Addiction and Power: An Investigation of Some Motivational Theories with Heroin Addicts, Alcoholics, and Medical Patients

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ADDICTION AND POWER: AN INVESTIGATION OF SOME MOTIVATIONAL THEORIES WITH HEROIN ADDICTS, ALCOHOLICS, AND MEDICAL PATIENTS

by

Michael E. Carney

A Dissertation Submitted to the Faculty of the Graduate School of Loyola University of Chicago in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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VITA

The author, Michael Edward Carney, is the son of Rosanna (Gorman) Carney and the late James Carney. He was born on September 27, 1948, in Chicago, Illinois.

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Several motivational theories of drug addiction have been developed which postulate that salient motives or predispositions play a significant role in the development of drug addiction. These theories—the psychoanalytic theory as articulated by Rado (1933), the existential theory proposed by Greaves (1974), and the conceptualization based on the work of McClelland, Davis, Kalin, and Wanner (1972)—offer a conceptual framework for predicting which individuals who have taken heroin will become addicted. The psychoanalytic theory postulates that a primary narcissism and depression underlie an individual's attraction to drug-taking. The existential theory attributes an inability to experience pleasure and enjoyment as the basis for the addict's quest for sensation and stimulation through the pharmacological effects of drugs. The power motivation theory, adapted from McClelland et al.'s (1972) research on drinking, conceives addiction as an expression of heightened power concerns. By maintaining that certain salient motives play an integral role in the addiction process, these theories should be able to identify those individuals highly vulnerable to becoming addicted. However, it must be noted that these theories do not ascribe an "addictive personality" type. Rather these salient motives can be present within a diverse range of personality characteristics. These theories have been given little scientific attention either because of their
recent conception or the general and speculative quality of their formulation. In contrast, the prominent theories of addiction (Bejerot, 1972; Lindesmith, 1947; Wikler, 1953) have gained acceptance because of their clarity and internal consistency. Yet their precision has been purchased at the expense of limiting their view to certain aspects of the addiction process and being essentially post-dictive in character. Because these theories fail to predict who will become an addict, they must be considered incomplete. Here the motivational theories can contribute to this important research area by predicting which individuals will become heroin addicts on the basis of central personality features.

Through the selection and employment of measures which correspond to each viewpoint, the present study sought to determine which theory most accurately describes or accounts for the personality features of addicts as compared with other groups. On a more personal level, this research arises from the belief or conviction that addicts are bound by a distinct set of dynamics. It is also spurred by a curiosity about their functioning and personality structure. In his clinical work with addicts, this researcher has been singularly impressed with the addict's alert intelligence, his sensitivity to weakness, his concern for control, and his shrewd manipulations. Yet a consideration of these apparent adaptive qualities along with the eventual social alienation and often self-destruction that results from habitual drug use produces a genuine paradox. This study then was undertaken to reconcile or integrate these opposing aspects
of the addict's behavior and also to contribute some knowledge to the understanding and clinical treatment of heroin addicts.
In light of increasing concern over heroin addiction and its alarming high incidence rate, various theories and speculations have arisen to explain this phenomenon. Several psychological theories of addiction have gained prominence and wide acceptance because of their clarity and internal consistency.

Conditioning theories (Bejerot, 1972; Wikler, 1953) view the addiction process in terms of positive and negative reinforcements. The production of euphoria serves as a strong positive reinforcement (or creates an artificially induced drive) while the cessation of anxiety and tension acts as a powerful negative reinforcement. This viewpoint or paradigm accounts credibly for various phenomena and aspects of drug addiction, specifically the development of physical dependence, the difficulties of withdrawal, and the high relapse rate. Lindesmith's (1947) theory of drug addiction stresses the cognitive factors underlying the addiction process. It highlights the shift of the individual's self-concept to that of an addict and his involvement in the drug culture. This theory accounts for important cognitive and social aspects of addiction, particularly the attraction of the drug sub-culture upon the addict. Although these theories make valuable contributions to our understanding of addiction, they either do not address or minimize the existence of predisposing personality or motivational factors in the development of addiction.
Whatever other deficiencies or shortcomings these theories might possess, they must be considered as offering only a partial explanation of drug addiction. In restricting their focus to the course of addiction and neglecting motivational factors, these theories fail to meet a criterion of scientific theory by their inability to predict which individuals are likely to become addicted.

As Greaves (1974) has observed, these theories are essentially post-dictive in character. Their reasoning leads to the tautology that "drug-dependent persons are those who use enough drugs to become dependent" (p. 265). Because these theories do not elucidate the characteristics or attributes of the drug-user with any specificity, they are unable to identify the potential drug-abuser. By this failure to provide a basis for predictions, they avoid the central dilemma that heroin addiction poses to the researcher and clinician--Why can some people take heroin and not become addicted while others become enslaved by the substance?

This disregard for motivation variables of these theories reflects the views and biases of the larger theoretical framework or perspectives from which they derive. Although Skinner's (1953) rejection of mentalistic concepts represents an extreme position in learning theory, it nonetheless highlights a disinclination to examine personality or individual differences. In a similar manner, Lindesmith's (1947) theory reflects a broader sociological viewpoint which focuses more upon social and cognitive processes than in motivational states.
Several motivational theories have been developed to elucidate the role of personality in the development of addiction. By the nature of their training with its emphasis upon personality development and assessment, clinicians and personality theorists have sought to explain addiction in terms of personality dimensions and constructs. In postulating a salient motive or prepotent need as a condition for addiction, these motivational theories differ from the "addictive personality" approach in that they do not seek a particular configuration of traits typifying all addicts. Rather these central motives are understood to exist within a diverse range of personality characteristics. This conceptualization does not limit the search for one specific character type but allows for considerable heterogeneity.

Behind the weight of considerable evidence, researchers have roundly criticized the concept of the "addictive personality." Few communalities have been found among drug addicts. The appeal of this concept can be traced to its attempt to account for addiction in terms of personality variables. Indeed, it promises a simple explanation for a complex phenomenon. Regardless of the value or usefulness of this concept, it has stimulated research to substantiate its claims and premises. Much of this research has been conducted with the purpose of identifying personality differences between an addict population and non-users.

The "Addictive" Personality

A considerable amount of research with drug addicts has been
undertaken with the purpose of delineating the "addictive personality." This research will be reviewed according to the principal measures utilized in these studies. In light of these research findings, three motivational theories of addiction—the psychoanalytic, Greaves' (1974) existential viewpoint, and McClelland et al.'s (1972) power motivation will be discussed and critically evaluated.

Research on the "addictive personality" has produced mixed and occasionally conflicting results. It parallels in many ways the investigations conducted on the "alcoholic personality" which produced meager findings. Researchers (Gendreau & Gendreau, 1970; Platt, 1975) have characterized this research approach as unproductive and promising little enlightenment of the myriad behaviors subsumed under heroin addiction. In fact, the bulk of the research emphasizes differences that exist within the addict population. Many of the studies (Arnon, Kleinman, & Kissin, 1974; Berzins, Ross, English, & Haley, 1974; Black, 1975; Die, 1974; Hampton & Vogel, 1973) report a marked heterogeneity in the addict population. This heterogeneity would appear to bar claims of the existence of an "addictive personality." Still this reported heterogeneity in itself does not preclude the possibility that a salient motive or need might underlie addiction. Such a motive might be pregnant among diverse character traits and personality differences. While this heterogeneity cannot be disputed, some communalities have been reported which require some consideration and thought.

MMPI studies. In research aimed at identifying those
characteristics which distinguish heroin addicts from other groups, the Minnesota Multiphasic Personality Inventory (MMPI) has been the most frequently utilized measure. The reasons for its popularity lie in its easy administration, scoring, and the interpretability of its results based upon its normative data and extensive research use. Moreover, in the clinical setting, it aids in forming diagnostic judgments and serves as a good screening device for psychopathology.

In a study of 270 male addicts with the MMPI, Hill, Haertzen, and Glazer (1960) found a large percentage of abnormal composite profiles with striking elevations on the Psychopathic scale. They concluded that psychopathy plays considerable role in the etiology of addiction. Through a factor analytic study of the MMPI profiles of alcoholics, addicts, and criminals, Hill, Haertzen, and Davis (1962) found that undifferentiated psychopathy represented the first factor. A total of 54% of the addict sample presented predominantly sociopathic profiles from which the authors inferred that psychopathy was the characteristic personality type of the addict. Gilbert and Lombardi (1967) studied young non-institutionalized males compared with a non-addicted group, controlling for socioeconomic level. Addicts differed from the sample on the scales of Depression, Psychopathic Deviancy, Psychasthenia, Social Introversion and Hysteria. The authors also reported deeper and more widespread pathology in the addict group than in the comparison group. From these differences, they concluded that psychopathic traits were the outstanding
characteristics of the drug addict. The depression, insecurity, and feelings of inadequacy in interpersonal relationships were seen as expressive of accompanying psychoneurotic or psychotic features of their personality. The authors noted that group differences in willingness to admit socially undesirable characteristics were not responsible for the findings.

Berzins, Ross, and Monroe (1971) tested civilly committed NARA patients (Narcotic Addict Rehabilitation Act) with volunteers, probationers, and prisoners. They found that NARA patients differed from the comparison groups in being more egocentric, defensive, and socially maladjusted. They also noted differences in the grand mean profile than with previous studies; depressive features appeared prominent (4-2-8 profile) as opposed to the stereotype of sociopathy (e.g., the 4-9 or 9-4 profile).

Gendreau and Gendreau (1970) criticized previous MMPI studies with addicts on the basis of inadequate comparison group samples. When a comparison group was matched on variables as socioeconomic level, criminal record, and IQ, they found no significant differences between addicts and non-addicts. These results support their claim that positive findings of other studies could be attributed to sampling error and the violation of the assumptions of the t-test. Furthermore, they commented that the similarity between addicts' profiles and criminals' suggest a confound in testing addict criminals which is responsible for the reported psychopathy in addicts.

Although no direct references were made to Gendreau and
Gendreau's (1970) comments, Sutker's (1971) study appeared to respond to their telling criticisms. She tested addicted and non-addicted prisoners on the MMPI by carefully controlled procedures to prevent an overlap between comparison groups, a confound which flawed Hill, Haertzen, and Davis' study (1962). While non-addicts scored within the normal range, addicts exhibited significant elevations on scales of Psychopathic Deviancy, Depression, and Psychasthenia. Consequently, addicts demonstrated more depression anxiety, and concern with bodily ailments than the comparison group. The author suggested that refining the concept of sociopathy might illuminate differences in personality characteristics of addicts from comparable groups.

Sheppard, Fracchia, Ricca, and Merlis (1972) attempted to delineate the sub-types of the addict population. In a study of 336 male narcotic users, the authors found that 33% of the sample could be characterized as sociopathic personalities. This study also supported Hill et al.'s (1962) finding of three distinct sociopathic personality types. Thirty-six percent of the profiles had elevations on the psychotic portion of the MMPI. They concluded that addicts are a heterogeneous psychopathological patient group which therapy calls for different treatment modalities to be employed with various sub-types.

Overall's (1973) findings on comparison between alcoholics with heroin addicts were consistent with previous research studies (Hill, Haertzen, & Davis, 1962; Hill, Haertzen, & Glazer, 1960). He
reported substantial personality differences between alcoholics and addicts. Addicts were generally classified as a "4-9" code type which characterized them as being immature, hostile, rebellious, and poorly socialized. In contrast, alcoholics showed more elevation on the neurotic scales and were labeled generally as passive-aggressive personalities.

Recent studies of military drug abusers with the MMPI (Black, 1975; Hampton & Vogel, 1973) revealed a marked heterogeneity in the addict population. Hampton and Vogel (1973) found that 35% of the profiles were considered normal in comparison to similar MMPI studies in which 4 to 12% had normal profiles. Both studies, however, reported the prominence of sociopathic or psychopathic features in the personalities of addicts (a "94" or "49" profiles).

Sutker and Allain (1973) discovered that unincarcerated heroin addicts exhibited more personality deviance than either non-addict prisoners or addicts who had been imprisoned and drug-free for the last two years. The authors explained this difference in terms of the situational and environmental pressures under which the street addict operates. Imprisonment or hospitalization often provide a temporary relief from these stresses and serve as a period of stabilization.

In summary of the MMPI results with drug addicts, the prevalent findings indicate that addicts manifest prominent psychopathic or sociopathic personality features. And these characteristics are associated with varying incidence rates in neurotics, psychotics,
and personality disorders (Berzins, Ross, & Monroe, 1971; Black, 1975) which leads to the statement that addicts are a heterogeneous psychopathological patient group.

**EPPS studies.** Investigators have utilized other measures to delineate the personality characteristics or need structures of addicts. The Edwards Personality Preference Schedule (EPPS) has been used to assess different personality dimensions than the MMPI. Derived from Murray's (1938) need theory, the EPPS is not linked to psychiatric disorders and symptoms as the MMPI. Controlling for social desirability, it measures basic needs and their interrelationship within the personality organization. Sheppard, Ricca, Fracchia, and Merlis (1974) administered the EPPS to a group of suburban male heroin addicts and a comparison group of non-addicts. They found that addicts were significantly higher on autonomy, change, and heterosexuality and lower than the comparison group on affiliation, order, deference, endurance, and dominance. The authors interpreted the addicts' hierarchy of needs as indicating their desire to be free of restraints and responsibilities in their quest for exciting and stimulating experiences which reinforce their drug-taking. They also commented that the particular constellation of needs exhibited (high autonomy and change; high heterosexuality and low affiliation) represent the presence of personality features that can hinder the development of mature psychological functioning and sexuality.

Reith, Crockett, and Craig (1975) utilized the EPPS with
addicted prisoners and non-addicted prisoners, controlling for age, education, intelligence, and environment. They found that addicted prisoners were higher on the scales for succorance, heterosexuality, and aggression. They were lower on abasement and endurance, reflecting their impulsivity. The authors viewed these high aggression and succorance needs as indicating a central conflict in addicts' ability to express their aggressive drives. They attribute the high heterosexuality score either to a sampling bias (some sex offenders in the comparison group) or to the addicts' preoccupation with sexual fantasies. However, this speculation appears inadequate in light of similar findings on heterosexuality reported by Sheppard et al. (1974). In their defense, Reith, Crockett, and Craig (1975) were apparently unaware of similar findings reported in Sheppard et al.'s (1974) study of the previous year. Nevertheless, the authors' inference of addicts' greater preoccupation with sexual fantasies fails to explain this finding and overlooks its dynamic implications. Given the results of these two studies, it seems reasonable to infer that addicts view sexuality as a medium to express their aggression. Coupled with their low affiliative need, sexuality allows them to display their dominance and power, an area where they have little fear of retaliation or punitive reaction.

Chambers (1972) used the Picture Identification Test (PIT) to measure need associates of heroin addicts as compared to a normative adult male sample matched on age and education. Subjects were required
to match 21 descriptions of needs with six pictures. This produces an association between a particular pair of needs each time a subject attributes both needs of the pair to the same picture. On the assumption that association frequencies of normals are indices of compatibility of needs, Chambers noted those associations which discriminated the addict group from normals and suggested that these differences highlight the salient motives of drug-users. The addict sample was reported to have pairs of higher affiliative and succorance associations, lower affiliative and endurance associations, and higher aggression and nurturance associations. Through stepwise discriminant analysis the author interpreted the findings in these ways: (a) addicts are unable to react appropriately to frustration as a result of being unable to choose between persistence and self-justification when things go wrong; (b) addicts develop relationships for security in contrast to normals' view of attaining pleasure and recognition. Moreover, they seek security from those not really capable of providing it; (c) addicts find it more difficult to maintain peer relationships in the face of frustration; (d) addicts, in contrast to normals, do not associate desire to succeed with fear of failure, an association that usually produces high level of motivation; and (e) in interpersonal relationships, the benevolent feelings of addicts are compromised by aggressive and destructive impulses.

Sheppard, Ricca, Fracchia, and Merlis (1975) attempted to replicate and extend Chambers' findings (1972) on need conflicts
through using a more objective measure as the EPPS with methadone outpatients. Their findings partially supported Chambers' results in that addicts manifested lower affiliation/endurance needs. However, conflicts between aggression and nurturance did not emerge. With results similar to their previous study, addicts were found significantly higher than the normative group scores on heterosexuality and autonomy and lower on affiliation and endurance. On the basis of these findings, the authors characterized addicts as people concerned with being considered physically attractive and maintaining strong contact with the opposite sex. They seek to be completely autonomous, free from conventional restraints, and unburdened with responsibilities or obligations. In a factor analysis of addicts' responses on the EPPS, Fracchia, Sheppard, and Merlis (1975) found that associate patterns of addicts' needs is consistent with intra-interpersonal conflict. Whereas the normal group showed a more healthy pattern of need clusters, the needs within the cluster for addicts were often inconsistent with each other.

Regarding the need structure of addicts, investigators have shown some consensus in their findings. Heroin addicts have displayed consistently high scores on needs of aggression, autonomy, and heterosexuality and low scores on endurance and abasement. However, considerable differences arose with respect to findings on needs of succorance and affiliation. In some studies, these needs were able to differentiate the addict from comparison or normative groups. These differences might be attributed to sampling variation.
Reith, Crockett, and Craig (1975) sampled Canadian prisoners; Chambers (1972) used an USPHS hospital group at Lexington, and Sheppard, Ricca, Fracchia, and Merlis (1974) measured outpatients in a county methadone program. These differences between studies may also be due to differing personality types and conflicts within the heroin-addicted population.

Other measures. Perhaps because of the heavy reliance upon the MMPI and EPPS as psychological measures in addiction studies, a recent trend in the research has been the selection of different measures to assess other important psychological variables. Kurtines, Weiss, and Hogan (1975) administered the California Personality Inventory (CPI) to compare differences among heroin abusers, marijuana users, psychiatric patients, delinquents, and police officers. Heroin users were found to score significantly below every group on Responsibility and Socialization (scales that are essentially uncorrelated with intelligence and social class). Their profile scores indicated that although these men were relatively normal in terms of interpersonal effectiveness, they lacked interpersonal maturity and responsibility. These addicts were described as self-confident, impulsive, and self-indulgent. From these results the authors speculate that heroin use arises from a "general background of hostile and anti-social tendencies rather than from a profound sense of interpersonal inadequacy" (p. 89).

Platt (1975) in a well-controlled study of addict and non-addict offenders sought to validate "addiction-proneness" on personality
dimensions theoretically related to this concept. To achieve this end, he investigated traits rarely focused upon in other addiction studies. With the Adjective Check List he found that heterosexuality, exhibitionism, and autonomy differentiated the addict group from a comparison group. High sensation-seeking, experience-seeking, and low death concern were also variables which significantly characterized the addict group. Differences expected on the basis of addiction-prone theory on self-control, personal adjustment, achievement, order, nurturance, affiliation, and deference did not emerge. Since the study did not reveal meaningful differences between addicts and non-addicts, the author strongly questions the usefulness of the concept of the "addictive personality."

The locus of control variable (Rotter, 1966) has also been examined in its relation to heroin addiction. It is defined as a bipolar dimension in which the internal pole refers to a generalized expectancy that important reinforcements in one's life are controlled by the individual. The person himself then is the cause of whatever rewards he receives. External locus of control refers to the expectancy or belief that chance, destiny, fate, or luck bestow rewards upon us rather than our own actions. Berzins and Ross (1973) compared an addict sample with a comparison group and found that addicts were more internally oriented. They explained this finding in terms of the intrinsic rewards which drug-engendered mastery of feelings provides. This internal control orientation is also consistent with the behavioral independence so characteristic of the typical addict.
Calicchia (1974) replicated this study and found that methadone outpatients were more internal than those addicts undergoing abstinence. Obitz, Cooper, and Madeiros (1974) compared delinquent drug-users on locus of control with Rotter's norms. Their sample was more external than the normative group. However, the results of this study can be challenged because a comparable control group was not obtained. The applicability of Rotter's normative group to serve as a control is strongly questioned. In Platt's (1975) carefully controlled comparison of addicts and non-addicts, no differences on this dimension were found when group differences on important demographic variables were controlled by means of a covariation procedure.

Projective tests have also been employed to delineate the psychological characteristics of the addict. Knight and Prout (1951) tested 75 heroin addicts on the Rorschach and the Thematic Apperception Test. The Rorschach results revealed that addicts have a barren inadequate personality, motivated by immature needs and immediate goals. The Thematic Apperception Test (TAT) protocols were characterized by an insecurity and unwillingness to comply with demands of authority. In an analysis of Rorschach responses Zimmering, Toolan, Safrin, and Wortis (1952) characterized the heroin addict as a non-aggressive, non-impulsive individual in whom self-esteem plays an important role. With weak ego development, his initial impulses generate conflicts to which he reacts with defenses of repression, inhibition, restrictions, denial, reaction formation, projection, and rationalization. Consequently, anxiety is easily evoked while aggression is markedly
absent. They state that the self-concept of the addict is one of inadequacy, confusion, and impotence. However, it must be noted that the preceding comments are quite interpretive in nature and show a remarkable congruence with the psychoanalytic view of addiction.

Gerard and Kornetsky (1955) compared Rorschach responses between addicts and a comparison group. They found that addicts' responses were "meager and constricted." By the addicts' strong reliance upon form, the authors inferred that addicts "lack the richness and variety of resources necessary to function in novel, unstructured, or stressful situations" (p. 466). Chein, Gerard, Lee, and Rosenfield (1964) supported these findings of the constricted reactivity of the addicts on the Rorschach. Moreover, they characterized addicts' TAT stories as preoccupied with themes of destruction and ruin.

Kaldegg (1975) compared British heroin addicts on measures of the Eysenck Personality Inventory, Draw-A-Person Test, Krout's Personal Preference Scale, and one TAT card with norms on other deviant groups. Significant differences were found only on the Personal Preference Scale and the TAT card. Addicts scored significantly lower than normals on the masculinity scale and significantly higher on the femininity scale. However, these patterns of scores did not indicate a homosexual orientation. With the TAT, addicts exhibited a preoccupation with death, conceivably due to the real dangers associated with heroin use.

To identify the personality characteristics associated with heroin use, researchers have generally compared an addict sample with
a comparison group. Yet these studies and their findings have been subject to great criticism due to questions concerning the selection of these groups. Gendreau and Gendreau (1970) have presented alternative explanations that all positive findings on specific characteristics of addicts can be accounted for by faulty selection of comparison groups. They criticize Zimmering et al.'s findings (1952) because they were based on an inadequate number of control subjects and did not employ statistical tests to determine differences. Gerard and Kornetsky's findings (1955) are held suspect because controls were paid for their participation while the addicts were not and the tests were not scored blindly. Other studies receive criticism (Gilbert & Lombardi, 1967; Hill et al., 1962) for failure to control for age, IQ, degree of criminal activity, and the number of t-tests employed. Gendreau and Gendreau (1973) questioned Sutker's (1971) finding of significant differences between addicts and non-addicts on the basis that the addict sample had volunteered for treatment. They maintained that this volunteer status could bias the results and supported this objection by referring to their study in which volunteer samples, regardless of diagnostic classification, showed elevated MMPI profiles. They speculated that if the volunteer effect was more closely controlled, differences between groups might not materialize.

Sutker (1974) responded to these comments by reporting that in further statistical analysis of the data, the volunteer factor did not account for the major proportion of previously reported differences.
However, she readily conceded that differences in groups may not necessarily be attributed to "addiction-prone" personality features. Citing her own previous research (Sutker & Allain, 1973) in comparing street addicts to incarcerated addicts, she hypothesized that differences may reflect long-standing personality features interacting with temporal, situational, and drug-related factors. Granted these contingencies, she claimed that a high level of psychopathy appeared to be a stable attribute of the addict.

To counterbalance Gendreau and Gendreau's (1973) thoughtful criticism of those studies aimed at delineating the distinct personality characteristics of heroin users, Platt and Labate's (1976) comment regarding the difficulty of finding equivalent groups is well taken. They raised the question, "Where does one find a group comparable to those men in treatment at the Public Health Service Hospital at Lexington, Kentucky?" (p. 148). It should also be considered that several studies which demonstrated differences between addicted and comparison groups (Kurtines, Weiss, & Hogan, 1975; Reith, Crockett, and Craig, 1975) reported that age, intelligence, environmental background, and social class had relatively little effect on the findings.

In view of his well-controlled study, Platt (1975) has raised serious questions about the usefulness or viability of the "addictive-personality" approach. Along with others, he has pointed out that such research cannot determine whether personality differences exist prior to the drug habit or are the result of the addiction and its accompanying life style. Several authors (Gendreau & Gendreau, 1973;
Sutker & Allain, 1973) suggest directions for future research, specifically in ascertaining changes in psychological states during the course of detoxification and treatment. Still Sutker (1974) maintains that it is premature to disregard the concept of the "addictive-personality." In the early research stages of this complex problem, she warns that little benefit can be derived from dismissing this research and harm might even be incurred by preventing its further development.

Regardless of the controversy and disagreement surrounding the "addict-prone personality," the idea that addiction is not a unitary concept receives nearly universal consensus. Researchers agree that addicts are a heterogeneous population with respect to a number of important variables—whether it be field dependence (Arnon, Kleinman, & Kissin, 1974), or on degree and forms of psychopathology (Black, 1975; Gilbert & Lombardi, 1967; Hampton & Vogel, 1973). Nonetheless, some general qualities of addicts are reported in most studies. Addict samples show a significant amount of psychopathology, including psychopathy, high levels of anxiety, and some neurotic and psychotic characteristics. Addicts are described as having low frustration tolerance, an inability to delay gratification, and the predominance of such traits as autonomy, heterosexuality, and aggression. However, as Platt and Labate (1976) comment, these traits have not been "documented consistently or employed satisfactorily to explain heroin use in all addicts. There is actually contradictory evidence on many points" (p. 154).
Addict Typology

Granted this heterogeneity of the addict population, a promising area of research lies in the development of an addict typology. Some of the proposed typologies share many common features, notably their distinguishing the functions the addiction serves for different personality types. Ausubel (1958) typified this approach in his three categories of addiction: (a) primary addiction in which opiates have specific adjustive value, (b) symptomatic addiction in which the use of opiates is only an incidental symptom of behavior disorder, and (c) reactive addiction in which drug use represents a developmental phenomenon influenced by peer group norms. Based on his research and clinical experience, Weissman (1970) formulated the diagnostic sub-grouping of addicts according to the following classifications: (a) the sociopathic addict, (b) the depressed-appearing addict, (c) the depressed-feeling addict, and (d) the emotionally unstable addict. Through a cluster analysis of MMPI profiles, Berzins, Ross, English, and Haley (1974) labeled one sub-grouping as Type I addicts. These men showed elevations on Depression, Psychopathic Deviate, and Schizophrenic scales. These scores reflected high levels of subjective stress, noncomformity, and confused thinking. Type II addicts tended to have single peak on the Psychopathic Deviate scale and were characterized as self-satisfied as individuals and addicts. Recent research (Die, 1974; Ogborne, 1974) paralleled closely in establishing a dichotomy in the addict population. Die (1974) distinguished the sick vs. the healthy self-presenters while Ogborne
(1974) classified addicts as either "enhancers" or "avoiders." Both the healthy self-presenters and "enhancers" could be viewed as Type II addicts. Sheppard, Fracchia, Ricca and Merlis (1972) distinguished at least three sub-groupings: (a) the sociopathic addict, (b) the schizotypic addict, and (c) the neurotic or relatively well adjusted addict. The value of such typologies lie in their clinical use to determine the treatment modality most suitable to each client. This diagnostic knowledge would help shape and develop treatment strategies.

Motivational Theories

Another promising approach with which this paper will concern itself focuses upon identifying a salient motive underlying drug use. A powerful motive may lie at the source of diverse behaviors that are unrelated to each other. Although some traits are likely to be dominant, a certain variation in characteristics might be expected with such a conceptualization. A regnant motive would also be likely independent of degree of pathology. Such a preeminent motive may be the source of unity in the complex behaviors grouped under addiction.

In search for central motives, each of these three motivational theories of heroin addiction--the psychoanalytic, existential, and the power motive--will be discussed and evaluated in terms of its compatibility with research findings. With each theory the central motives will be identified. Following this process, hypotheses will be developed as to which theory will be best able to account for the empirical differences between an addict sample and other groups on selected measures derived from the respective theories.
The psychoanalytic theory of addiction. Psychoanalytic literature traces drug addiction to a regression to a primitive developmental level. According to Rado (1973), certain individuals experience considerable difficulty in making the adjustment and transition from the narcissistic system to the "realistic regime of the ego." Fenichel (1945) commented that the addict was unable to effectively bind anxiety. The euphoria and elation that drugs produce allow the ego to revert to primary narcissism in which it feels omnipotent and free from reality constraints. This level of regression is conveyed less in the image of the return to the breast as in the total fusion with the mother. Savitt (1963) draws an analogy between the injection of the heroin to the interuterine link between the fetus and the mother. Moreover, the narcotic craving and subsequent stupor or "nod" evokes the infant's alternation between hunger and sleep.

In the ego's development, narcissistic injury is incurred by its attempt to incorporate the frustrating love object and its direct hostility against it. From this reaction a tense initial depression ensues. This depression is the precipitating etiological factor because it sensitizes the individual for the pharmacogenic pleasure effect. The euphoria and elation derived from the drug restores the addict's sense of well-being by relieving this depression and anxiety. Upon the abatement of the drug's pleasureable effects, Rado (1933) states that the addict's depression and guilt intensify only to be alleviated by the elation produced by the narcotic. Consequently, the "pharmacothymic regime" is established in which elation and
depression alternate in phases giving rise to greater drug use. Effects of the drug can stave off depression which eventually generates a craving for the drug. Rado (1933) noted that as drug-taking continues, physiological tolerance of the drug increases so that the experience of elation becomes elusive. Despite desperate increases of dosage, the diminishing effects of the drug produces catastrophic feelings.

Savitt (1963) attributed the origin of depression to maternal neglect and inadequate parental care and support. From his clinical studies, Savitt noted that the addict's household was characterized by a tense emotional climate in which one or both parents were ambivalent about having the child. Savitt described the ego organization as archaic in being readily vulnerable to disintegration from instinctual impulses. The archaic ego organization does not enable the addict to "tolerate a present deprivation in anticipation of a future gratification or gain" (p. 49). They rapidly become disorganized and revert to primary process behavior in search for immediate gratification. Moreover, their archaic type of object relationship in which incorporation is linked with total destruction of the object compels the addict to bypass the oral mode to be sustained through his vascular channel. Savitt strongly emphasized this regression to pregenital stages in which the compelling fantasy is fusion with mother.

Addiction then binds tension and frustration by allowing immediate gratification and pleasure. Glover (1932) speculated that
drug addiction serves a defensive function by controlling sadistic impulses and possibly defend against psychotic regression. Savitt (1963) hypothesized that addiction protects individuals from incestuous desires while Glover (1932) suggested that it is dynamically related to homosexuality, with the narcotic symbolizing semen or the phallus of the father.

Khantzian, Mack, and Schatzberg (1974) view drug use as an attempt to cope and resolve conflicts. In place of established defensive or characterological adaptive mechanisms, addiction represents a costly form of adjustment by managing painful feelings and emotions. By short-circuiting feeling, particularly those associated with loss, addiction relieves interpersonal anxiety and social distress. In addition, the drug culture provides a stabilizing force through its social network and community, bonded by their shared rituals, practices, values, interests, and life-style. Extremes of deprivation or indulgence of dependency needs have prevented the development of adaptive defense mechanisms and the capacity to tolerate anxiety.

In summary, psychoanalysts understand heroin addiction as resulting from an archaic ego structure which cannot tolerate anxiety and frustration. Whether due to early damage to self-esteem, maternal neglect, or overindulgence of dependency needs, the addict regresses through pharmacological agents to a narcissistic state in which his depression and anxiety are alleviated and immediate gratification is attained. Once the pharmocysthmic regime is established,
drug use functions as a means to cope with a broad range of interpersonal problems. In psychoanalytic theory of addiction, analysis focuses upon the addict's underlying depression, his archaic ego structure, and his narcissistic orientation to account for this disorder.

Research findings supporting this theoretical viewpoint are few and inconclusive in character. Part of the difficulty in evaluating this theory has been the relatively few measures utilized and the narrow group of personality dimensions investigated in the research. In fact, no studies were found that directly tested the psychoanalytic perspective. However, some research has investigated some variables related to this theory and these will be examined. Although many studies (Gendreau & Gendreau, 1970; Hill et al., 1962; Overall, 1973) did not find depression as distinguishing addicts from other groups, two studies (Gilbert & Lombardi, 1967; Sutker, 1971) reported elevations on the depression scale on the MMPI for addicts. And Berzins, Ross, English, and Haley (1974) found depression to characterize only a subgroup of the population.

With respect to the quality of ego organization, measures used in research related to this dimension were ego strength (Gilbert & Lombardi, 1967) and personal adjustment (Platt, 1975). No significant differences were found on these variables in comparing addicts with equivalent groups. The degree of narcissism has not been directly assessed in the research, due perhaps to the lack of measures or scales for this construct. However, addicts exhibited an extremely
low level of empathy (Kurtines, Weiss, & Hogan, 1975), a quality believed inversely related to narcissism. Before a final judgment can be made regarding the applicability of this theory, further scientific investigation is required which by operationalizing its concepts can test them directly.

Existential theory of addiction. Greaves' (1974) existential theory of drug dependence developed from his dissatisfaction with the prevailing theories of heroin addiction. He criticized these theories for their failure to predict with any precision which individuals will become drug-dependent. Indeed, he observed that most theories are postdictive in character. These theories can marshal impressive evidence and cogent reasoning to account for the addiction after the fact. And Greaves readily conceded that several theories can provide illuminating explanations for some aspects of the addictive process, primarily the problems of tolerance and withdrawal. But they are simply unequipped to identify a particular subgroup of the population that will become addicted.

In view of the inadequacies of these theories, Greaves fashioned a theory which would meet the formal criteria of scientific theory. Such standards include the following: (a) the theory accounts for known facts; (b) hypotheses derivable from the theory be consistent with known facts and predict new facts; and (c) the theory be both predictive and discriminatory.

Mindful of these criteria, Greaves constructed his theory based from three observations made concerning drug-dependent persons and
alcoholics. The first observation refers to drug-dependent subjects' fundamentally disturbed sex life. Sexual dysfunction is reported to accompany addiction, with problems ranging from disinterest to impotence. It is generally accepted that heroin addiction interferes and disrupts normal sexual functioning. Drawing on addicts' difficulty in experiencing pleasure in sexual relations, Greaves claimed that this fundamental problem preceded and caused their drug use.

Greaves also saw significance in drug-dependent individuals' inability to play and be spontaneous. He claimed that little in the straight world excites or attracts them. Addicts are preoccupied with the drug life-style and appear alienated from the creative, joyful, and spontaneous aspects of their own selves. According to Greaves, they are disinterested in their own fantasies and productions and they become narrowly concerned with the maintenance of their habit. His third observation derived from the view that overdrinking in alcoholics springs from a lack of somatic feedback.

Integrating these observations into a logical theory, Greaves postulated that addicts are individuals who have a deficit in experiencing sensory pleasure. These people demonstrate an inability to create or enjoy natural euphoria that is commonly derived from such activities as play and sex. Consequently, drug use is understood as a way of overloading their faculties or senses to create a passive means of euphoria. Since normal activities do not produce this effect, addicts find extraordinary means to overcome this
deficit to experience pleasure. This passive euphoria then provides some relief from their ordinary dysphoric life-style.

Accordingly, this theory contends that individuals who exhibit difficulty in experiencing bodily pleasure and seem unable to abandon themselves in play or fantasy will likely become addicts. For these individuals, addiction serves a valuable function by providing an experience which they can not derive from another source.

Heroin addiction research has not directly explored this hypothesis. However, some indirect support can be garnered for this viewpoint from recent studies. Both Herl (1971) and Platt (1975) found that addicts differed from non-addicts in terms of a greater preferred level for self-stimulation or sensation-oriented experiences. This quest for experience is confirmed in Sheppard et al.'s (1974) finding that addicts showed higher scores on the Change scale of the EPPS. This score is viewed to express a heightened need for stimulation and new experience. Also, Gerard and Kornetsky's (1955) observation of addicts' constricted fantasy life is also consistent with Greaves' theory.

**Power motivation.** A third motivational theory of addiction derives from the research of McClelland, Davis, Kalin, and Wanner (1972). They have proposed that power motivation plays a causal role in heavy drinking and alcoholism. Although their studies were concerned only with drinking, their ideas and conceptualization might lend themselves to an understanding of heroin addiction since both syndromes are rooted in drug-dependency. Mindful of this
apparent relationship, the present author seeks to determine whether power motivation can illuminate and explain the addiction process.

McClelland et al. (1972) defined power motivation as a "concern with creating impact through vigorous strong action, through concern with reputation, or through arousing and focusing the strong emotions of others" (p. 118). Winter (1973) described it simply as a disposition to strive to feel powerful. This focus and conceptualization of power did not guide the researchers' initial investigations but rather was its product. Originally McClelland et al. sought to determine why people drink alcohol in small amounts in social settings and what the psychological effects of alcohol are. Alcohol consumption was found to produce striking psychological changes within individuals as assessed through their fantasy productions. The nature of these changes led the researchers to conceptualize the power motive as an important variable underlying drinking. Their findings and the development of this thinking will be traced and discussed.

In a series of experimental studies on fantasy, an analysis of TAT protocols revealed that alcohol increased thoughts of physical sex and aggression and decreased thoughts of non-physical aggression, time concern, and fear. Moreover, it was found that pre-drinking scores on sentience (including categories of physical sex and aggression) and inhibition (aggression restraint, fear, and time concern) were able to predict the amount of alcohol consumed. Another study was conducted to test the effect of setting (a
classroom vs. an apartment situation) on alcohol consumption and accompanying changes in fantasy. In a relaxed setting their findings on changes in fantasy were confirmed. However, an inhibiting setting virtually reversed their previous results. It greatly decreased sentient thoughts and increased the number of inhibiting themes scored.

Seeking corroboration of their experimental results and investigating factors related to heavy drinking, they analyzed folk-tale content of heavy and light drinking societies. As in McClelland's (1958) work with need for achievement, folk-tales were viewed as collective fantasies. Sampled over a wide variety of cultures, these folk-tales would provide a touchstone for understanding the psychological variables underlying alcoholism. To analyze these stories, they developed an elaborate system by which various words were grouped under concepts or tags. These tags refer to groups of words which are thought to be conceptually related. Through a complex series of correlations between these concepts, levels of drinking, and sociological variables, they found that three of the five aggression tags correlated positively with heavy drinking. But in surprising fashion, war and aggression described as phallic individualistic acting out (with tags of arrow, spear, knife) correlated with drinking. Contrary to some theories of alcoholism, fear, anxiety, and oral themes did not correlate with heavy drinking.

Through an analysis of the relationships between sociological variables and drinking, they found that relatively sober societies
were highly organized, hierarchical, often agricultural communities which offered wide support to its member and stressed inhibition and respect. Whereas heavy drinking societies were characterized by low male solidarity. Interpreting these results, McClelland et al. theorized that men living in unstructured societies sought magical ways like drinking to face their problems. They also hypothesized that heavy drinking was related to specific conflicts engendered by this particular type of society. Noting that heavy drinking correlates positively with need for achievement and obedience in children (variables unrelated to each other), they ventured that such coexisting motives in a society generate deep-seated conflicts within its individual members. For every man is expected not only to be assertive, but also obedient. Receiving little support and having few prescriptions of behavior available, he turns to alcoholic consumption to resolve his problems. Heavy drinking, conceived as a quest for magical potency, then, represents an expression of impulsive power concerns. The relationship between folk-tales, heavy drinking societies, and indices of low solidarity, reflect, according to McClelland et al. (1972),

a heightened concern with a primitive type of non-instrumental assertiveness both ego-enhancing to the actor and peculiarly promoted in those societies that leave the individual on his own in which he is repeatedly forced to prove himself. . . . drinking arouses those feelings of assertiveness which satisfy such a need for potency. (p. 74)

Further analysis revealed that hunting societies were characteristically heavy drinking societies. This fact was explained on
the basis that hunting is a high risk, low probability enterprise. In a sense the hunter is valued and esteemed solely upon his recent successes in the field. It is an activity which constantly questions and challenges the hunter's prowess, competence, and even sense of manhood. Valiant efforts and work may yield no recognition or rewards. In an open-class system the failed hunter merits little prestige and can not rely upon social mechanisms to maintain status or prestige. He is compelled continually to assert himself to maintain his respect and reputation. They articulated the hunter's dilemma: "individuals who are required by their society to be continually assertive and successful but who are also prevented from gaining permanent prestige, turn to drink as an immediate means of gaining momentary feelings of power" (p. 92). Two social syndromes can be delineated, with one promoting power concerns and heavy drinking by simultaneously requiring and thwarting an individual's assertiveness. In contrast, other societies encourage effective power actions and inhibit both drinking and its associated state of mind by promoting social solidarity through loyalty and cooperation.

Drawing support for their approach to understand drinking through the concept of power from this analysis of earlier societies' fantasies and social structure, they investigated the relationship of the power need (n power) with behaviors among college students. It was found that n power correlated with office-holding and participation in sports. However, n power received expression in other forms of behavior such as having prestige possessions, aggressive
sexual behavior, and "vicarious power experiences" such as reading Sports Illustrated and Playboy. This network of relationships led them to state that n power "is an underlying genotype or personality disposition that draws together and relates a wide variety of actions, many of which do not appear to be related" (p. 117).

These findings from both cross-cultural studies and behavioral correlates led to the development of new scoring categories for the power motive. Power themes which expressed altruistic concerns and caution about the uses of power were designated socialized power (s power) concerns. This classification implies a type of power that is oriented toward social ends in a socially acceptable manner. The presence of high s power is associated with high inhibition. Themes of power used for selfish interests or personal domination were called personalized or impulsive power concerns (p power). These strivings are associated with low inhibition. Inhibition was operationally defined as the number of no, not, and never counted in the TAT stories.

Reanalyzing their previous findings with these new categories, McClelland et al. discovered that s power thoughts dominated at low levels of drinking. But at higher levels of drinking, p power increases while s power and inhibition levels decrease. These results spurred experimental studies with adult males to explore the relationship of power and inhibition in the natural setting of a working-class bar. In this bar study they found that heavy drinkers not only think of power in more personalized terms (p power) to start
with than light drinkers, they think that way even more after drinking as compared with men with light drinking histories. For the heavy drinkers, p power thoughts predominate over s power thoughts to a significant degree both before and after drinking. Heavy drinking then is correlated with high p power and low inhibition. In a final ingenious study which utilized the Blind Man Game to isolate nurturant needs from power strivings, they received further evidence that drinking can be attributed more from power concerns than from strivings for nurturance and dependency.

Their review of the literature on alcoholism criticized the dependency theory of alcoholism for its failure to explain light drinking, in the faulty inferences made from the data, and the citing of support from poorly controlled studies. They have argued persuasively that much of the research findings drawn from a variety of methods (longitudinal investigations, cultural analyses, and experimental studies) fit their explanation with regard to power strivings more than it does the traditional dependency hypothesis.

In conclusion, McClelland et al. postulated that heightened power concerns arise from conditions in which there are strong demands for male assertiveness, low support for the male role, and the lack of socialized power outlets.

Cutter, Key, Rothstein, and Jones (1973) replicated McClelland et al.'s bar study with hospitalized alcoholics. They found that the more inhibited men drank less alcohol when liquor was freely available. Contrary to McClelland et al.'s findings (1972), increased
scores on n, p, and s power concerns for subjects who drank more alcohol were not found. The authors concluded that inhibition appears to be more relevant to alcoholism treatment than the concept of power. However, a possible explanation for these conflicting results might lie in the nature of the setting of the experiment. Notwithstanding elaborate efforts to create a relaxed atmosphere as detailed in Key's study (1972), the institutional setting might still have an effect in obscuring the changes in fantasy produced by alcohol.

As Winter (1973) carefully delineated, there exist two types of motives associated with any goal—getting to the goal (approach) and moving away from the goal (avoidance). He considered this distinction particularly applicable to the power motive since power has characteristically been sought and valued, and it has evoked fear and condemnation. Thus, Winter proposed three motive scores—overall salience (n power), approach to power (Hope of Power), and avoidance of power (Fear of Power).

Since McClelland et al. (1972) found that p power and s power predicted difference behaviors, Winter utilized this finding as a way to isolate approach and avoidance aspects of power. If a story had been scored for power imagery and the subcategories in the usual way, it could then be further classified as exhibiting either a Hope of Power or Fear of Power theme. Winter (1973) defined Fear of Power in the following manner:

A story is classified as Fear of Power if any of the
following themes are present: (1) an explicit statement that the power goal is for the benefit of some other persons or cause; (2) guilt, anxiety, self-doubt, or uncertainty on part of the person concerned with power; of (3) irony and skepticism about power as shown by the story writer's style. Each of these characteristics is a kind of check or control on pure power, either by a force within the person. . . or by external forces that operate through social values. (p. 146)

This partition of the power motive also predicted different behaviors and actions. Hope of Power was found to be correlated with impulsive aggressive behavior, prestige possessions, drinking, and vicarious power experiences. Fear of Power was associated with paranoia, high autonomy, high arousal, and certain types of profanity. Fear of Power and Hope of Power correlate highly with the corresponding categories of s power and p power. Although these are obviously related concepts, they are distinct. They do not always predict the same behavior. For example, s power predicts office-holding in some organization. But in Winter's terminology, Hope of Power is consistently related to office-holding.

Finally, different assumptions accompany each of these sets of categories. McClelland et al. view p power in a negative fashion and recommend a treatment program in which this motive can be transformed and expressed into a more socially constructive manner (s power). On the other hand, Winter does not make an evaluative judgment regarding either. In his view, both can be instrumental toward constructive or destructive ends. Indeed, his careful reasoning leads one to speculate that extremes on either dimension will likely result in some form of aberrant or undesirable behavior.
As stated earlier, this concept of power motivation has not been directly applied to the study of heroin addiction. However, it offers genuine promise to the field of heroin abuse for several reasons. In the first place, this concept has been developed from investigations with another form of addiction--alcoholism. Since these disorders are often grouped together, applying this concept to heroin addiction appears to be a reasonable and logical step. Perhaps even more importantly, this motive shows a remarkable consistency with the documented research on addicts. The repeated findings of addicts' elevations on the Psychopathic Deviate and Hypomanic scales of the MMPI (Hill et al., 1962; Overall, 1973; Sutker, 1971) can be interpreted as an expression of personalized power, in their desire to be free from conventional restraints and rules. Their salient needs of aggression, autonomy, and heterosexuality (Reith, Crockett, & Craig, 1975; Sheppard, Ricca, Fracchia, & Merlis, 1975) can reflect their intense power concerns. Particularly their high heterosexuality score coupled with low affiliation highlights their propensity to view relationships in terms of power, control, and dominance. Sexuality then presents an area of challenge and conquest in which tenderness and intimacy appear to hold little importance. This low affiliation expresses their lack of concern for exercising socialized constructive power. Indeed much of the addiction research can be conceptualized in terms of power motivation. In fact, Overall's (1973) findings on the differences between alcoholics and addicts on the MMPI suggest that power motives and concerns play a
greater role in heroin addiction than they do in alcoholism.

Orientation of Present Research

In view of the current motivational theories of addiction and research on personality variables of addicts, this current study will attempt to empirically determine which theory can best account for the personality characteristics which distinguish addicts from the other groups. To achieve this end, a group of addicts along with alcoholics and normals will be assessed on personality dimensions and measures that derive from each theory. Accordingly, the personality dimension that differentiates the addict group from the other groups will provide support for its corresponding motivational theory.

The inclusion of an alcoholic group perhaps merits some discussion. Its selection was based upon the intention of investigating McClelland et al.'s (1972) ideas and hypotheses regarding the dynamics of alcoholism and its relationship to power motivation. Another reason for its inclusion was to determine the differences between alcoholics and addicts. Many people view these behavior disorders as being quite similar, rooted in the same set of dynamics, with differences only in regard to preferences to drugs and their mode of incorporation. Even these differences would be explained away by environmental or socioeconomic factors. This research study will examine this perspective by investigating whether personality differences can actually differentiate these clinical populations.

This study also differs from previous research with power motivation in that no arousal of the power motive occurs. However,
the fact that heavy drinkers were found to have higher levels of power than light drinkers before consuming alcohol seems to indicate that this motive exists as a stable disposition. Hence, high power is expected to characterize alcoholics and addicts irrespective of any experimental attempts to arouse or increase this motive.

**Hypotheses**

**Power motivation.** To determine the relationship between power and addiction, the following hypotheses are made:

1. Addicts will exhibit more power concerns (higher scores of power, Hope of Power, and Fear of Power) than the alcoholics and medical patients. This hypothesis is based upon the perceived relationship between research findings on the personality characteristics of addicts and power. This hypothesis is generated from the conception that heroin addiction produces a greater psychological change in consciousness than does alcohol, a change believed related to power concerns. Also, the clinical impression that addicts are extremely sensitized to issues of power and control supports this hypothesis.

2. Alcoholics will exhibit more power concerns in all its aspects than medical patients, a hypothesis based upon McClelland et al.'s (1972) research.

3. Given repeated observations of their prominent psychopathic personality features, addicts will be less inhibited than the alcoholics and medical patients.

4. Similarly, alcoholics will be less inhibited than the medical
patients. This prediction derives from the finding that heavy drinkers are characterized by impulsive power concerns accompanied by low inhibition.

5. Addicts will score higher on social recognition than the other groups. In turn, alcoholics will rank above the medical group on this dimension.

The psychoanalytic theory. To test the psychoanalytic theory of addiction, the following hypotheses are made:

6. Addicts will be more narcissistic than the alcoholics and medical patients.

7. Addicts will be more depressed than the medical patients.

The existential theory. To test the existential theory of addiction, the following hypothesis is developed:

8. Addicts will be more anhedonic and less playful than alcoholics and medical patients. With the view that alcoholism is a less compelling addiction than heroin use, alcoholics will be expected to be more anhedonic and less playful than medical patients.
METHOD

Subjects

All subjects in this study were male veterans selected from the inpatient wards at Westside Veteran's Administration Hospital in Chicago, Illinois. This hospital is located in the inner-city and provides service to much of its population. Subjects' ages ranged from 19 to 53, with the largest percentage being in the late 20's. Any patient having any history of schizophrenia was excluded from the study since this psychiatric disorder would be considered the primary diagnosis.

The heroin addiction group was comprised of 32 patients undergoing treatment on the drug-detoxification ward. This ward, featuring a 14-day methadone detoxification program, is closed to visitors and patients are generally confined to the ward. As Table 1 indicates, the mean age of the patients tested was approximately 30 years. The average patient had 12 years of education, with an average annual income of $6,741. (Income was defined as the average annual income over the past three years.) Twenty-four of the patients (81.3%) were black, with the remaining being white. None of the heroin addicts tested were heavy alcohol drinkers.

Twenty-four alcoholic subjects were selected from the inpatient alcoholic treatment program. Each patient receives his discharge from the hospital upon completion of his 28th day in treatment.
Table 1

Groups' Racial Composition and Mean Scores on Demographic Variables

<table>
<thead>
<tr>
<th>Groups</th>
<th>Percentage of Blacks</th>
<th>Age</th>
<th>Education</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin Addicts</td>
<td>81.3%</td>
<td>30.38</td>
<td>12.0</td>
<td>$6,741</td>
</tr>
<tr>
<td>Alcoholics</td>
<td>83.3%</td>
<td>36.0</td>
<td>11.63</td>
<td>$8,145</td>
</tr>
<tr>
<td>Medical Pts.</td>
<td>70.9%</td>
<td>30.33</td>
<td>11.33</td>
<td>$8,104</td>
</tr>
</tbody>
</table>
Compared to the drug-treatment program, these patients enjoy many more privileges. Visitors are permitted on a daily basis and patients are expected to take weekend passes from the ward. As presented in Table 1, the average alcoholic subject was 36 years old, with 11.63 years of education, and earned approximately $8,145. Twenty of the subjects were black (83.3%), with the remaining percentage being white. Subjects were selected on the condition that they had never been users of heroin.

Twenty-four patients hospitalized for medical reasons served as the comparison group. Their ailments included such problems as ulcers, hypertension, hepatitis, pneumonia, tuberculosis, and stomach pains of undiagnosed origin. The mean age of these patients was 30.33; their average educational and income levels were respectively 11.33 and $8,104 (Table 1). Seventeen patients were black (70.9%) and the remaining seven were white. Subjects were selected for testing only if they had not experienced any problems with either alcohol or drugs. It should be noted that such a requirement drastically limited the pool of possible subjects on the medical wards. For in this particular hospital, doctors estimated that 75% of their patients reported serious problems with alcohol. Such an estimate is strengthened by the fact that many of the symptoms and complaints stemmed from chronic alcohol abuse. Excluding these subjects, many of the other patients were either too old or incapacitated to be included in the group. In addition, patients beset by any disabling or chronic disease process (cancer, emphysema, multiple sclerosis)
did not participate in this study.

A series of $t$-tests were performed to determine whether the groups differed significantly on the demographic variables of age, income, and education. These comparisons suggest that the groups can be considered equivalent on income and level of education. However, the alcoholic group was significantly older than the heroin addict group ($t = 3.32, p < .01$), and the medical group ($t = 2.62, p < .05$). This failure to closely match for age can be attributed to the fact that many of the younger alcoholics on the ward were found to be poly-drug users. Consequently, their exclusion had the effect of raising the average age of the alcoholic subjects tested. This age difference, also, reflects the finding that the average institutional alcoholic is over forty years of age. Despite the highest incidence of drinking problems occurring among men in their twenties, the process of defining oneself as an alcoholic and seeking hospitalization takes many years (Cahalan & Cisin, 1976). This contrasts markedly with heroin addiction in which the institutionalization process occurs far more rapidly, due possibly to the stronger effects of the drug along with its problem of availability. Accordingly, the mean age of addicts admitted to Lexington and Fort Worth Public Hospitals was 32.9 years for males (Ball & Chambers, 1970). During the last several years, the mean average age of addicts admitted to the in-patient ward at Westside Veteran's Hospital has been 29.

**Measures**

*Power motivation.* Power motivation was assessed through fantasy
production as elicited by the TAT. A special set of TAT cards selected to evoke power themes were used. Power motivation refers to a person's concern or need to exercise control, influence, or impact upon the world. The investigations which developed this concept were based upon research methods or strategies in which a systematic arousal of the motive in question is conducted in various settings and conditions. During this period of arousal, subjects are administered the TAT. In comparing the differences and shifts in fantasy between the aroused and neutral group, a scoring system sensitive to these differences is constructed.

Veroff's (1957) research with student leaders, Uleman's (1966) study with students who were assigned powerful roles in experimentation, and Winter's (1967) investigation of students' responses to a charismatic leader were the principal studies which led to the development and refinement of both the construct and its scoring system.

According to Winter's (1973) revision of the previous schemes, each TAT story is scored as to whether it contains power imagery or themes. For power imagery to be scored, the story must meet one of the three criteria: (a) someone shows his power concerns through actions which in themselves express his power; (b) someone does something that arouses strong positive or negative emotions in others; and (c) someone is described as having a concern for his reputation or position. This revised scoring system was used in this study. It included a detailed set of instructions and examples for coding power imagery and subcategories which elaborate the power theme.
For each story there is a possible score of 0 to 11 so that each subject has a possible total score of 0 to 88 on the eight pictures presented to him. In addition, each story was classified as expressing either Fear of Power or Hope of Power theme.

Eight TAT cards were used in this study, specifically chosen to draw a particular type of power theme. The pictures used in this study and in the initial studies of drinking and n power are as follows:

<table>
<thead>
<tr>
<th>Picture</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Boxer with shadow boxer in background</td>
<td>Aggression</td>
</tr>
<tr>
<td>2. Couple in nightclub listening to music</td>
<td>Exploitive Sex</td>
</tr>
<tr>
<td>3. Dignitary talking to reporters on board a ship</td>
<td>Authority Impact</td>
</tr>
<tr>
<td>4. Business man and youth on a busy street</td>
<td>Prestige Supplies</td>
</tr>
<tr>
<td>5. Military officer and men</td>
<td>Authority Impact</td>
</tr>
<tr>
<td>6. Mad scientist</td>
<td>Aggression</td>
</tr>
<tr>
<td>7. Man looking at Cadillac in poor neighborhood</td>
<td>Prestige Supplies</td>
</tr>
<tr>
<td>8. Boss dictating to secretary</td>
<td>Exploitive Sex</td>
</tr>
</tbody>
</table>

Controversy surrounds the question of the reliability of the TAT. In response to criticisms and objections of its use, Winter (1973) called for a more sophisticated concept of reliability. Such an understanding would consider the sensitivity of this measure to testing conditions and actual changes in the person's motive. He asserted that "reliability means more than just test-retest
correlations." (p. 86)

In a review of reliability studies (McClelland et al., 1972; Watson, 1969), Winter (1973) reported that reliability is moderate for very short time intervals (.45; .50), but decreases over time as would be expected. It was also noted that the more similar the testing conditions (with the same administrator), the higher the reliability. Winter (1973) concluded that TAT reliability is sufficient for research purposes while admitting that not every psychometrician would agree. He also reported a respectable interscorer reliability figures. With six scorers, a median agreement figure of .91 was found for presence of power imagery.

With regard to validity, the correlations between the power motive and other measures and scales (EPPS, CPI) to assess power strivings is quite low. Winter (1973) explained this lack of association is due to the fact that the power motive actually assesses a different motive in a different way than does the other measures.

However, the power motive has demonstrated its usefulness and value through its relationship to a range of significant behaviors. Winter reported that the need for power correlated with participation in competitive sports \( (p < .05) \); active community leadership positions as opposed to bureaucratic roles \( (p < .05) \); certain professional occupations--teachers, clergy, and business managers--which yield considerable power in their respective spheres. The need for power was significantly associated with having prestige supplies on a college campus (the possession of car, television, and refrigerator)
Those correlations of these behaviors with need for power provide an extended validation of this concept and scoring. This power motive is related to diverse behaviors all of which express or involve an aspect of power.

**Depression.** Depression was assessed by the Inventory of Depression (Beck, Ward, Mendelson, Mack, & Erbaugh, 1961). This consists of 21 items derived clinically on the basis of experience with depressed patients. It was developed to provide a superior measure of clinical depression than the D scale of the MMPI because this latter scale contains a number of heterogeneous factors, only one of which is consistent with the clinical concept of depression. Each of the items was chosen on the basis of their relationship to the overt behavioral manifestations of depression and do not reflect any theory regarding the etiology or the underlying psychological processes in depression. For each item or category of symptoms, a graded series of self-evaluative statements reflecting severity was prepared. Numerical values were assigned for scoring purposes.

Assessed for its internal consistency, this measure yielded a split-half reliability figure of .93. An item analysis revealed that all categories showed a significant relationship to the total score for the inventory \( p < .01 \).

The validity of this measure was ascertained in various ways. A significant relationship was found between the scores on the
inventory and the depth of depression rating made by clinicians ($p < .01$). The inventory was able to discriminate effectively among groups of patients in 91% of cases and was able to reflect changes in the intensity of depression after an interval of time in 85% of the cases reported.

**Narcissism.** The measure of narcissism was taken from a scale of the clinical form of the Millon-Illinois Self-Report Inventory. This inventory was constructed as an operational instrument to standardize psychiatric diagnostic procedures consistent with a comprehensive theory of personality and psychopathology.

The narcissism scale consists of 43 true-false items. These items were selected on both theoretical and empirical grounds. According to Millon (1975), individuals scoring high on this scale are characterized by an inflated self-image, interpersonal exploitiveness, cognitive expansiveness, an insouciant temperament, and a deficient social conscience. The internal consistency of this scale determined by the Kuder-Richardson Formula 20 was .89. The test-retest stability of this scale with patients actively engaged in psychotherapy over a five-week interval was .83. Such a figure is quite respectable considering the changes likely undergone through treatment.

A preliminary validation study of this scale has been conducted with 682 patients by means of the correspondence between scale scores and clinical ratings. With the narcissism scale, the clinical judges' ratings were seven times more congruent than that
expected by chance.

Anhedonia. To measure anhedonia, the anhedonia scale developed by Chapman, Chapman, and Raulin (1976) was used. It consists of 104 true-false items devised to measure the ability to experience pleasure. The measure was constructed principally to test hypotheses concerning the genetic transmission of schizophrenia. The scale of this measure are physical anhedonia and social anhedonia. Controlling for social desirability and acquiescence, coefficient alpha values for physical and social anhedonia were .74 and .85 for male normal subjects and .82 and .85 for male schizophrenics. The schizophrenics scored more anhedonia than the normal subjects on both physical and social anhedonia. The lack of relationship to depression indicated that the scale does not measure anhedonia experienced in a transient depressed state, but rather appraises a long-standing characteristic. Moreover, anhedonics displayed poorer premorbid adjustment than did hedonics (p < .01).

Play. The degree of playfulness was assessed by the play scale on the Personality Research Form (PRF). High scorers on this scale are described as playful, jovial, pleasure-seeking, sportive, and care-free.

The PRF is a self-report personality inventory consisting of 300 items which yield 14 trait scores and one validity scale. It was developed to gauge normal functioning rather than psychopathological behavior. The personality traits measured by this inventory are achievement, affiliation, aggression, autonomy, dominance,
endurance, exhibition, harmavoidance, impulsivity, nurturance, order, play, social recognition, and understanding. These traits were largely adapted from the set of personality variables defined by Murray (1938) in his *Explorations in Personality*. However, a conceptual difference does exist between the PRF variables and those defined by Murray with regard to measurement. While Murray and his co-workers viewed needs on a continuum ranging from low to high, the PRF dimensions of personality were all conceived, both theoretically and psychometrically, as bipolar. Hence, half of the items for each scale are written in terms of the opposite pole of each of the named variables. Structuring the items in this way, not only controls for an acquiescence response style, but assures the presence of important characteristics regardless of whether scores are high or low.

The reliability of this inventory is quite impressive, comparing favorably with other personality scales currently available. The reliability figure assessing its internal consistency was .91. Test-retest reliability was found to cluster around .90. By means of peer and self-ratings, the manual (Jackson, 1974) reported median validity figures of .52 and .56 respectively. Also, a multi-method factor analysis was conducted which provided substantial evidence for convergent and discriminant validity of the PRF scales.

**Procedure**

The investigator approached the addicts and alcoholics on their wards and asked them to participate in the study. Only a few patients from each ward declined. Medical patients were found by
asking doctors on the medical wards of the availability of any of their patients for testing. The doctors were informed that these patients should be under 50 years of age with no reported history of alcohol or drug abuse.

In accordance with VA regulations, each subject was required to sign an agreement assuring him of the confidentiality of the results and informing him that his participation is both voluntary and completely independent of the treatment program. Subjects were administered the tests a few days after admission, a delay designed to control for anxiety and stress often associated with the initial stages of hospitalization and treatment. No subject was tested who showed any signs of disorientation or emotional distress. The TAT was administered by one researcher. On the drug and alcohol wards, these tests were administered in the staff psychologist's office. On the medical wards, this projective test was administered in either the patient's private room or in a staff conference room.

Informed that the purpose of the research was a study of the personalities of patients on the different wards of the hospital, the subjects were given the standard TAT instructions. It was found that some subjects agreed to complete the self-administered tests but felt disinclined to tell TAT stories. A few subjects from each of the wards were unable to compose stories in response to the TAT pictures.

Reliability. The TAT materials of the present investigation were coded by a judge whose agreement with materials precoded by experts was $\rho = .86$ ($p < .01$), with category agreement on power
Imagery = .80 (p < .001). Blind scoring was performed by the investigator. To check for any kind of unconscious bias, the investigator also matched scores with another scorer on a sample of protocols from this study. Their agreement on power imagery, with a k coefficient of .63, yielded a binomial z of 3.01 (p < .01).

Statistical analysis. A one-way analysis of variance was performed upon the groups' scores to determine whether the groups differed significantly on any of the examined variables. Following this procedure, planned comparisons were undertaken on those variables predicted to differentiate these groups from each other. Using the least significant difference test, post-hoc comparisons were conducted.

A multi-discriminant analysis was also performed in an effort to determine whether groups were statistically distinct from each other. This analysis also provides a basis for classification and subsequent prediction. By identifying those discriminating variables which contribute most to differentiation along the respective dimensions being investigated, these variables can provide satisfactory discrimination with known group memberships. Dependent upon cross-validation, these classification functions can serve as predictors for new cases.
RESULTS

Table 2 presents the results for the heroin addict, alcoholic, and medical patient groups. A one-way analysis of variance shows that the groups differ significantly on impulsivity, depression, and inhibition at the .05 level. Fear of Power, affiliation, and social recognition approached the statistical level of acceptance ($p < .1$). In addition, n power and Hope of Power showed a tendency to differentiate the groups ($p < .13$). Despite their failure to meet the conventional levels of statistical acceptance, these last results are presented because they bear directly on one of the major hypotheses of the study. They also merit attention and scrutiny because of their theoretical importance for developing a power theory of addiction.

A series of planned comparisons were conducted on these variables predicted to differentiate these distinct groups from each other. These comparisons produced an interesting pattern of results with regard to the power motives. The hypotheses that addicts will show more power concerns than alcoholics and medical patients received only partial support. Although the addicts showed more n power concerns than the comparison group, they did not differ from the alcoholics on this variable as evident in Tables 3 and 4. Contrary to prediction, the addicts did not differ significantly from either the alcoholics or the medical patients on the Hope of Power dimension.
Table 2

Analysis of Variance on Personality Characteristics of Addicts, Alcoholics, and Medical Patients

<table>
<thead>
<tr>
<th>Variable</th>
<th>MS</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impulsivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>31.62</td>
<td>2</td>
<td>3.88*</td>
</tr>
<tr>
<td>Within</td>
<td>8.14</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>154.37</td>
<td>2</td>
<td>3.31*</td>
</tr>
<tr>
<td>Within</td>
<td>46.61</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Inhibition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>61.11</td>
<td>2</td>
<td>3.96*</td>
</tr>
<tr>
<td>Within</td>
<td>16.70</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Fear of Power</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>61.84</td>
<td>2</td>
<td>2.78**</td>
</tr>
<tr>
<td>Within</td>
<td>22.21</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Affiliation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>16.38</td>
<td>2</td>
<td>2.49**</td>
</tr>
<tr>
<td>Within</td>
<td>6.56</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Social Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>25.04</td>
<td>2</td>
<td>2.41**</td>
</tr>
<tr>
<td>Within</td>
<td>10.39</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>N Power</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>70.08</td>
<td>2</td>
<td>2.18***</td>
</tr>
<tr>
<td>Within</td>
<td>32.03</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Hope of Power</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>55.51</td>
<td>2</td>
<td>2.12***</td>
</tr>
<tr>
<td>Within</td>
<td>26.16</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; **p < .1; ***p < .13
Table 3
Means and Standard Deviations of Depression and Power-Related Variables

<table>
<thead>
<tr>
<th>Groups</th>
<th>Depression</th>
<th></th>
<th>Inhibition</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>X</td>
<td>SD</td>
</tr>
<tr>
<td>Addicts</td>
<td>14.87</td>
<td>6.58</td>
<td>9.20</td>
<td>4.46</td>
</tr>
<tr>
<td>Alcoholics</td>
<td>11.63</td>
<td>6.89</td>
<td>7.10</td>
<td>4.40</td>
</tr>
<tr>
<td>Medical Pts.</td>
<td>10.00</td>
<td>7.14</td>
<td>5.72</td>
<td>3.02</td>
</tr>
<tr>
<td>Fear of Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addicts</td>
<td>7.44</td>
<td>5.05</td>
<td>10.46</td>
<td>3.23</td>
</tr>
<tr>
<td>Alcoholics</td>
<td>4.50</td>
<td>5.11</td>
<td>10.67</td>
<td>2.58</td>
</tr>
<tr>
<td>Medical Pts.</td>
<td>4.67</td>
<td>3.62</td>
<td>8.71</td>
<td>3.76</td>
</tr>
<tr>
<td>Need of Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addicts</td>
<td>16.72</td>
<td>4.69</td>
<td>9.28</td>
<td>5.48</td>
</tr>
<tr>
<td>Alcoholics</td>
<td>16.00</td>
<td>6.94</td>
<td>11.65</td>
<td>5.19</td>
</tr>
<tr>
<td>Medical Pts.</td>
<td>13.17</td>
<td>5.32</td>
<td>8.39</td>
<td>4.45</td>
</tr>
<tr>
<td>Social Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addicts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcoholics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Pts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4

Planned Comparisons Between Groups

**Differences in N Power Scores**

<table>
<thead>
<tr>
<th>Groups</th>
<th>t-score</th>
<th>2-tailed p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addicts vs. Medical Patients</td>
<td>2.03</td>
<td>.047</td>
</tr>
<tr>
<td>Addicts and Alcoholics vs. Medical Patients</td>
<td>2.02</td>
<td>.048</td>
</tr>
</tbody>
</table>

**Differences in Hope of Power Scores**

<table>
<thead>
<tr>
<th>Addicts vs. Alcoholics</th>
<th>t-score</th>
<th>2-tailed p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.96</td>
<td>.054</td>
</tr>
</tbody>
</table>

**Differences in Fear of Power Scores**

<table>
<thead>
<tr>
<th>Addicts vs. Alcoholics</th>
<th>t-score</th>
<th>2-tailed p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.08</td>
<td>.042</td>
</tr>
<tr>
<td>Addicts vs. Medical Patients</td>
<td>1.90</td>
<td>.062</td>
</tr>
</tbody>
</table>

**Differences in Depression Scores**

<table>
<thead>
<tr>
<th>Addicts vs. Alcoholics</th>
<th>t-score</th>
<th>2-tailed p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.70</td>
<td>.094</td>
</tr>
<tr>
<td>Addicts vs. Medical Patients</td>
<td>2.45</td>
<td>.017</td>
</tr>
</tbody>
</table>

**Differences in Inhibition Scores**

<table>
<thead>
<tr>
<th>Addicts vs. Alcoholics</th>
<th>t-score</th>
<th>2-tailed p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.71</td>
<td>.092</td>
</tr>
<tr>
<td>Addicts vs. Medical Patients</td>
<td>2.75</td>
<td>.008</td>
</tr>
</tbody>
</table>

**Differences in Social Recognition Scores**

<table>
<thead>
<tr>
<th>Addicts vs. Medical Patients</th>
<th>t-score</th>
<th>2-tailed p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.88</td>
<td>.064</td>
</tr>
<tr>
<td>Alcoholics vs. Medical Patients</td>
<td>1.96</td>
<td>.054</td>
</tr>
</tbody>
</table>
However, this hypothesis received partial confirmation in that the addicts differed significantly from the alcoholics and the medical patients on the Fear of Power variable (Table 4). It should be observed also that the addicted groups (alcoholics and addicts combined) exhibited greater salience of n power than the medical group.

The hypotheses that alcoholics would display more power concerns than medical patients was only partially supported. Table 3 presents the results in which the alcoholics showed significantly greater power concerns only on the Hope of Power variable. The results on the comparisons between the groups on inhibition were virtually opposite of what had been predicted. Contrary to hypothesis, the addicts were more inhibited than the medical patients and the alcoholics (Table 4). Hypothesis 4 was not supported, with alcoholics and medical patients exhibiting no meaningful differences on inhibition. The comparisons between groups on social recognition provided some support for the power motive hypothesis. Although social recognition did not distinguish the heroin addicts from the alcoholics, it did differentiate these groups separately from the medical group at the .07 level (Table 4).

The hypotheses derived from the psychoanalytic theory generated mixed results. No significant differences appeared in the comparisons between groups on narcissism. However, addicts were more depressed than the medical patients (Table 4).

None of the hypotheses based on the existential theory received any empirical support. Neither play nor anhedonia differentially
characterized any of these groups.

To examine the other variables in the study not explicitly con­
sidered to differ among the groups, some a posteriori tests were util­
ized. These post-hoc comparisons revealed that the addict group man­
ifested greater impulsivity than both the alcoholic and medical groups. Another comparison indicated that the narcotic addicts were less
affiliative than the alcoholics (Table 5).

A multi-discriminant analysis was conducted to determine whether
a mathematical function could statistically distinguish among these
groups. This is achieved through weighting the variables and linearly combining them in some fashion so that the groups are to be sta­
tistically as distinct as possible. Through a series of these analy­
ses, it was found that the addict group could be significantly differ­
entiated from the alcoholic group based upon all the variables exam­
ined. The canonical correlation for this discriminant function was
.811 (p < .01). Given the expected prediction rate of 57.1% based
upon chance, the discriminant function produced an accuracy rate of
nearly 93% in classifying subjects into their proper groups. The
variables which served as the best discriminators were impulsivity,
narcissism, depression, affiliation, age, and aggression. However,
the acceptance of these significant findings must be qualified by the
knowledge that these two groups were not closely matched on age.
Since age was not controlled, this variable of age artificially in­
creased the discriminatory power of this function. While age might
truly represent a critical difference between the heroin addict and
Table 5
A Posteriori Comparisons

<table>
<thead>
<tr>
<th>Groups</th>
<th>Impulsivity</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addicts vs. Alcoholics</td>
<td>9.10</td>
<td>3.04</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>and Medical Pts.</td>
<td>7.00</td>
<td>2.44</td>
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<td></td>
<td></td>
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<td></td>
</tr>
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<td></td>
<td>7.38</td>
<td>2.97</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Affiliation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addicts vs. Alcoholics</td>
<td>12.82</td>
<td>2.48</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>14.43</td>
<td>2.04</td>
<td></td>
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</tr>
</tbody>
</table>

*p < .05*

*Least Significant Difference Test*
alcoholic population, such a conclusion could not be drawn from this investigation which neither utilized a random selection of subjects nor sought a representative sample from the population. In fact, a discriminant function solely based on the demographic variables yielded a canonical $r$ of .43 ($p < .05$).

Consequently, another discriminant function was conducted between the groups in which the demographic variables were excluded. This discriminant analysis produced a lowered canonical correlation of .71 ($p < .05$). With an expected accuracy rate of 57% by chance, this discriminant function yielded an accuracy prediction rate of nearly 86%. The variables which served as the best discriminators were affiliation, narcissism, aggression, impulsivity, and depression (these loadings of the variables are listed in Table 6).

The previous discriminant function was based on all of the psychological variables tested. A further series of analyses were conducted in which these variables believed to be specifically related to heroin addiction and alcoholism were examined. On the basis of either theoretical viewpoints or past research findings, those variables selected were affiliation, aggression, social recognition, depression, Hope of Power, Fear of Power, and inhibition. A discriminant function based upon these variables between narcotic addicts and alcoholics resulted in a canonical correlation of .472 ($p < .09$), but failed to reach the accepted levels of significance. However, a discriminant function developed from an analysis of the three groups produced a canonical correlation of .46 ($p < .05$). With the proportion
Table 6

Discriminant Loadings on 19 Psychological Variables with Addicts and Alcoholics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Loading</th>
<th>Variable</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement</td>
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<td>Order</td>
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<td>Affiliation</td>
<td>.703</td>
<td>Play</td>
<td>.001</td>
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<tr>
<td>Aggression</td>
<td>.696</td>
<td>Understanding</td>
<td>.193</td>
</tr>
<tr>
<td>Autonomy</td>
<td>.109</td>
<td>Narcissism</td>
<td>-.690</td>
</tr>
<tr>
<td>Dominance</td>
<td>.006</td>
<td>Depression</td>
<td>-.520</td>
</tr>
<tr>
<td>Endurance</td>
<td>.170</td>
<td>N Power</td>
<td>-.185</td>
</tr>
<tr>
<td>Exhibition</td>
<td>-.278</td>
<td>Anhedonia</td>
<td>-.220</td>
</tr>
<tr>
<td>Harmavoidance</td>
<td>.266</td>
<td>Inhibition</td>
<td>-.064</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>-.599</td>
<td>Social</td>
<td>.301</td>
</tr>
<tr>
<td>Nurturance</td>
<td>.046</td>
<td>Recognition</td>
<td></td>
</tr>
</tbody>
</table>
of cases determining the accuracy prediction by chance to be 40%, this function could properly identify and classify the subjects by nearly a 54% rate.
DISCUSSION

Motivational Theories

The psychoanalytic theory of addiction. An inspection of the data with respect to the psychoanalytic theory of addiction offered partial support for this theory. As will be seen, these findings are open to several alternative interpretations than that proposed by the psychoanalytic view. This study, given its methodological design, cannot definitively establish the merit and utility of this theory. However, it does generate evidence from which some inference and conclusions can be drawn regarding the applicability of this theoretical view.

Narcotic addicts were found to be more significantly depressed than medical patients. And there was some indication that the addicted groups (addicts and alcoholics combined) tended to be more depressed than the comparison group. This can be considered noteworthy in that medical patients might be expected to be in a depressed state. For many patients were awaiting the results of medical tests administered to determine the nature and severity of their medical problem. Since a patient cannot really affect or alter these findings, such a situation might engender some feelings of helplessness, a state commonly linked to depression (Seligman, 1975).

The relatively high score on depression by the addicted groups are consistent with previous research findings (Berzins, Ross, &
However, the acceptance of these results needs to be qualified by an awareness of a methodological problem which accompanies all studies of this nature. Namely, this study cannot determine whether depression preceded or resulted from drug and alcohol usage.

Psychoanalysts attribute depression as a cause or initial precondition for drug use. While the results are consistent with such a contention, it cannot be unequivocally established. For others could argue that these results are due solely to the effect of withdrawal and detoxification. (To minimize this effect, addict and alcoholic patients were not tested upon their first days of admission.) On a similar point, depression can be accounted for in the addicted groups, particularly the heroin addicts, in that voluntary hospitalization represents to at least some patients some admission of failure in living and coping. With some subjects their drug problems have caused severe problems in the forms of disrupting family relationships, interfering with work and employment activities, bringing on financial hardships, and often leading to entanglement with the police. Confronted with these intractable difficulties, addicts might easily feel depressed and discouraged. However, it must also be acknowledged that such feelings are not shared by all addicts. The reasons for hospitalization are diverse and do not necessarily reflect any psychological dissatisfaction or dysphoria on the part of the addict. Such reasons might often include pleasing a beleagured spouse, impressing a judge, reducing or controlling a drug habit, and obtaining a respite.
from the pressure and hustle of the street life.

The results provide some evidence that addicts are more depressed than alcoholics. This difference can possibly be attributed to differences in ward policy and milieu of the addict and alcoholic wards. Such differences might conceivably affect the emotional state of their patients. A discussion of some of these policy differences will make this evident. The heroin addict ward is a locked ward in which patients have few privileges or freedoms--no visitors, confinement to the ward, etc. Patients are often admitted immediately upon a brief screening interview and are expected to remain for the 14-day detoxification program. In contrast, the alcoholic ward maintains a careful screening and selection process of prospective patients. The ward is an open one in which patients enjoy far more privileges--visitors, access to hospital facilities, and home passes. In addition, the treatment approach is oriented to therapy, rather than detoxification, with an emphasis upon the individual's personal responsibility. These conditions--notably the screening, ward policies, and treatment emphasis--are likely to enhance self-esteem and self-image for the alcoholic patient. Consequently, one might feel that the more restrictive regimen of the drug ward either engenders more depression or alleviates less depression than the alcoholic ward.

These are speculations offered to explain the differences in depression between these groups. What the results calls for is another study in which the effects of setting can be neutralized by a comparison of addicts and alcoholics participating in a similar
treatment program.

Regardless of whether depression preceded or was the effect of drug use, these observed differences provide useful clinical information. Treatment approaches might be undertaken to increase patients' self-awareness through a focus upon this depressed affect. Perhaps in presenting how drug use accentuates depression even though its intended use is to lessen these feelings, abstinence from drug use can be seen as a constructive way to alleviate these painful feelings and break out of this depressive cycle.

Another aspect of psychoanalytic theory examined in this study was the role of narcissism in addictions. No significant differences were found on this dimension among any of the groups. Both addicts and alcoholics have been described as narcissistic. And Millon's definition of this variable as featuring cognitive expansiveness, insouciant temperament, an inflated self-image, and a deficient social conscience is consistent with many of the personality characteristics attributed to alcoholics and addicts. Moreover, a study of 85 heroin addict outpatients at the same VA hospital (Gaziano, 1976) reported that the narcissism scale of the Millon-Illinois Self-Report Inventory was the highest scored scale of the eight personality styles postulated by Millon.

What can account for this discrepancy between the results of this study and those other findings and attributions? A source of some confusion might lie in the definition and usage of the term. Narcissism has likely been attributed to heroin addicts drawn from
observations of their impulsivity, sensation-seeking, and desire for immediate gratification. Yet these behaviors may only capture an aspect of narcissism. For addicts generally have not displayed an inflated self-image and cognitive expansiveness. In fact, addicts' self-esteem has generally been reported to be low (Platt & Labate, 1976). Consequently, a greater specification of the term and its behavioral referents would mark an advancement in delineating the relationship of narcissism to addiction. This could be accomplished through a type of factor analysis in which the groups' responses could be examined to determine whether groups are loading on similar factors. As Millon constructed it, this narcissism is composed of heterogeneous items.

Status of the psychoanalytic theory of addiction. On the basis of this study given its methodological limitations, it is difficult to make any final evaluation of this theory. One thing apparent is that this theory of addiction, along with much of psychoanalytic theory, needs greater rigor and specification. For example, Glover's speculation that drug addiction is dynamically related to homosexuality and acts as a control upon sadistic impulses neither illuminates this behavior nor lends itself to empirical measurement. The results of this study neither confirm nor refute the theory. As with much of research, it has raised more questions—namely, whether depression existed prior to drug use, the effect of ward milieu upon depression, and the definition and operational measure of narcissism. An answer to some of these questions would be provided by a longitudinal study.
of pre-drug addicts, paralleling the work of McCord and McCord (1960) and Jones (1968) with alcoholics. Admittedly such projects are difficult to undertake, being expensive, requiring many man-hours, and taking years to complete.

**The existential theory of addicts.** This study provided no evidence to support this theory. Groups did not differ significantly on play or anhedonia. In fact, prior research suggests the opposite findings of what this theory predicts. Addicts have been found to be sensation-seeking (Platt, 1975) and high on change and heterosexuality (Reith, Crockett, & Craig, 1975). While these findings can be interpreted as a compensatory expression of a sensory deficit, a more direct inference lies in characterizing addicts as having strong needs for stimulation and heightened state of awareness.

Greaves developed his theory on the basis of three observations of narcotic addicts and alcoholics. In light of these results, perhaps these observations need closer scrutiny and analysis. He commented that addicts' sexual lives are disturbed, with these problems preceding their drug use. However, this lack of interest in sex might be explained as a change in the sources of pleasure, a substitution of means to attain an end state. Indeed, the experience of the effects of heroin have often been compared to sexual ecstasy and orgasm. In addition, this declining interest in sex might not be due to a sensory deficit as much as it results from a failure to develop meaningful interpersonal relationships. This failure in the interpersonal sphere is reflected in the addicts' low affiliation score. Because
of their inability and unwillingness to express mutuality and become vulnerable (putting themselves to some degree in the power and control of others), addicts gradually lose interest in sex. The finding on Fear of Power with addicts reinforces such a notion. The effect of heroin provides instant gratification and pleasure which sex confers and it circumvents the vicissitudes and problems associated with human relations. Drug use then represents a shortcut to pleasure and allows an avoidance of interpersonal entanglements. May's (1969) comments might be pertinent in that he contends that sex without intimacy and feeling leads to mechanical sex and eventually results in disturbed sexual functioning.

Greaves observed a lack of play and spontaneity in the addict's life. However, such a viewpoint largely depends upon one's perspective and values. Preble and Casey (1969) portray the drug addict's life as exciting and meaningful from which enjoyment and fulfillment are derived from participation in this unusual life-style—in the hustle and pursuit of the drug. As Preble and Casey stated, "the activities these individuals engage in and the relationships they have in the course of their quest for heroin are far more important than the minimal analgesic and euphoric effect of the small amount of heroin available to them." (p. 21) From this viewpoint, play and creativity are inextricably bound with and expressed through this drug life-style. Perhaps this question regarding the addict's creativity and capacity for symbolic play might be addressed at another level—an investigation of his dream life.
Greaves' final observation regarding the lack of somatic feedback might be attributed to an intellectual slippage as a consequence of drug use. In this context McClelland et al.'s (1972) comments might be pertinent. They criticized many of the experimental studies involving the consumption of alcohol and subsequent effects on the grounds that they have not adequately controlled for the inhibition inherent in experimental settings.

**Status of the existential theory of addiction.** As pointed out, the observations that underlie this theory appear equally open to other interpretations than that offered by Greaves. The failure to support any of this theory's claims empirically casts considerable doubt on the viability or utility of this theory. Unless some aspect of this theory can be translated into hypotheses that receive empirical support, this theory will hold little interest to researchers and clinicians in the field.

**The power theory of addiction.** The hypotheses regarding power motivation as an important dimension to drug addiction received some support. Although the evidence is not overwhelming, it certainly merits attention and warrants further investigation. Although no power variable was significant in the analysis of variance, different aspects of power were significant in the planned comparisons. The general trend was that addicts and alcoholics consistently exhibited more power concerns than did the comparison group (Table 4). Further support for this power motivation perspective can be garnered from the findings on social recognition. For social recognition, as
measured by the PRF, actually represents an aspect of n power, namely, the desire and concern for prestige and reputation. In so doing, this finding also validates the other measures of power, since social recognition is assessed through an objective measure with a true-false format whereas the power variables are measured through a projective instrument with intricate scoring rules and criteria. Of the 15 variables measured by the PRF, impulsivity and social recognition figured most prominently in differences between the groups. And it is these variables which can be most directly linked on a theoretical level to the salience of the power motive. As defined, n power can refer not only to a quest for public recognition, but also to impulsive strivings for dominance and control. This larger aspect of n power can be observed in the high correlation between Hope of Power and social recognition ($p < .01$).

The comparisons between the different groups on Hope of Power and Fear of Power produced an interesting pattern of results, with alcoholics generally manifesting more Hope of Power concerns and addicts more Fear of Power concerns. These results will be discussed in detail in a later part of this paper. In light of these interesting differences that emerged from the comparisons on these aspects of power, the question remains as to why the effect of power (n power) was not more pronounced as would be reflected in a highly significant F ratio in the analysis of variance. An answer to this question might lie in the analysis of this rather unexpected finding—the relationship of inhibition to power concerns. In his extensive research, McClelland et al. (1972) found that heavy drinkers were characterized by personalized
impulsive power concerns (quite similar to Hope of Power thoughts) coupled with low inhibition. And, in fact, this relationship was confirmed in this study with Hope of Power correlating negatively with inhibition ($p < .06$).

However, the unexpected finding was that heroin addicts were more inhibited than the medical patients ($p < .01$). And because of this strong inhibition displayed primarily by narcotic addicts, the addicted groups (addicts and alcoholics) appeared more inhibited than the medical patients. Whatever the reasons or causes for this high inhibition, it seems reasonable to conclude that this high inhibition affected both the experience and expression of power concerns in these groups. This effect or influence is borne out by inhibition's positive correlation with Fear of Power ($p < .01$) and its negative correlation with Hope of Power ($p < .06$).

As every student is reminded, correlations do not imply causality. But logically, it makes more sense to conceptualize that levels of inhibition permit and determine to some degree the type and intensity of power concerns exhibited rather than to think its opposite (that power concerns affect inhibition). Consequently, strong inhibition likely influences power concerns to be expressed in a manner or style consonant with Fear of Power concerns—that is, involving some doubts and apprehension about the use and exercise of power. Such reasoning then explains the positive correlation between Fear of Power and inhibition. Similarly, high inhibition literally reduces or "inhibits" the expression of Hope of Power concerns—impulsive,
narcissistic power strivings, untempered by any sense of restraint or psychological deliberateness. Such a psychological state explains the negative correlation between inhibition and Hope of Power. The net effect of high inhibition would be the reduction of n power salience, in the thinking that inhibition would differentially affect the expression of n power concerns. It would strongly depress the expression of Hope of Power concerns while perhaps only slightly increasing Fear of Power concerns. It is reasoned that Fear of Power concerns will be expressed relatively unmodified by any condition of inhibition while Hope of Power will receive full expression only when low inhibition exists. Consequently, high inhibition notably present in heroin addicts—who displayed the highest mean of n power—might have restricted the range of n power scores, since this score is merely the sum of the number of Hope of Power and Fear of Power concerns. And this naturally would have lowered the probability of finding a significant effect between the groups.

The unexpected finding of high inhibition in the heroin addict group is thought to have attenuated the number of Hope of Power concerns which might ordinarily be higher under different circumstances. Such a belief raises another question—who would lead one to believe that addicts might have greater Hope of Power concerns which somehow were blocked or strongly inhibited? To answer this question, one could appeal to McClelland et al.'s (1972) finding on heavy drinkers who were characterized as having high power concerns along with low inhibition. Addicts would also be expected to be characterized in a
similar way since both addicts and alcoholics share common features. Their disorders both involve impulsive acting out behavior with poor self-control. Both addicts and alcoholics are known to tolerate frustration poorly and be unable to delay gratification. Since both syndromes show a similar behavior pattern, the differences in Hope of Power scores might be explained in terms of levels of inhibition.

This discussion has focused on the effect of high inhibition upon the amount and types of power concerns expressed, particularly in the heroin addict group. The question then arises as how to account for the unexpectedly high levels of inhibition in this group. There appears to be two distinct approaches to answering this question which parallel the two viewpoints in conceptualizing personality—attributing the major part of the variance either to situational or to dispositional variables. Of course, one can also maintain an interactional point of view, in which both aspects combine to explain the phenomena.

McClelland et al. found that the inhibition measure appeared to be a measure of stable individual differences in self-restraint. This conclusion was based on the fact that the arousal conditions in the experimental studies did not significantly reduce inhibition. Arousal in these designs was defined as the consumption of alcohol given between two TAT administrations. Nevertheless, it is conceivable that the more general situation and setting, rather than the experimentally induced condition, might yield a major influence upon inhibition. They found that an inhibiting setting (drinking with strangers in a classroom as opposed to drinking in an apartment with friends) reduced
those fantasies of physical sex usually generated by alcohol. A possible objection to this conclusion was that less alcohol was consumed in the classroom rather than the apartment setting. Their counter to such an objection was that setting had least a direct influence on fantasy for two reasons. One, the differences in average levels of physical sex fantasy score between the two settings was much larger than the differences between the levels of alcohol consumed. Secondly, in a study which did not use alcohol, Kalin (1966) demonstrated that an inhibitory setting as compared with a relaxed setting greatly decreased fantasies of physical sex. An inhibited setting then may mask power strivings and concerns. So in this current study the inhibiting setting of the drug ward might explain the high inhibition shown by the heroin addicts.

As mentioned earlier, the milieu of the inpatient drug ward stresses inhibition and self-control as guiding principles of treatment. This emphasis follows from the policy that a regular discharge can be obtained after 14 days. Accordingly, treatment must be oriented towards self-control, delaying gratification, and adjusting to limits, boundaries, and constraints in the form of rules and regulations of the ward. Through such an emphasis, the staff reasons that the patient will be better prepared to cope with the perceived constraints and privations that confront him in the outside world.

This emphasis on inhibition and self-control on the ward can be captured by a description of a few aspects of ward milieu and procedures. The drug patient enjoys few privileges and freedoms. They
cannot wear ordinary civilian clothes but must dress in VA robes and pajamas. This policy is maintained for security purposes so that contraband cannot be smuggled or hidden on the ward.

A closed, locked ward, no visitors, are allowed during the stay. Patients are not permitted off the ward unless accompanied by a staff member. In addition, all telephone calls are monitored by the drug counselors. With no passes allowed, patients have little opportunity for physical exercise and sports. Moreover, few activities are planned on weekends when only the nursing staff is present on the ward.

In contrast, more freedom and privileges are enjoyed by the alcoholic patients. With a 28-day treatment period, greater emphasis on insight and self-understanding is feasible. Conditions are far less restrictive. Robes are only worn during the first week. Friends and relatives can visit daily and often share meals with the patients. An open ward in which patients have access to other hospital facilities, weekend passes are available and encouraged as an important aspect of treatment. These different policies and regulations reflect different treatment orientations and approaches. The alcoholic program stresses understanding and personal responsibility whereas the drug program emphasizes inhibition, restraint, and adjustment to external demands. These approaches create appreciably different ward atmospheres and milieus which thereby conceivably affects the levels of inhibition displayed by these groups. Thus the amount of inhibition can be seen to be related to the restrictiveness of the ward.

It should also be mentioned that inhibition correlated positively
with length of stories \( r = .38, p < .01 \). Although the addicts' stories were longer than the other groups, these differences in story length were not statistically significant.

To determine the role of setting and its effect upon inhibition and power fantasies of addicts and alcoholics, it would be necessary to test these groups away from an inpatient treatment facility. Or to control for setting, one could compare groups of addicts and alcoholics who are participating in similar treatment program and regimen. If differences still exist, inhibition would be viewed as a stable personality feature of the heroin addict group.

A viewpoint has been advanced that ward conditions and setting might account for differences in inhibition and thus indirectly bear upon the number and proportion of Fear of Power and Hope of Power concerns. If inhibition depresses Hope of Power concerns as has been argued, the more inhibited of the addicted groups would likely show more Fear of Power concerns, while the less inhibited of the addicted groups would show more Hope of Power concerns. The data support such reasoning. However, another valid interpretation would be that inhibition and type of power expressed reflect actual personality differences between the groups. Addicts display more Fear of Power concerns than alcoholics while the latter characteristically evince more Hope of Power concerns.

An attempt to account for such differences might consider the desired effects of alcohol and drug usage. It can be speculated that people seek to attain different psychological states through their
preference for drugs. As McClelland et al. (1972) discovered, light drinking increased thoughts of socialized power. This finding corresponds to our typical observations and experience—alcohol makes people more gregarious, convivial, and sociable. In fact, alcoholics are noted for their "narcissistic sociability." Heavy drinking can be viewed as an exaggeration of this initial interest so that people seek not sociability but to have impact and power over others. What is sought through drinking then is self-enhancement and power through a perceived bond with others, a feeling which grows more narcissistic as drinking increases.

Heroin addicts, on the other hand, give the impression of trying to reduce interpersonal contact. Oswald, Evans, and Lewis (1969) made the following observation:

[Heroin] makes possible an escape from reality. Those most vulnerable are people whose personalities bring them conflicts and anxieties, but little solace, from contacts with the real world. Given access to drugs, they are enabled to escape to a less harsh world, a world more removed from reality and nearer to dreams. (p. 243)

Heroin then elicits a passive euphoria and withdrawal, typified in the "nod." In contrast to the alcoholic, he is not characterized by a sociability as much as a kind of psychological retreat. The effect of heroin removes him from people and absorbs him in a solitary pleasure. The addicts' low affiliation reflects the avoidance of intimacy with its benefits, complications, and threats. Indeed, the life-style of the addict is a lonely one, perhaps best captured in the frequently heard phrase of the addict, "I have no friends, only associates."
This tendency or dynamic would be consonant with the high Fear of Power score in heroin addicts. For Winter (1973) conceptualized this dimension as an avoidance of power. Citing the positive correlation between Fear of Power and high arousal level, Winter hypothesized, "People with a high characteristic level of arousal may more readily develop avoidance motives to protect themselves against additional arousal." (p. 161) Avoidance then becomes a generalized personality style. Consequently, addicts show high Fear of Power because they seek lower arousal through a form of withdrawal. It can be hypothesized that since addicts' characteristic high arousal level produces some discomfort, they seek not more stimulation but a more pleasant altered state of awareness. This quest for altered states might possibly explain previous research findings on their high scores on change and sensation-seeking scales. The analgesic properties of heroin attracts and binds the user. In contrast, alcoholics can be viewed as seeking greater arousal and stimulation through drinking as evidenced in their sociability. Although this concept of arousal level promises to be an integrating concept, it is noteworthy to mention that addicts did not differ on harmavoidance from either alcoholics or medical patients.

To substantiate this reasoning and reconcile some apparent inconsistencies, it would be important to determine whether addicts and alcoholics differ with regard to average arousal level and their sensitivity to mood altering states or conditions. If such results were consistent with predictions, an assessment of the arousal level
might be a quick economical way to discriminate between the addictive groups.

If differing levels of Hope of Power and Fear of Power reflect distinct personality styles or motives, it will have broad implications for treatment. Such a finding could alter our understanding of and sensitivity to these patients' behavioral style. Making us conscious of a new dynamic, it will heighten our awareness of the subtle differences between individual patients and groups. Such knowledge could inform and shape treatment strategies so that treatment approaches correspond with the type of power salience displayed by the individual.

These findings would undoubtedly influence our expectations and perceptions. On the basis of these results, one would expect alcoholics to try to control, manipulate, and directly confront the power and status of staff members. In some ways alcoholics would endeavor to exert their power in some type of competitive struggle or game with the staff. The theme of power, control, and competition would be prominent in the treatment facility. Whereas, heroin addicts might exhibit slightly different behaviors and attitudes. Their need to attain power is outstripped by their concern with limiting, undermining, or discrediting the staff's power, legitimacy, and status. In short, they may operate to create a power vacuum but they are hesitant to fill it themselves.

The fantasies of the alcoholics inspire their quests for dominance, control, and superiority. The addicts' fantasies involve their distrust of power whether it is exercised by others or themselves.
Status of the power theory of addiction. The results show general support for the hypotheses derived from the theory. As predicted, the addicted groups exhibited more power concerns than the comparison group. This theory deserves serious attention when one considers that this current study signals in some respects an advancement or extension of McClelland et al.'s (1972) original work. For these studies used only college students and normal adult men. This latter group was recruited through an advertisement in the paper. Although no racial data is given, one can safely assume that the large majority of subjects were white since the research took place at Harvard and the surrounding area. Although Key (1972) tried to replicate these findings with hospitalized alcoholics, this present study marks the first time that this theory and concepts have been applied to drug addicts and to a predominantly black population. The pattern of results seems to affirm the usefulness and richness of this theory and invites further research to specify the relationship of the various aspects of power to an entire range of behaviors and diagnostic syndromes.

This current study highlighted the importance of the Fear of Power aspect, a dimension which promises to contribute to our understanding of the personality features of heroin addicts. As discussed earlier, a review of the literature revealed that the findings on the personality factors of heroin addicts has been meager and often contradictory. Psychopathy emerged as the only feature that usually characterized the addict. This study too uncovered similar results
with impulsivity, an essential aspect of psychopathy, differentiating the addictive groups from the comparison group. Nevertheless, the paucity of findings with regard to an "addictive" personality have led to the conclusion that heroin addicts are a heterogeneous population. However, this finding with regard to Fear of Power may challenge this widely held generalization.

Fear of Power is a dimension that cuts across several variables and may provide a communality in an otherwise heterogeneous population. Perhaps the reason for the paucity of results in other studies (Gendreau & Gendreau, 1970; Platt, 1975) has been the utilization of inappropriate measures for comparison. While the aspects of power are correlated significantly with a number of variables, few, if any, of these variables differentiate the group of addicts from comparison groups. However, power and its aspects are relatively new psychological constructs, formulated through a series of empirical investigations. Its development rests not on an individual's speculation as much as its meaningfulness in illuminating and predicting relationships in both experimental and natural settings.

To reconcile the meager results of previous studies with these findings on Fear of Power recalls the distinction between motive and habit. Habit or trait refers to behavioral tendencies, a predisposition to act in a certain way. The concept of motive denotes a deep-rooted need or propensity which can be expressed in diverse ways. For example, McClelland et al. (1972) contend that the power motive can be realized through activities as drinking, gambling, fighting,
and having prestige supplies.

This distinction allows one to explain the dearth of findings on the personality characteristics of heroin addicts along with these recent results. Most of the studies which reported few if any significant results were concerned with habits, symptoms, and traits little removed from the surface—the phenotype. This current study, with its interest in power, investigated a motive—the genotype. This distinction serves to integrate the findings from both approaches in the following way. Addicts may share an underlying motive while differing greatly on traits and habits.

In researchers' efforts to establish some personality factors related to heroin addiction, the power motive presents itself as a fruitful and promising approach in understanding the dynamics which contribute to drug abuse as well as alcoholism (Williams, 1976).

**Nature of Power Motivation**

The power motive is a recently developed construct. Yet it has been little utilized in research during the last five years. The reason for its apparent neglect stems from many researchers' aversion to projective techniques along with its elaborate scoring procedures. Its administration and scoring is time-consuming and costly which necessarily limits the number of subjects in the investigation. Consequently, an analysis of the correlations between aspects of power and other variables provide useful information regarding the nature of this concept. Also, these patterns of correlations serve to validate the scoring judgments, since they are consistent with the present
understanding of this construct.

For example, Table 7 shows that Fear of Power correlates positively with inhibition and negatively with age, Hope of Power, and social recognition. As stated earlier, both Fear of Power and inhibition are related to a control and restraint upon impulsive power (that signified by Hope of Power and social recognition). This pattern of results is quite consonant with the concept of Fear of Power as referring to power avoidance.

In marked contrast, Hope of Power correlates positively with aggression, dominance, endurance, order, social recognition, and narcissism. It correlated negatively with Fear of Power and inhibition. This pattern suggests active strivings for dominance, control, and recognition, behaviors and attitudes which capture the meaning of power and its pursuit. In fact, McClelland et al. (1972) described these impulsive power strivings as narcissistic in nature. To further elucidate the Hope of Power dimension, it should be observed that although Hope of Power correlates positively with aggression, they are not equivalent concepts. Rather aggressive behavior is only one expression or form which this power motive can assume.

It should be noted too that the negative correlation between Hope of Power and Fear of Power is not an artifact of scoring. Although each TAT story can be classified as having either a Fear of Power or Hope of Power theme, the number of stories and relative weight assigned to each story enables these aspects to be related in other than a negative way. This can be seen from Winter's (1973)
Table 7
Correlations of Power-Related Dimensions
with Other Variables

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<th>Variables</th>
<th>N</th>
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<th>Fear of Power</th>
<th>Inhibition</th>
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<td>-.36*</td>
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<td>--</td>
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<td>Hope of Power</td>
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<td>--</td>
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<td>-.20***</td>
<td>.29*</td>
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</tr>
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<td>.36*</td>
<td>-.20***</td>
<td>.23**</td>
</tr>
<tr>
<td>Age</td>
<td>--</td>
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</tr>
<tr>
<td>Dominance</td>
<td>.26**</td>
<td></td>
<td>.29**</td>
<td>--</td>
<td>-.21***</td>
</tr>
<tr>
<td>Narcissism</td>
<td>.26**</td>
<td></td>
<td>.28**</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Aggression</td>
<td>--</td>
<td></td>
<td>.31**</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Endurance</td>
<td>--</td>
<td></td>
<td>.24**</td>
<td>--</td>
<td>--</td>
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<tr>
<td>Social Anhedonia</td>
<td>-.30**</td>
<td></td>
<td>--</td>
<td>--</td>
<td>--</td>
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<tr>
<td>Nurturance</td>
<td>--</td>
<td></td>
<td>--</td>
<td>--</td>
<td>.22**</td>
</tr>
<tr>
<td>Play</td>
<td>--</td>
<td></td>
<td>--</td>
<td>--</td>
<td>.21***</td>
</tr>
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</table>

*p < .01; **p < .05; ***p < .07
review of five studies in which the correlations between Fear of Power and Hope of Power ranged from -.15 to .04.

**Future Research**

In concluding this discussion of power motivation and its various aspects, some directions for future research will be suggested. A cross-validation of this study needs to be undertaken principally to discover whether addicts and alcoholics show similar differences on Fear of Power and Hope of Power. The replication of these results would increase confidence in generalizing these findings to the population of addicts and alcoholics. As suggested earlier, the design of this study would control for the effects of setting and ideally operate in a relatively permissive non-structured setting (non-inhibiting).

Research can also investigate the effects of arousal (other than alcohol induced) upon Fear of Power and Hope of Power motives, particularly upon addicts and alcoholics. Such arousal conditions could possibly be created through setting up a gambling situation, threatening or bolstering self-esteem, etc. Finally, treatment strategies and programs should be developed, as in the work of Boyatzis (1975), suited to the type of power motive characterizing the patient. If such programs were to be established, program evaluation studies such as reported by Key (1972) would be necessary to gauge their effectiveness.
Multi-Discriminant Analysis

Excluding the demographic variables, a discriminant analysis produced a mathematical function which clearly differentiated the addict from the alcoholic group. The variables which had the highest loadings were affiliation, narcissism, aggression, impulsivity, and depression. Three of the variables—affiliation, impulsivity, and depression—were expected to have high loadings since the groups differed significantly on them in the comparisons. It is harder to account for narcissism and aggression. One could speculate that these were significant because they both correlate highly with Hope of Power (since n power is the sum of Hope of Power and Fear of Power concerns, only the n power variable was entered into this analysis).

Another discriminant analysis was performed upon seven variables (affiliation, Hope of Power, Fear of Power, aggression, depression, social recognition, and inhibition) believed on theoretical grounds to differentiate these groups. The analysis was able to effectively distinguish the addicts, alcoholics, and medical patients. All the variables figured prominently in the significant discriminant function except aggression and Hope of Power (Table 8). The two discriminant functions might be understood as two dimensions upon which the groups differ. The first dimension is bipolar, with affiliation loading positively (.45) and inhibition (-.48), Fear of Power (-.30), and depression (-.40) loading negatively. This dimension can possibly be labeled the outer-oriented vs. inner-oriented factor. The second discriminant function was not found to be statistically significant.
Table 8

Discriminant Loadings on Seven Variables
with Alcoholics, Addicts, and Medical Patients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliation</td>
<td>.459</td>
</tr>
<tr>
<td>Aggression</td>
<td>.096</td>
</tr>
<tr>
<td>Social Recognition</td>
<td>-.246</td>
</tr>
<tr>
<td>Depression</td>
<td>.407</td>
</tr>
<tr>
<td>Hope of Power</td>
<td>.037</td>
</tr>
<tr>
<td>Fear of Power</td>
<td>-.309</td>
</tr>
<tr>
<td>Inhibition</td>
<td>-.484</td>
</tr>
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</table>
Yet its loadings suggest another bipolar dimension, with Fear of Power loading positively (.09) and Hope of Power (-.70) loading negatively. Further research would be needed to define this dimension. At this stage, it could be called the approach and avoidance of power.

These discriminant analyses indicate that addicts and alcoholics are distinct groups. An inference drawn from these results is that these groups should not be combined in treatment facilities, a proposal which frequently arises from financial and bureaucratic considerations. Rather this analysis, along with group differences on aspects of the power motive, suggests that separate treatment approaches be developed and maintained for each group.

**Sub-groupings**

The data suggest that the power motive serves as an important variable in understanding both heroin addicts and alcoholics. It might also provide a basis for classification of sub-groups within the clinical populations. An inspection of the data for heroin addicts might lead to a classification of addicts into two major sub-groups: (a) those high in Hope of Power; and (b) those high in Fear of Power. This classification shows a striking similarity to Ogborne's (1974) division of addicts into "enhancers" and "avoiders." Also, a few subjects would remain unclassified on the basis of having either very low scores or equivalent scores on both aspects.

Among the alcoholics, a major sub-group which composes over half the group would be those subjects high in Hope of Power with low inhibition. These are precisely the characteristics which McClelland et al.
(1972) associated with heavy drinking. Because of the relatively small number of subjects in the sample, other subgroups along these power dimensions could not be distinguished. A few subjects showed a pattern (high Fear of Power, high inhibition) but whether such a small number constitutes a trend is difficult to determine. Nevertheless, such a division based on levels of inhibition and types of power appeals to one's sense of logic and symmetry. Again, there were a few subjects who remained unclassified either because of low scores or equivalent scores on the aspects of power.
SUMMARY

Several motivational theories of heroin addiction have been developed which postulate that salient motives play a significant role in drug addiction. These theories—the psychoanalytic theory as articulated by Rado (1933), the existential theory proposed by Greaves (1974), and the conceptualization based on the research of McClelland, Davis, Kalin, and Wanner (1972)—offer a conceptual framework for predicting which individuals are likely to become addicted to heroin. These theories were investigated by selecting measures which correspond to central features of each theoretical perspective. Narcissism and depression were those dimensions by which the psychoanalytic theory was to be evaluated. Measures of play and anhedonia were selected to correspond to the existential theory. And the power motivation theory was assessed through the scoring procedures developed by Winter (1973) for the TAT. Through a comparison of scores on these personality dimensions of heroin addicts, alcoholics, and medical patients at Westside VA Hospital in Chicago, this study sought to determine which theory most accurately accounts for the personality features of drug addicts. A discriminant analysis was also conducted to determine whether groups could be distinguished statistically through a differential weighting of the variables.

One-way analyses of variance indicated that the groups differed significantly on impulsivity, depression, and inhibition at the .05 level. Fear of Power, affiliation, and social recognition approached
the level of significance at the 0.1 level. In addition, Hope of Power and n power showed a trend toward statistical significance at the 0.13 level.

A series of planned comparisons among the groups revealed the following results: (a) addicts exhibited more power concerns than the medical patients, but did not differ significantly from the alcoholics; (b) addicts tended to display more Fear of Power themes than the other groups; (c) alcoholics tended to evince more Hope of Power themes than the addicts; and (d) addicts were more depressed and tended to be more inhibited than the other groups.

On the basis of these findings, the motivational theories were discussed and evaluated. The psychoanalytic theory received partial support in that depression characterized the addict group. Yet it cannot be determined whether depression preceded or was the result of a drug problem. Moreover, the addicts' greater depression can be attributed to drug-detoxification and the more restrictive regimen and ward policy of the drug program as compared to the alcoholic and medical wards. No empirical support was garnered for the claims of the existential theory. The power motivation viewpoint received some support suggesting that this power motive represents an important dimension in both alcohol and heroin addiction. It was found that addicts tended to be characterized by a Fear of Power (avoidance of power) while the alcoholics exhibited more Hope of Power (approach to power) themes. These differences between groups on aspects of power are discussed, with particular attention given to the addicts' high
inhibition and the different desired effects produced by alcohol and heroin.

The discriminant analysis, along with the findings on the aspects of the power motive, indicate that alcoholics and addicts are distinct groups. This analysis suggests that treatment strategies and approaches be developed and maintained for each group. It is suggested too that power-related variables might provide a basis for developing a typology for heroin addicts.
REFERENCES


Gendreau, P., & Gendreau, L. P. A theoretical note on personality characteristics of heroin addicts. Journal of Abnormal Psychology, 1973, 82, 139-140.


The dissertation submitted by Michael E. Carney has been read and approved by the following Committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.