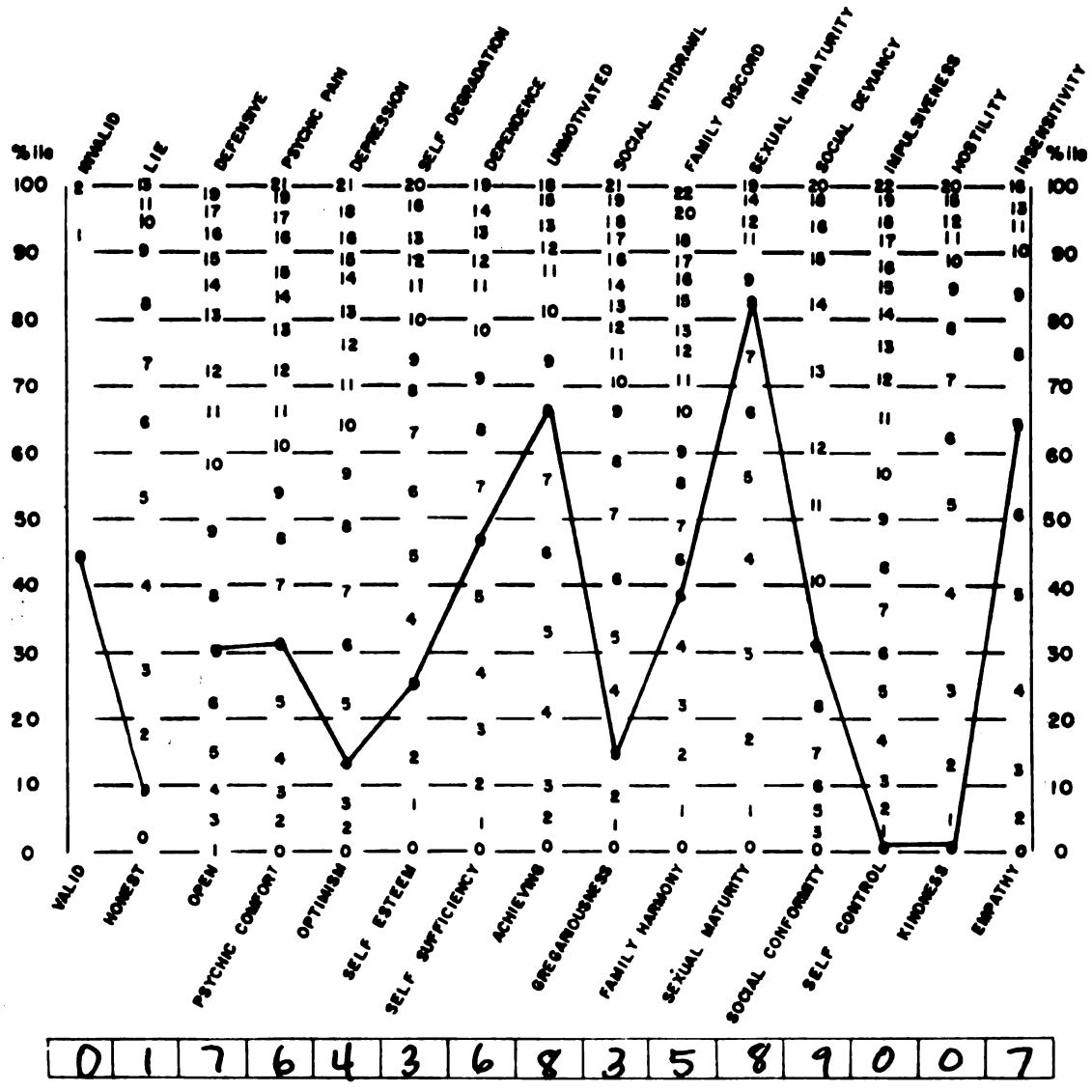
BIPOLAR PSYCHOLOGICAL INVENTORY

OFFENDER NORMS — FORM A

MALE

LF _ NH -10

Name _____ No. _____ Age ___ Date _____



0	1	7	6	4	3	6	8	3	5	8	9	0	0	7

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BIBLIOGRAPHY

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