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THE UNIVERSITY OF ALBERTA

PERSONALITY AND SOCIOMETRIC CHARACTERISTICS OF HIGH SCHOOL AND HOSPITALIZED ADOLESCENT DRUG USERS AND NON USERS

BY

JOAN A. YEUDALL (C)

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF EDUCATION

IN

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Personality and Sociometric Characteristics of High School and Hospitalized Adolescent Drug Users and Non-Users submitted by Joan Weudall in partial fulfilment of the requirements for the degree of Master of Education.

Supervisor

Date Dec 75

To Lorne Yeudall

ABSTRACT

The purpose of the present study was to explore some relevant factors: personality characteristics, acquired belief systems and attitudes, social alienation in our current society and familial relationships which would distinguish groups defined by a non-medical drug—non-drug use continuum. A cross-section of adolescents, a normal (high school) and deviant (mental hospital) population, were investigated. The subjects of this study were drawn from the Adolescent Unit of the Alberta Hospital, Edmonton, and two Edmonton High Schools —one Catholic and one Public. The participants ranged in age from 15 to 20. The subjects from the two populations were qualitatively classed, according to extent of non-medical drug use, into the following categories: Alcohol Only group, Marijuana Only group, Multiple Drug group and Non User group.

The California Personality Inventory and a questionnaire, which would yield information about pertinent demographic variables, specific drug and non-drug related behavior, family variables, social and peer group relationships, values, and attitudes towards drugs, were administered.

The continuous variables were analyzed by the one-way analysis of variance and Scheffé comparison of means methods; the discrete variables were analyzed by the chi square method.

The major hypothesis, which dealt with the personality variables of the California Personality Inventory, was that the High School Multiple Drug group would resemble the four hospital groups and differ from the High School Alcohol Only, Marijuana Only and Non User groups. The major hypothesis for all variables (scales) of the California Personality Inventory was not supported. The significant results suggested the two Multiple Drug groups' problems relate to the socialization-asocialization (delinquency) continuum. The minor hypotheses, which dealt with the questionnaire data, were that the High School and Hospital Multiple Drug groups would resemble one another and differ from the other groups. The minor hypotheses for all of the variables were not supported. However, the two Multiple Drug groups were similar and showed some significant differences from the other groups in their family and peer relationships, family structure, and specific activities and interests. The Normal Multiple Drug group was one of the youngest groups and the subjects of the Hospital Multiple Drug group, who had long histories of non-medical drug use and personal problems, were the oldest. One of the most important implications of this finding for further investigation is the possibility of psychopathology extant within the High School Multiple Drug group.

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

INTRODUCTION

The most comprehensive review of current drug[1] behavior in Canada, the LeDain Commission of Inquiry into the Non-Medical Use of Drugs, concluded that alcohol may be our most serious drug problem for both adults and youth. The final report, nevertheless, referred to the use of strong hallucinogens, amphetamines and opiate narcotics as the drugs of concern requiring further understanding.

From the period of increased non-medical drug use, beginning in the mid-1960's in this country, experts in the social, medical and psychological fields have offered explanations and theories have proliferated. The LeDain Report, however, repeatedly pointed to the valuable but primarily impressionistic data (clinical) and the disproportionate amount of research on non-representative samples, such as prisons, as a basis for explanation. What may be regarded as methodological problems are further confounded by opposing value systems and problems of a semantic nature.

---

[1]Drug. Any substance that, by its chemical nature, alters structure or function in the living organism. Substances which are typically required for the maintenance of normal function (such as foods) are generally excluded from this definition.

The present study is an attempt to provide information about normal (high school) adolescents as well as abnormal (mental hospital) adolescents utilizing objective, quantifiable psychological and socio-psychological measures considered relevant to drug using behavior.

The frequent and multiple user of psychoactive drugs will be the focus of concern.

THE PROBLEM

During the mid-1960's a small but significant segment of Canadian middle class youth began to use psychoactive drugs and the illegal use of these drugs, rather than being a transient phenomenon, has since increased. There is evidence that the overall rate of increase may have reached a stage of stabilization from 1968 to the present.

The occasional use of marijuana socially, when not associated with use of more "dangerous drugs," may be no more or less harmful than the occasional use of alcohol, which is readily accepted by society, and may be motivated by the simple desire for pleasure (LeDain, Cannabis Report, 1972).

"Experimental" use by adolescents may be regarded as normal adolescent curiosity, particularly in a society which values new and novel experiences (LeDain, Final Report, 1973).

More frequent or dependent use of any psychoactive drug, but particularly of such psychoactive drugs as the strong hallucinogens such as LSD, amphetamines, and opiate narcotics, is regarded by the present writer as serious both because of

their greater potential to harm the individual and because of the purported social and personal problems their use reflects. Users of such drugs are variously regarded as having a more serious personality disturbance or as reflecting the serious problems of our society in a state of transition. However, use of the more dangerous drugs is considered by many to involve primarily chance factors and normal social learning through association with peers who use those drugs.

One of the most frequently re-occurring themes in the literature is the concept of alienation of youth from the values of the dominant culture during a period of rapid societal change and the consequent vulnerability of youth to drug use to escape the stress resulting from such change.

King (1969) offered a frame of reference for dealing with these issues which embraces both the factors of the individual selective response, or the individual and his particular motivations, and the factors of societal change during the particular phase of adolescent development.

King regarded the major task of the adolescent, that of forming a stable identity, as more apt to being a crisis during social change and this crisis may be reacted to by passive withdrawal or active rebellion taking either a constructive or destructive form. Drugs may provide an avenue for withdrawal and represent one way of responding to a crisis.

He warned that a danger particular to the use of drugs by adolescents, lies in the delaying of the normal maturational process and acquisition of skills necessary to function in

society. The adolescent who does not react to the crisis constructively but rather chooses drugs, sets off a chain of events that may be ultimately destructive.

The appreciation of the role of both social factors and the selective individual response in an interactive process is regarded by the present author as a reasonable model for explaining any human behavior, in this instance drug behavior. The present study will explore those social-psychological and personality variables associated with drug using behavior.

Unrepresentative populations, such as prisons, have frequently been the source of information on drug users and this information has been generalized to adolescents. The present study is based on a cross section of normal high school students and adolescents institutionalized in a Provincial Mental Hospital.

Many of the earlier studies of the mid-1960's, particularly those concerned with marijuana, compared marijuana users or drug users to non users. The first class was frequently heterogeneous and included a wide range of drug using behavior. Drug use follows different patterns and the present investigations will be an attempt to determine whether different characteristics are associated with these different drug using subcultures. Subjects will be qualitatively classed as to drug use to provide this information.

HYPOTHESES

The major hypothesis of the present study is that the

High School Multiple Drug group would differ from the High School Alcohol Only, Marijuana Only and Non User groups and resemble the Hospital Alcohol Only, Marijuana Only, Multiple Drug and Non User groups on the respective personality variables of the California Personality Inventory.

The minor hypotheses regard the variables specified as Interest and Activity Orientation, Family, Social and Peer Relations, Values, and Attitudes Towards Drugs. It is hypothesized that the High School and Hospital Multiple Drug groups would differ from the High School and Hospital Alcohol Only, Marijuana Only and Non User groups on these variables.

ORGANIZATION OF REMAINDER OF THE THESIS

Chapter Two of the Present study, in the absence of a conclusive research based theory on drug use, contains a review of relevant hypotheses regarding the social-psychological and personality variables characterizing different drug using populations. Related research findings are presented. Final emphasis is on the multiple-causation approach of Chein (1968). In Chapter Three the experimental design and procedure of the present study are outlined and the results are presented in Chapter Four. Chapter Five includes a summary and discussion of the results of the study with reference to the research and hypotheses reviewed in Chapter Two. The implications for further research are discussed briefly and possible application of the findings in the therapeutic fields are mentioned.

CHAPTER II

SURVEY OF THE LITERATURE

INTRODUCTION

There has been an enormous proliferation of literature on the subject of the non-medical use of psychoactive drugs from the period of increased use in the mid-1960's. The present review is a selected sample of relevant hypotheses and research evidence and is primarily concerned with the sociological and psychological correlates of the non-medical use of drugs. Theories are reviewed under "epidemiological," "social," "psychological," and "social-psychological" factors, although there is considerable overlap. Such a distinction is considered arbitrary and drug behavior is assumed to involve multiple causes which interact in a dynamic and complex manner. The chapter concludes by a presentation of the multiple-causative theory of Chein (1968) as a frame of reference in which data and hypotheses can be incorporated. Although they are considered important variables, there is minimal discussion of the conditions considered necessary but not sufficient for drug use; availability, information and opportunity, and neutralization, through peer influence, of the moral, legal and medical-health "social controls."

"Drugs of concern" are referred to the use of strong

hallucinogens, such as LSD, amphetamines and the opiate narcotics. The review is considered in the context of the assumption that occasional marijuana use or experimental use of the "drugs of concern" is not symptomatic of pathology nor is this pattern of use likely to have as serious consequences (LeDain Reports, 1972, 1973).

An additional consideration regards the general social climate in which drugs are used today as opposed to the ethos of initial use in the early 1960's. It is assumed that earlier proselytizers of hallucinogens, such as Dr. Leary, for the purpose of attaining religious insight and self improvement, and the philosophy of the "hippie subculture" are less influential today (LeDain Report, 1973).

The "social user," described by Keniston (1968-69), as in search for truth and meaningful experiences, may be more applicable to an earlier period, or, at least, to college rather than high school students who may be more hedonistic users. This does not deny the importance of alienation or a counterculture explanation of psychoactive drug use.

"Physiological" effects and effects on "intellectual" functioning are not emphasized and the pharmaceutical properties of the drugs will not be discussed.

The chapter begins with a presentation of selected estimates of use in Canada and demographic variables as an index of the general proportions of the problem.

EPIDEMIOLOGY

INCIDENCE OF USE

Most of the epidemiological studies of illicit drug use, employing acceptable sampling techniques, have concentrated on high school populations in Eastern Canadian cities. These estimates, to be presented, may approximate use in the city of Edmonton which was the location of the present study. One survey of six provinces including Alberta found that rate of use in 1969 of marijuana, LSD, and solvents was 8.11, 2.24 and 5.86 percent, respectively (Smart, 1971). In the Edmonton Public School Board Drug Survey (1971) of 3,246 students, use of drugs other than alcohol and tobacco was reported by 38.6 percent, 39.8 percent, and 42.7 percent of the students in grade ten, eleven, and twelve, respectively. Of those who has used drugs, eighty one percent had discontinued under the influence of family or friends.

1. Marijuana

Whitehead and Smart (1970) who reported on the overall incidence of high school student marijuana smoking in Halifax, Toronto and Montreal found the rates to be similar, 6.6, 6.9 and 8.6 percent, respectively. Smart and Fejer (1971) reviewed three surveys conducted in 1970 in Niagara Counties, British Columbia and Ottawa which indicated the higher rates of 12.4, 19.7 and 9.0 percent, respectively, using marijuana.

2. Hallucinogens

Whitehead and Smart (1970) found high school student LSD rates were virtually the same in all three of the Halifax, Toronto and Montreal communities ranging from 2.4 to 3.2 percent. The rate of use of other hallucinogens was also similar, ranging from 2 to 2.5 percent. The Commission report (1973) on a national survey of LSD and other hallucinogen use estimated that four percent of students had used the drug by the spring of 1970, which increased and possibly stabilized at a 5 to 10 percent rate in the spring of 1972. Smart and Fejer's review (1971) of the three 1970 surveys found LSD use higher than the earlier 1968-1969 rate of an average of 2.5 percent. The high school student rates in 1970 in Toronto, Halifax and British Columbia were 8.5, 8.1 and 6.6 percent, respectively.

3. Amphetamines

Whitehead and Smart (1970) reported the incidence of stimulant use, amongst high school students, to be 5.8 percent in Montreal, 6.0 percent in Halifax and 7.3 percent in Toronto. Smart and Fejer's (1971) review of surveys found an average of 6.5 percent rate of use in the three cities from 1968 and 1969 did not differ significantly from the rate of use in 1970.

The LeDain Commission research report (1973) distinguished between intravenous amphetamine use and oral use of amphetamines. They estimated there were 2,000 to 3,000 chronic, high dose intravenous amphetamine users with a further 1,000 to 1,500 who did not use it regularly. They found these rates became

numerically stable between 1970 and 1972. The Commission survey (1973) suggested a figure of 7 percent for students using amphetamine and amphetamine like drugs orally was representative and that there was no significant change from 1968 to 1972.

Smart and Fejer's (1971) epidemiological review indicated an average of 6.5 percent of students in Halifax, Montreal and Toronto used stimulants at least once and this rate did not differ significantly between 1968 and 1970.

4. Glue and Solvents

Whitehead and Smart (1970) found considerable variation in rates of glue sniffing amongst high school students ranging from 1.9 percent in Montreal to 3.1 percent in Halifax to 5.7 percent in Toronto. Similarly, Smart and Fejer's (1971) review of surveys indicated wide variation in reported use in 1970 with 1.2 percent rate of use in British Columbia, 3 percent in Ottawa and 3.8 percent for glue and 5.3 percent for solvent use in Toronto.

A LeDain Commission survey (1973) estimated solvent use amongst adolescents to be about four percent with about 20 percent using the drugs more than once a month. The rate of use of solvents showed stabilization and possibly decline from the 1968-1972 period.

5. Barbiturates

Both Whitehead and Smart (1970) and LeDain Commission studies (1973) suggested there was not significant change in

the number of people using barbiturates during the period 1968 to 1971. The incidence of use was estimated to be about three percent, with one fifth using these drugs more than once a month.

6. Opiate Narcotics

Whitehead and Smart (1970) reported opiate use by 1.9, 1.5 and 1.6 percent of high school students in Toronto, Montreal and Halifax. Predictions by the authors were that these rates would increase..

7. Multiple Drug Use Patterns

Wozny (1971) found marijuana use correlated significantly with other drug use, including the use of alcohol and tobacco in a technical school and university population.

Whitehead and Smart (1970) examined the rate of use of other drugs within the high school marijuana smoking groups in Halifax, Toronto and Montreal whose use was estimated to be 6.6, 6.9 and 8.6 percent, respectively.

Within the marijuana smoking group, use of tobacco and alcohol showed the highest rate of use, with 78 and 86 percent of the students using alcohol and 83 to 90 percent using tobacco. Bogg (1969) found a similar association for American high school students. Those who used alcohol were much more likely to want to try marijuana.

Stimulant use was reported for 40 percent of the Halifax and Toronto marijuana using group and 30 percent for Montreal.

LSD rates of use were virtually the same in all three

communities, about 30 percent.

Relatively low rates of glue sniffing were found in Halifax and Montreal; 13 and 12 percent, respectively, while the Toronto rate was twice as high, 26 percent.

Barbiturates were used by 16 percent of Montreal marijuana smokers. For Toronto, the rate was 24 percent and 30 percent in Halifax.

Halifax and Toronto had higher rates of opiate use, 22 percent and 20 percent, than the Montreal rate of 14 percent.

Whitehead and Smart (1970) like Goode (1969) considered sociogenic factors as important in an explanation of their findings. That is, similar psychoactive substances to marijuana are frequently available through similar channels. Also, increased association with people who define drugs favorably provides information and the opportunity for learning that neutralizes the mechanisms of social control of drug use such as immorality and the fear of medical health hazards.

They also considered psychological factors and suggested marijuana and LSD users may find themselves aversive and would like to experience any number of emotional and perceptual changes.

SEX

Hughes (1971) found significantly more users of marijuana were male at the Northern Alberta Institute of Technology, whereas, Wozny (1971) found no sex differences in users at this technical institute nor at the University of Alberta, Edmonton.

Whitehead, Smart and Laforest (1970) found that in Toronto, Halifax and Montreal, for the more socially acceptable drugs such as alcohol, the ratio of males to females was very similar.

Prescription drugs such as tranquilizers, barbiturates and amphetamines also showed a one to one ratio. However, for the less acceptable drugs, marijuana and glue, the ratio was two males to one female and three times as many males used LSD.

The LeDain Commission (1973) reported a three to two, male to female ratio of LSD in 1970 and in 1972, the use of glue showed a more even sex distribution.

GRADE

Whitehead (1969) found a general trend in increase in drug use in Halifax from grade seven to grade eleven, with a decrease between grade eleven and twelve. The only exceptions to this trend; glue sniffing peaked in grade nine and marijuana use in grade twelve. Toronto differed from this in that it was not characterized by a single dominant trend in peak rates.

GRADE AVERAGE

LeDain Commission field studies (1973) of speed using communities found that most who did not reside with parents had left school before graduating and between 60 and 70 percent of the total sample had failed one grade.

Similar findings of poor academic performance and early school drop out are reported among opiate users and in

Henderson's British Columbia study (1970) more than eighty percent had left school by age sixteen. Smart, Fejer, and White (1972) found that of those students having an average of 50% or less, 16.3% used LSD, while only 2.8% of those with an average over 74% claimed to use LSD. They also found that the greatest proportion of users of barbiturates and tranquilizers were among those who had an average of 40% or under and solvent users did not do as well in school as their peers.

Wispinski's (1972) sample of adolescent multiple drug users from Alberta Hospital, Edmonton were found to be one to two years behind in school and a high percentage had dropped out of school.

Whitehead (1970), in a review of studies, had found a very similar pattern of poor academic performance to those found by Smart, Fejer and White (1972) for Halifax high school students who used LSD, barbiturates and solvents. Both studies showed academic performance was not significantly related to the use of alcohol among high school students.

SOCIAL CLASS

Wozny (1971) found no differences in the social class of marijuana users, potential users and non users who attended either the University of Alberta, Edmonton or Northern Alberta Institute of Technology.

Smart, Fejer and White (1972), and Whitehead (1970) reported no relationship was found between social class and the use of alcohol or hallucinogens. They found a high proportion of students who used barbiturates and tranquilizers

came from homes where the father was either a professional or skilled worker, but use was highest among those students reporting "no father" or "father not working." Similarly, use of solvents was highest in this latter category, but, otherwise, users showed a normal class distribution.

The Commission survey (1973) reported that the majority of "speed" users had a middle or upper middle class origin.

The MacDonald Commission study (1971) of a non-high school sample of heroin dependents in a British Columbia prison found that over forty percent of the subjects came from homes where the father or father substitute was a professional, a white collar worker or a skilled laborer. Five percent of the fathers had been unemployed or engaged in unlawful pursuits, but, otherwise, occupational distribution resembled a normal population.

SOCIAL THEORIES

The concept of alienation is one of the major themes appearing in the literature on drug use. This social theoretical orientation is exemplified by Crook (1970). He blamed the major social institutions for failing to provide situations and opportunities for meaningful and satisfying social participation by the young. Adolescents feel and rebel against this denial of meaningful participation. He stressed the psychological problems of the affluent who cannot find satisfaction in current society.

Crook regarded parents as also alienated due to the shift

to urban, industrialized society which increases the potential of generational conflict. Further conflict arises out of parents' attempts to "live" through their children.

Also, the education system was regarded by Crook as dehumanizing and yet the young are not assured security. They reject the bureaucratized, industrialized society and the intellectual approach to life. If they do not opt for political activities, only drugs remain as a retreatist mode.

Similarly, Grinspoon (1971) and Keniston (1968-1969) viewed a "generalized rejection of prevalent and dehumanizing American values" as playing a role in psychoactive drug use. The alternative value here, is for internal experience, truth and meaningful experience. Grinspoon added that a lack of commitment to past, stable traditions leaves students with a profound uncertainty about their future and generates the experience of vague anxiety.

Both authors distinguished between the "pothead," who regularly uses marijuana and probably LSD and for whom drug use becomes a central focal point, and the "occasional," or casual, and "frequent" social user. Grinspoon considered it is within the first group that psychopathology exists and frequently it is the same group for which drug use is most dangerous. Psychopathology may be in the form of marked anxiety, severe depression, cognitive disturbances or depersonalization and these disturbances both play a role in motivation to use drugs and also enhance the risk of use.

Suchman (1968) paralleled this view but rather than

referring to the "absence" of a value system, proposed the emergence of a new value system and refers to the new outlook on life as the "hang-loose ethic." He sees the youth of today developing new behavior patterns and values which are, for the most part, contrary to the established order. One of the fundamental characteristics of this ethic is that it is irreverant. It repudiates or at least questions seriously such cornerstones of conventional society as christianity, my country right or wrong, sanctity of marriage, civil disobedience, the accumulation of wealth, right or even competence of parents, the schools, and the government to head and make decisions for everybody—in sum, the establishment.

Suchman, through a questionnaire found that the more a student's self-image tended to be rebellious, cynical, anti-establishment, "hippie" and apathetic, the more likely was that student to use marijuana.

Hughes (1971) examined the applicability of the "hang-loose ethic" for understanding marijuana use in a Canadian setting (Northern Alberta Institute of Technology). His questionnaire, designed to measure adherance to the "hang-loose ethic" (as opposed to the Protestant ethic), consisted of items about family, aspirations, activities, and some behavioral, attitudinal, value and personality (self concept) correlates of the "hang-loose ethic." As predicted, Marijuana users were significantly differentiated from the Non Users, by items considered correlates of the "hang-loose ethic" and were found to be male, urban, agnostic, experienced fewer

close relationships and activities with families, felt they were more popular with the opposite sex, and favored having a good time.

Kleber (1965) cautioned, "orientation to subculture or counterculture values may reflect adjustment to a smaller group." This bears on the problem of interpretation and diagnosis of young drug users on standard psychological tests that equate what may be deviant as pathological.

Grinspoon (1971) considered concepts of defiance and deviance as becoming increasingly irrelevant to marijuana use.

H. B. Becker's (1968) model, with specific reference to marijuana, took issue with the premise that a psychological need or problem motivates the regular user. He conducted interviews with fifty regular users of marijuana and concluded that the chief motive was pleasure, not a wish to escape from the psychological problems he cannot face. It was most used, he found, as a casual non-compulsive pleasure giving recreational device. Becker considered that habitual marijuana use comprises a "learning process," where, by association with other experienced users, the neophyte learns to recognize the presence of symptoms of marijuana use and define them as pleasurable. In the course of this process, he develops a motivation to use marijuana which was not and could not have been present when he began use.

This model may, of course, not apply to other drugs, with the possible exception of LSD. Goode (1969) asserted that

marijuana may be a unique drug in that its use is "sociogenic," that is, its use is group dependent and the "using" group shares an identity and its use may, therefore, be accounted for by Becker's model.

Becker's model exemplifies the "contagion" or "infection" theory and the significance of association with users in both initial use and choice of drug using pattern. With respect to youth this points to the possible importance of the peer group influence or pressure.

Fort (1969), rather than offering the concept of deviance or alienation as an explanation of drug use, regarded it as the successful modeling by children of adults in a "drug prone" nation.

Simon and Gagnon (1969) similarly stated, "kids are not in revolt, they are acknowledging how influential a model the older generation was."

Grinspoon (1971), in a similar vein, suggested, as the external world becomes more crowded and consequently both esthetically less interesting and more restricting, there may be increased interest in exploring facets of the internal world.

And finally, the LeDain Commission Report (1973) considered certain conditions of modern life conducive to non-medical use. Among them is the bombardment of the nervous system by stimuli of all kinds. This leads to a desire to seek relief by withdrawal or insulation of some kind.

The above sociological considerations emphasize that the drug user emerges out of a particular set of social

relationships. There is a tendency to either deny the appropriateness of the concept of deviance or to locate the deviance within the social processes and social structures rather than within the individual. Further, the choice of drugs is mediated by social and environmental influences.

PSYCHOLOGICAL THEORIES

A psychological approach to psychoactive drug use generally views the repeated usage of psychoactive drugs as indicative of underlying personality problems or psychopathological. The difficulty of disentangling the problem of which came first; the drug or the depression or personality disorder, is apparent in most studies.

The concept of "social career" was provided by Becker (1968) in a "sociological" explanation of drug use. A study conducted by Blumer (1967) raises the question of what additional factors determine selection of an individual into a particular "social career." Blumer noted in his study of juvenile multiple drug users, that within a lower class neighborhood there co-existed a variety of adolescent drug using patterns. He concluded there were a variety of "careers" along which one could pass.

With specific reference to heroin, the LeDain Commission (1973) concluded that its use is often only a part of a complex of delinquent activities and attitudes. A variety of personality and chance factors determine self selection into a particular friendship group but these have not been adequately

explored to date. Lindesmith (1940) accorded great importance to chance factors in an explanation of heroin use and argued that the desire to try heroin was motivated by a lack of other activities and gratification in other areas of life.

In the following studies specific psychopathological states or more general personality disturbances are postulated as an explanation for use of a variety of psychoactive drugs.

Paterson (1970) recognized the existence of a group of young people in Edmonton, who "do drugs," i.e., used anything available or offered to them. This group is distinguishable from adolescents who "experiment" with drugs or from those with "situational" problems.

The young people who "do drugs" have a significant degree of psychopathology (e.g., manic, depressed, or suicidal states). These individuals are generally rebellious towards authority figures, "dropouts" or "underachievers" in school, withdrawing from our society, often lonely and they find considerable support and need satisfaction in a "drug culture."

Strict legal enforcement and lack of awareness among adults may only increase their estrangement from "our" society. Rather these individuals, who are identifiable, should be recognized as in desperate need of help. They are generally still open to help from a non threatening and trusted adult (Paterson, 1970).

Wispinski (1972) examined the files of thirty-seven, male, multiple drug users (one to three years, three to five psychoactive substances) between the ages of fifteen and nineteen,

from Alberta Hospital, Edmonton. This was also the institution from which came the Hospital Multiple Drug group of the present study, although both males and females were sampled. These are generally the individuals Paterson (1970) refers to as "doing drugs."

The majority of patients entered voluntarily with the following symptomatology: depression, suicidal attempts, sleep disturbance, anxiety and a history of illegal drug use. If, however, they entered on certificate, they presented the following symptomatology: psychoses with hallucinations, paranoid delusions, confusion, suicidal attempts and inappropriate behavior. The patients had experienced poor family relationships, had a history of broken homes and/or foster home placement. The Minnesota Multiphasic Personality Inventory results of the patients indicated they had poor planning ability, poor concentration, shallow social relationships, were moody, resentful, and acted out in an impulsive manner. They were generally self absorbed, and felt alienated and misunderstood. The concluding picture was of adolescents who having experienced poor family relationships, would quit school, and consequently feel anxious, depressed, confused about their position in the world, and alienated from others.

Levine (1972) found, in his investigation of Toronto speed users, that one third to one half showed evidence of personality disorders. The four basic themes identified in their lives were: unhappiness, as manifested in feelings of depression, existential dissatisfaction and anxiety;

escapism from the unpleasant reality of their lives; communality, an ethos of sharing and antimaterialism which appeared to be related to their need for company, and social disintegration, as evidenced by high rates of broken or unstable homes, parental drug use and crimino—legal involvement as well as poor academic and occupational records. The investigators concluded that those attracted to dangerous chemicals are emotionally unstable a priori.

Researchers Pittel and Hofer (1970) suggested that speed users are recruited from among those persons who have been depressed, disillusioned or disoriented by their use of hallucinogens. They postulated that psychedelic drugs are used to compensate for long-standing impairments in ego functioning. Drugs lead to further impairment of ego functions and greater inability to resolve psychological problems. Amphetamines may be used to counteract increasing anxiety and depression and the sense of pervasive emptiness that results from continued failure, due to hallucinogen use, to deal with persisting, exacerbated personal problems.

Extensive investigations were conducted in the state of Vermont by Steffenhagen, Leahy, McAree and Zheutlin (1967-68-69). The first study of High School Students is of interest because marijuana users were distinguished from "potential users," those who would use marijuana if given the opportunity. The study also attempted to separate pre-disposing factors from the effects of psychoactive drug use.

The researchers found that the fathers of marijuana users

show a higher educational level, hence they attributed marijuana use to the greater intellectual stimulation and curiosity of this group.

Using an index of emotional stability they found a marked degree of emotional impairment in the potential user and user groups, the latter being the most unstable in comparison with the control group. They advanced the thesis that drugs per se are not the problem but rather a symptom, and the psychological makeup of the student is the predisposing factor to drug use. The problem is one then of mental health. They concluded that unless society provides structure for the adolescent in his search for an identity and the development of a value system, he may turn to drugs as a means of finding the answer to the question "what is life all about."

McAree, Steffenhagen and Zheutlin (1969) conducted a study of college students during a period from 1967-1968 using an objective, quantifiable test. They found that drug usage follows different patterns and these patterns may be associated very clearly with personality characteristics as measured by the Minnesota Multiphasic Personality Inventory. A marijuana group could not be differentiated from the control, non-drug using group on the Minnesota Multiphasic Personality Inventory, with the exception of the masculinity-femininity scale which is an "interest" scale rather than pathology scale. This was interpreted as reflecting the increased sensitivity and aesthetic appreciation of the "marijuana only" group. For the "gross-multiple" versus "control" comparisons, seven

scales F, Hysteria, Psychopathic Deviate, Masculinity-femininity, Schizophrenia, Hypomania and Social Introversion, differentiated the two groups at the .05 level of confidence. Also, there was a greater tendency for the gross-multiple group to smoke marijuana alone. In terms of pathology then, the schizophrenia scale distinguished the gross-multiple group, (.01 level) which, rather than reflecting overt psychosis, was interpreted as representing such schizoid personality characteristics as withdrawal and poor interpersonal relationships, aloofness and an inability to express emotions.

They concluded that the potentially more disturbed individual seems to be attracted towards the potentially more dangerous forms of drugs, possibly as an attempt to ease their feelings of loneliness.

These findings are in contrast to the unusual findings of Kleber (1965) who suggested that those with more serious personal problems are least likely to persist in hallucinogen use because of unpleasant hallucinatory experiences. The findings of McAree, et al, (1969) have implications for treatment as they suggest marijuana usage may cover normal adolescent development; whereas, gross-multiple drug users may need a therapeutic intervention.

A 1967-1968 study by Steffenhagen, et al, reported the similar finding in a group of marijuana users, 66 percent of which reported use of other drugs, that increased marijuana smoking is associated with the tendency to smoke alone. Use

of other hallucinogens was a function of frequency of marijuana use and with increased marijuana use there was greater association with drug users. Further, they found 42 percent of the subjects got "high" the first time. They consider this finding contrary to Becker's thesis, and the authors consider "smoking marijuana is not only a function of social forces" (Steffenhagen, et al, 1967-68).

Researchers with a psycho-analytic orientation emphasize the themes of sex and aggression in an explanation of psychoactive drug use. Welpton (1968) described ten volunteer chronic LSD users over the age of 21. On all psychological tests the major problem of every subject related to sexual identification manifest in either phobic avoidance of sexuality or an intense preoccupation with homosexual-sadomasochism.

Edwards, Bloom and Cohen (1969) matched thirty male psychedelic users (LSD, DMT, STP, etc.,) and thirty matched controls and compared results on the Rosenweig and Comrey tests. The drug dependent group demonstrated aberrant traits only with respect to hostility. It appeared that this propensity is unrelated to degree of drug dependence and may reflect a predisposing state. People who have difficulty handling their aggressive feelings may tend to become heavy drug users. How this aggression is expressed appears to change with degree of dependence, becoming more extropunitive and obstacle dominant with increased use. The hostility was expressed as greater cynicism, psychopathy and aggression.

The above studies emphasized the aberrant personality

characteristics of users of psychoactive substances. The studies of two investigators, whose findings minimized the abnormal characteristics of drug users, will be presented.

Weckowicz study (1973) of drug users included a large battery of tests, including tests of personality traits and social attitudes. The tests were administered to twenty-two male non-medical drug users and eleven non-drug university students. On the California Personality Inventory (CPI), the users scored significantly higher on the Flexibility and Capacity for Status scales, but signigicantly lower on the Socialization scale. They scored higher, although not significantly, on Social Presence, Achievement via Independence and Sociability scale, but lower, although not significantly, on the Communality, Responsibility and Achievement via Conformance scales. He concluded, college marijuana smokers may reject social conventions but adopt a broad moral perspective rather than being immature or characterized by features of a mental health-illness continuism. Unfortunately, it is difficult to assess the results as the group was heterogeneous. The marijuana users had smoked for three to five years for a median number of four years, however, some admitted to taking LSD and amphetamines.

Weckowicz, et al, (1973) attempted to replicate the above results with enlarged marijuana and non-drug groups of twenty-four subjects each. Most subjects in the marijuana group had smoked at least once a day for three years. The investigators also found marijuana users scores to be signif-

icantly lower than the non users on the Socialization scale, but failed to reach the level of significance found in the earlier study on the Capacity for Status and Flexibility scales, which were higher for the marijuana group. Similarly, the drug group was more Self Accepting, and higher, although not significantly, on the Achievement via Independence, Social Presence scale and lower, although not significantly, on the Good Impression, Achievement via Conformance and Responsibility scales. Results on the Communality and Sociability scales were reversed from the earlier study with marijuana users scoring slightly higher on Communality and slightly lower on the Sociability scales. He suggested this may have occurred because, unlike the earlier study, students completed the test at home. This points to the necessity for observing standardized test conditions. Again, the "marijuana users" formed an heterogeneous group and most were involved with heavy use of LSD, mescaline and psilocybin and experimental heroin, cocaine; and amphetamine use, although none were "addicted" to the latter.

In summary, the researchers characterized college marijuana users as social deviants (lower Socialization, Good Impression, Achievement via Conformance and Responsibility scale scores) but as capable of autonomous growth and a "broad moral perspective" (higher Capacity for Status, Flexibility, Achievement via Independence and Social Presence scale scores).

Wozny (1971) administered a battery of psychological and sociometric tests to Ss drawn from a University population (University of Alberta, Edmonton) and a technical school

(Northern Alberta Institute of Technology). He defined his groups as Marijuana Users, Potential Users and Non Users. Only two of the eleven psychological tests yielded significant results. Non Users were found to be more biophilus (open minded, less social acquiescent, less authoritarian and more rejecting of institutions) than Marijuana Users as measured by the Life Orientation Test. On the Social Acquiescence Test, Potential Users trended toward higher social acquiescence and Marijuana Users were significantly less acquiescent. Covert anxiety was found to be more manifest in Potential Users than Marijuana Users, but measures of overt anxiety did not significantly differentiate the groups. No differences were found in I.Q., anxiety, agreement response, perceptual complexity and authoritarianism.

In the present review, the major concern has been with the undesirable concomitants of heavy psychoactive drug use and the motivation to use these more dangerous drugs. McGlothlin and West's theory (1968) based on clinical observation, described the amotivational-syndrome as an insidious effect, specific to marijuana use. This may be of particular relevance to adolescents. McGlothlin and West suggested marijuana may contribute to the development of more inward turning personality characteristics. For numerous middle-class students the subtly progressive change from conforming, achievement oriented behavior to a state of relaxed and careless drifting has followed their use of significant amounts of marijuana. They acknowledged that it is difficult to parcel out social fac-

tors, as well as the occasional use of LSD, but added it is possible that marijuana may contribute some characteristic personality changes, especially among highly impressionable young persons. Such changes include apathy, loss of effectiveness, diminished capacity to carry out long term plans, concentrate for long periods, follow routines or successfully master new material. Verbal facility is often impaired both in speaking and writing. Greater introversion is exhibited, better goals are ignored and there is a strong tendency toward regressive, child-like magical thinking. Marijuana users report a great subjective creativity but show less objective productivity, and while seeming to suffer less the frustrations of life, at the same time seem to be withdrawing from it.

McGlothlin and West (1968) summed up that "recent observations indicate that persons attracted to regular use of marijuana are typically rather passive and non-productive individuals, and prolonged use tends to reinforce these tendencies." Abramson (1967) also postulated that marijuana has a stultifying effect upon motivation and, thus, is associated with dropouts. Steffenhagen, et al, (1967-68) disagree, based on their findings that student drug users were well distributed in terms of academic standing. They concluded that their research would indicate that drug use is not necessarily causally related to academic failure.

And finally, it has been suggested that boredom may be a factor in an individual's motivation to use psychoactive drugs (LeDain Commission, 1973). Boredom as an explanatory

concept is ambiguous, however, as boredom may be regarded as a symptom of pathology, that is, the need for excitement may be characteristic of psychopathic individuals or reflect a more general alienation experienced by youth.

Grinspoon (1971) considered boredom, especially in the late adolescent, may reflect a maladaptive control of unacceptable sexual and aggressive impulses. Drugs may relieve the tension and boredom that results from unsuccessful sublimation of these impulses.

SOCIAL-PSYCHOLOGICAL THEORIES

In the earlier literature appearing on the subject of increased marijuana use during the mid-1960's, the most frequently quoted references were to the earlier investigations of the Chopra's of India (1957), Benabud of Morocco (1957) and the Mayor's Committee on Marijuana in New York (1944). These earlier studies referred to ghetto dwellers, generally an older age group, or to a culture of deprivation, including malnutrition. Marijuana was used to escape pain, personal frustration and anxiety or depression. It is apparent that the individual motivations emerged out of a particular social context. Some of their findings will be presented with a view to the possible communalities with current adolescent marijuana use. The Mayor's Committee study in New York focused its attention on the Harlem district and found most marijuana users "were unemployed or employed part-time." Research conducted by Allentuck and

Bowman (1942) for the Mayor's Committee study on marijuana included a series of exacting studies on 77 subjects, including some who had previously used marijuana. Following ingestion of marijuana, nine psychoses were precipitated in the series of 77 subjects, but no two of the nine developing cases were similar. They concluded, however, that marijuana will not produce a psychosis de novo in a well-integrated, stable person but only in an unstable personality.

The Chopra's of India (1957) found the habitual use of cannabis almost entirely confined to the lower strata of society. In an examination of 1,200 regular cannabis users, only 13 were classified as psychotic, which is about the usual rate of incidence of psychosis in the total population in western countries.

Benabud (1957) stressed that the major problems with cannabis in Morocco existed among the urban slum dwellers and noted individual psycho-pathological factors as prominent causes of excessive indulgence. Benabud described a specific syndrome called "cannabis psychosis," which occurred in five per 1000 regular users, but stressed excessive use and environmental factors as contributing. The symptoms said to be characteristic of the syndrome he described are also common to other toxic states, including, particularly in Morocco, those associated with malnutrition and endemic infection.

Both the Moroccan and New York studies described the predisposing personality characteristics of regular users

and there are parallels even though they were individuals of different cultures. Basic personalities were described as inadequate, insecure, emotionally immature with tendencies toward passivity. Further, the New York study referred to regular marijuana users as lonely, socially ill at ease, and poorly adjusted sexually. The Moroccan study emphasized the prodromal schizophrenic condition of users.

Although the young middle class youth currently using marijuana and other psychoactive substances do not suffer economic deprivation, the stress on adolescents to form a stable identity may have some parallels with the problems of the older, unstable person from a ghetto, who is motivated to use marijuana and who may also react to its effects adversely. The social climate of insecurity of the earlier disadvantaged user may have similarities to the experiences of a developing adolescent in a rapidly changing world. Earlier reference has been made to King (1969) who spoke of a sense of crises during adolescence which is heightened when the structure of society is in a state of change. For those adolescents who feel a sense of crises and act defensively or destructively, drugs may represent one way of responding to crises by withdrawing.

Blum (1972) in a more current study of middle class youth considered social-psychological factors or the role family influences play in drug use. Blum described the high risk family (i.e., one in which the children have higher chances of becoming drug users) as one in which parents

are uncertain in their roles and the mother tends to be dominant. In these families the parents are permissive, hesitant to convey their values, unsure of their values and there is a lack of religious belief. Further, there is not a proper balance between affection and discipline, emotions are not expressed freely and problems are intellectualized. Blum described the high risk family as hostile toward authority and demonstrating a progressive leaning on political social issues. There was also a heavy reliance by the parents on drugs. The low risk families, by contrast, were described as exhibiting a very strong, warm, well integrated pattern of family life, with a good combination of affection and discipline. The parents were seen as confident in their roles as spouse and parents and clear as to the values they wanted to transmit, with emphasis on faith in God, respect for parents, self control, tolerance and respect for one another. Within this structure children were given considerable freedom and personal responsibility. The low risk family produced a child who liked himself and was resistant to peer group pressure.

Further support for the thesis that unsatisfactory familial relationships may pre-dispose to drug use comes from Chein (1964) with regard to opiates, LeDain Commission (1973), amphetamines; Groves (1973), hallucinogens; and Smart, et al, (1972), volatile substances.

A stable family apparently insulates an adolescent from an increasingly unstable environment and provides alternatives

to drugs as a solution to problems.

Value System and Attitudes

Wardell's (1974) study of University of Alberta resident students found four factors were particularly relevant to high drug usage—high liberalism, high secularity, low academic responsibility and low vertical mobility. In terms of the original questions, the resident drug users were less moralistic (particularly about virginity), more alienated in their view of God, more likely to endorse the "have a good time and get by" attitude toward college, and more likely to come from a more affluent family but were themselves more academically irresponsible and lacking ambition. The author concluded the results point out the importance of variables examining students' belief systems because these variables appear to be important for predicting drug use.

One major conclusion of Riggs (1971), from her study of personality characteristics, was that regular drug using students could be significantly distinguished from occasional and non-drug using students by their more positive or favorable attitudes toward drug usage.

Armstrong (1970) attempted to measure the effectiveness of the lecture in drug education on attitude change. The attitudes of the experimental group who received the lecture, changed in the desired direction. This attitude change could be significantly distinguished from the control group who did not receive the lecture. The occupational role

(counselor, policeman) of the lecturer was not found to be a significant factor, however, his/her expertise was considered an important variable.

FRAME OF REFERENCE FOR MULTIPLE CAUSATION APPROACH

Chein (1968) established a research based theory of multiple causation which considers both social-psychological, individual, and social factors as necessary to explain any misbehavior, in this case one involving a chemical agent. For this reason, his conceptualization will be presented at some length.

Chein proposed a scheme for understanding drug behavior that focuses on the functions of drug misbehavior rather than on the chemical agent. He argued that pre-occupation with the chemical is a failure to deal with the problem and the consequence of this fixation is the false belief that drug misbehavior is highly contagious, that is, that anyone coming into contact with one who misbehaves must be highly seducible under the hyperattractiveness of the drug effects.

Chein's schema examined the functions of drug misbehavior in terms of three classes of function: "(1) those associated with the direct psychopharmacological properties of drugs; (2) those associated with active involvement in drug misbehavior and; (3) those associated with meanings of drugs and drug misbehavior not subsumed under the first two classes.

Class I. This class includes the idea that drug dependence is an escapist or retreatist response to psychologically stressful situations. Either when failure is anticipated or as a means of coping with stress, drugs offer a means of preserving self esteem. Whether one exploits the function of what a drug can do for a user depends on what one needs, on availability of other ways of realizing these functions, and other motivations, particularly the presence of countervailing motivations.

Under this class, Chein postulated that various drugs may be chosen to pharmacologically mask or mitigate an individual's ineptitude or difficulties, but this problem or need must be present for the drug to be relevant. For example, heroin may be chosen if one needs a detachment from one's troubles (a mode of alienation) or to make tension tolerable; alcohol may be chosen to lessen inhibitions that are dysfunctional in a particular setting; and marijuana may serve to make a dull event more interesting. Conversely, certain drugs are inappropriate solutions to certain problems. For example, alcohol would be inappropriate if the management of one's aggressions were the problem and if the problem was the drabness of one's total existences, rather than a temporary situation, marijuana would be an inappropriate choice.

Class II. To give a complete explanation requires that one seeks other functions of drug misbehavior than those of Class I, particularly those associated with the second class of functions, i.e., mode of life of a drug user. The heroin

addict is illustrative; he develops out of a set of deprivations which have denied him a respected identity and given him a sense of emptiness or incompetence. His family has either frustrated and rejected him or overindulged him, and school and society have not provided him with a sense of adequacy nor a vocation or career, nor with opportunities for involvement in legitimate and meaningful, sustained activities. Life as an addict can serve a humanizing function by offering an identity in a subsociety in which he can feel he belongs. An individual residing in a cohesive family, and not subjected to these conditions of deprivation, may not turn to heroin use, despite its availability.

Class III. Chein regarded the third class of functions, i.e., special meanings associated with a drug not subsumed under the first two classes, as playing an important role in the contemporary drug scene. The third class of functions can be categorized as follows:

1. Drug misbehavior, because of its illegality and disreputability, is one way of misbehaving which can be chosen by a delinquent subculture to serve the function of expression of defiance or hostility.
2. Involves a status conferring function through actions and experience valued by a person's important reference group. Extraordinary experiences may be attributed to a drug; for example, personal ecstasy or

religious experiences. For some, when the promised experience does not eventuate, there is an investment to claim it did and/or to fear the failure was within himself.

3. Drug taking assumes meaning for those disillusioned with the hypocrisies of current society who see drug use as tied up with "bringing about a better world."

Chein's broad conceptualization and that of King (1969) are considered as valuable frames of reference to which data, hypotheses and factors, associated with the adolescent psychoactive drug users, may be related.

The synopsis of the present review suggests the social concepts of "identity crises and alienation" and "social learning" contribute to the understanding of non-medical drug use. Further, it may also be necessary to understand the role individual factors play in the selection of individuals who choose not to use drugs and those who proceed to more dangerous drugs, given the same social context. For some, the "family" is considered the sole factor in the determinance of drug use.

The theoretical models of both King and Chein indicated the roles social, psychological, and social-psychological factors play in the complex phenomenon of drug abuse and, therefore, provide a valuable frame of reference.

CHAPTER III

METHOD AND PROCEDURE

THE SUBJECTS

The subjects of this study were drawn from the Adolescent Unit of the Alberta Hospital, Edmonton and two Edmonton high schools—one Catholic and one Public. The participants ranged in age from 15 to 20 years.

The subjects from the two populations were qualitatively classed, according to the extent of drug use in the six months prior to, and including time of testing, into the following categories:

1. Alcohol Only group—those individuals whose use of alcohol ranged from once to twice a week to once to twice a month. Use of any other psychoactive substance excluded Ss from this classification.
2. Marijuana Only group—those individuals whose use of marijuana ranged from once to twice a week to once to twice a month. Alcohol may or may not have been used but use of psychoactive substances other than marijuana or alcohol, more than once or twice, excluded Ss from this classification.
3. Multiple Drug group—those individuals who have used more than one psychoactive drug from once to twice a

week to once to twice a month. Alcohol may or may not have been used but members of this group must have used at least two psychoactive drugs in addition to alcohol.

4. Non User group—those individuals who have not used alcohol or psychoactive drugs more than once to twice.

Caffeine and cigarettes were excluded from consideration in the above classification.

A total high school sample of 183 subjects and 51 hospital subjects was tested.

For the purpose of data analysis, it was necessary to reduce, by random selection, the number of subjects in the high school Alcohol Only group from the 103 subjects to 25 subjects. This resulted in more similar numbers of subjects in the four high school groups.

The original sample size was, however, used to determine incidence rates within each group when randomly selected from a population. Further, for this purpose, frequent users (defined as use once or twice a month) and heavy users (defined as use once or twice a week), within the Alcohol groups and Multiple Drug groups, were distinguished.

The resultant groups for comparison on psychological and social dimensions were as follows:

1. High school (Normal) Alcohol Only (NAL) 25 subjects
2. High school (Normal) Marijuana Only (NMA) 22 subjects
3. High school (Normal) Multiple Drug (NMU) 25 subjects
4. High school (Normal) Non Users (NNONE) 33 subjects

5.	Hospital	Alcohol Only (HAL)	13 subjects
6.	Hospital	Marijuana Only (HMA)	4 subjects
7.	Hospital	Multiple Drug (HMU)	26 subjects
8.	Hospital	Non Users (HNONE)	8 subjects

RESEARCH INSTRUMENTS

All groups were tested on the following battery:

1. California Personality Inventory (Gough, 1957).
2. Questionnaire on students' opinions.

1. California Personality Inventory

The California Personality Inventory for personality assessment is based on descriptive concepts which have broad social and personal relevance. Two reliability studies using the test-retest method resulted in correlations for the groups as high as those generally found in personality measurement (Gough, 1957). Rather than a test of abnormal behavior used primarily in psychiatric settings, it is an endeavor to measure pervasive characteristics and, in addition, to assess favorable and positive aspects of personality rather than only the morbid and pathological.

Behaviorial domains in which research with the California Personality Inventory has proved particularly profitable, are in the areas of predicting scholastic achievement (Gough, 1953, 1964) and those involving the socialization-asocialization (delinquency) continuum (Gough, 1960).

Scale construction of the California Personality Inventory

was based on the "empirical technique." The correlation of selected items by an individual, characterized as "high" on a particular trait, with the criterion dimension or trait, was the basis for scale construction. Approximately 200 of the items were derived from the Minnesota Multiphasic Personality Inventory. Extensive cross-validational studies on high school students, for each scale, have been conducted.

The norms used for the present study were from a sample of 3,572 male and 4,056 female high school students from a wide range of socio-economic groups and geographical areas (United States).

The scales are designed to measure the following aspects of interpersonal behavior:

Class I. Measures of Poise, Ascendency and Self-assurance

1. Do Dominance
2. Cs Capacity for Status
3. Sy Sociability
4. Sp Social Presence
5. Sa Self-acceptance
6. Wb Sense of Well-being
7. Re Responsibility

Class II. Measures of Socialization, Maturity, and Responsibility

8. So Socialization
9. Sc Self-control

10. To Tolerance

11. Gi Good Impression

12. Cm Communality

Class III. Measures of Achievement Potential and Intellectual Efficiency

13. Ac Achievement via Conformance

14. Ai Achievement via Independence

15. Ie Intellectual Efficiency

Class IV. Measures of Intellectual and Interest Modes

16. Py Psychological Mindedness

17. Fx Flexibility

18. Fe Femininity

2. Questionnaire on Students' Opinions[2]

A survey, particularly if used on a randomly selected sample, probably provides the most valid information of extent of use for a population (LeDain Commission Report, 1973).

Hughes (1971) used a questionnaire developed by Bogg in 1968 in response to a request by the American Government to survey Michigan high school attitudes related to drug use. The writer included many of the test items from this questionnaire on attitudes and possible behavioral correlates. Hughes used the questionnaire to examine the applicability of the "hang-

[2]The resultant questionnaire was examined for acceptability and the appropriateness of the items by Dr. Paterson and Dr. Scott, Department of Educational Psychology, University of Alberta.

loose ethic" at the Northern Alberta Institute of Technology and found that the vocabulary of some of the items was difficult. For this reason, the wording of specific items was altered for this study.

For the present study, items relating to extent and pattern of drug use were selected from the Smart, et al, (1969) Questionnaire for High School Students. This questionnaire yields a more specific assessment of drug use behavior than the Michigan survey.

The present questionnaire also incorporated items from a Survey of Opinions of Youth developed by Riggs (1971). Her questionnaire included material from one developed by Unwin (1968) to determine attitudes of Canadian High School Students toward drug usage and other items of social concern.

The first nine items of the questionnaire were intended to provide indices on the pattern of drug use. Responses to selected items were the basis for assigning respondents to selected groups: Non Users, Alcohol Only, Marijuana Only or Multiple Drug Users.

To facilitate discussion, following analysis of the test data, both the California Personality Inventory and Questionnaire items were appropriated to one of the following sections:

1. Demographic Information—nine items designed to yield information about the subjects—sex, age, etc., socio-economic status and religion.
2. Specific Drug and Non-Drug Related Behavior—nineteen items intended to provide information on the various

from several different classes of grade 10, 11 and 12 with spare periods throughout the day over a one week period. In effect this would produce a near random sampling of subjects. The California Personality Inventory and questionnaire were administered to the students under standardized test conditions. Students were not given prior notice of the testing, which insured against such knowledge acting as a selection factor.

The subjects were assured anonymity with regard to their responses. The tests were coded for identification and the two were collated by using their corresponding indexes.

The hospital subjects were all the adolescents admitted to the hospital within an eight month period. They resided on either an adolescent unit or on a general ward. They were assured anonymity, although, for most, this was not a concern as their drug use was generally known to the professional staff at the hospital.

DATA ANALYSIS

One-way analyses of variance [unequal N's] was performed on the continuous dependent variables to determine differences between the groups on the resultant psychological and social dimensions. The Scheffé multiple comparisons of observed means was performed to determine which pair of group means were significantly different.

A chi square analysis was performed on the discrete dependent variables to determine differences across all eight groups on the resultant psychological and social dimensions. Where

these differences were found to be significant at the .05 level of significance, the chi square analysis was performed on seven selected groups to determine differences between the specified pairs on the psychological and social measures. The selected chi square comparisons of paired groups were as follows:

1. High School Alcohol Only against High School Marijuana (NAL x NMA)
2. High School Alcohol Only against High School Multiple (NAL x NMU)
3. High School Alcohol Only against High School Non Users (NAL x NNONE)
4. High School Marijuana against High School Multiple (NMA x NMU)
5. High School Multiple against High School Non Users (NMU x NNONE)
6. High School Multiple against Hospital Multiple (NMU x HMU)
7. Hospital Alcohol Only against Hospital Multiple (HAL x HMU)

HYPOTHESES

The major hypothesis deals with the personality variables of the California Personality Inventory. The majority of studies on the psychological correlates of drug use in the present selected review of the literature concluded heavy and multiple use of psychoactive drugs was symptomatic of personality disturbance. Multiple drug users could, therefore, be expected to resemble other groups demonstrating personality disturbance.

The minor hypotheses deal with the social and social-psychological variables of the questionnaire specified as Activity and Interest Orientation, Family, Social and Peer Relations, Values and Attitudes Towards Drugs.

The majority of studies in the present selected review of the literature on the social and socio-psychological correlates of drug users suggest drug users are characterized by their alienation from/and rejection of traditional mores and institutions. It is suggested that the greater involvement of the multiple drug user in a "drug career" implies a greater sharing of those interests, values and attitudes characteristic of that particular group acquired through social participation and learning. Conversely, the attitudes of the Multiple Drug groups will differ from Non Multiple Drug groups.

Major Hypothesis

The major hypothesis is that, with respect to the personality variables of the California Personality Inventory, the High School Multiple Drug group will tend to resemble the Hospital Alcohol Only, Non User and Multiple Drug groups and the groups will be characterized by deviant scores. The High School Non User, Alcohol Only and Marijuana Only groups will be characterized by normal scores and will differ from the High School Multiple, Hospital Alcohol Only, Multiple Drug and Non User groups.

Minor Hypothesis

Hypothesis I The High School and Hospital Multiple Drug groups will differ, on the variables specified as Activity and Interest Orientation, from the High School and Hospital Non User, Alcohol Only and Marijuana Only groups, with the Multiple Drug groups responding in the more "hedonistic" and "secular" and "less academic" direction.

Hypothesis II The High School and Hospital Multiple Drug groups will differ from the High School and Hospital Non User, Alcohol Only and Marijuana Only groups on the variables specified as Family, with the Multiple Drug groups indicating less cohesive family relationships.

Hypothesis III The High School and Hospital Multiple Drug groups will differ from the High School and Hospital Non User, Alcohol Only and Marijuana Only groups on the variables specified as Social and Peer Relations with the Multiple Drug groups indicating greater peer group orientation.

Hypothesis IV The High School and Hospital Multiple Drug groups will differ from the High School and Hospital Non User, Alcohol Only and Marijuana groups on the variables specified as Values, with the Multiple Drug groups responding in the "less traditional" direction.

Hypothesis V The High School and Hospital Multiple Drug groups will differ from the High School and Hospital Non User, Alcohol Only and Marijuana Only groups on the variables specified as Attitudes Towards Drugs, with the Multiple Drug groups indicating the most favorable attitudes towards

drugs.

For the discrete dependent variables, only seven selected chi square comparisons are possible. Therefore, the minor hypotheses for these variables involve: the comparisons of High School Alcohol Only against High School Marijuana (NAL x NMA), High School Alcohol against High School Non Users (NAL x NNONE), and High School Multiple against Hospital Multiple (NMU x HMU), will not differ significantly; and the comparisons of High School Alcohol Only against High School Multiple (NAL x NMU), High School Marijuana against High School Multiple (NMA x NMU), and Hospital Alcohol Only against Hospital Multiple (HAL x HMU) will differ significantly.

CHAPTER IV

RESULTS

INTRODUCTION

Because of the large number of dependent variables, they were divided a priori, into the following groupings: 1) Demographic Information (9 variables); 2) Specific Drug-Related Behavior (19 variables); 3) California Personality Inventory (18 variables); 4) Activity and Interest Orientation (9 variables); 5) Family (9 variables); 6) Social and Peer Relations (10 variables); 7) Values (5 variables); and 8) Attitudes Towards Drugs (8 variables).

The data were analyzed by the chi square method and analysis of variance, which was followed by the Scheffé multiple comparison of means. The results have been presented in sections, under the a priori groupings, to facilitate perusal. Further, to this end, each section begins with a summary of both the analyses of variance and the chi square analyses for the variables of that grouping. A complete summary of these analyses appears in APPENDIX B.

A summary of the findings for the Demographic Information and Specific Drug-Related Behavior variables, which provide some defining characteristics of the groups, has been presented at the end of these sections. The hypotheses, regarding the

dependent variables of the remainder of the groupings, were dealt with in the summary of each section. This also included a summary of the significant probabilities of both the chi square analyses of the selected comparisons and the Scheffé comparison of means.

One-way analyses of variance [unequal N's] were performed on all eight groups for the continuous dependent variables and followed by the Scheffé multiple comparison of means. Although summaries of the analyses of variance have been presented at the beginning of each section and APPENDIX B, because of the large amount of data, tables were presented for only those analyses which produced a significant F ratio. Only the probabilities of the significant Scheffé multiple comparison of means were presented.

The discrete dependent variables were analyzed by the chi square method. Again, summaries of the results have been presented at the beginning of the sections for each grouping and in APPENDIX B.

The over-all chi square values which reached significance were followed by selected comparisons of the following groups:

1) Normal Alcohol against Normal Marijuana (NAL x NMA)
2) Normal Alcohol against Normal Non Users (NAL x NNONE)
3) Normal Multiple against Hospital Multiple (NMU x HMU)
4) Normal Alcohol against Normal Multiple (NAL x NMU)
5) Normal Marijuana against Normal Multiple (NMA x NMU)
6) Normal Non User against Normal Multiple (NNONE x NMU)
7) Hospital Alcohol against Hospital Multiple (HAL x HMU)

Only the contingency tables for the significant over-all

and selected chi square values have been presented and are to to found in APPENDIX C.

The exceptions to this general format of presentation of the results were for the variables "Sex," "Grade" and the California Personality Inventory variables. Although the analyses of the variables "Sex" (discrete variable) and "Grade" (continuous variable) were not significant, the results were presented in the Demographic Information section in order to present the demographic characteristics of the sample. The results of the analyses of variance of each scale of the California Personality Test were presented in TABLE 15 and Figure I (ranked means and significant Scheffé comparisons of means).

Appropriate group comparisons were made for those dependent variables pertaining to only the Drug groups or to only the Non-Drug groups.

DEMOGRAPHIC INFORMATION

The chi square analyses of the discrete dependent variables "Sex," "Father's Status," "Mother's Status," and "Half-Day Student" did not produce significant results. The results of the over-all chi square analyses of all of the discrete Demographic Information variables appear in TABLE 1.

The analyses of variance of the continuous dependent variables "Grade" and "Father's Financial Success" did not produce significant results. The results of the analyses of variance of all of the continuous dependent Demographic Information variables appear in TABLE 2.

TABLE 1

CHI SQUARE ANALYSES OF THE DISCRETE DEMOGRAPHIC INFORMATION VARIABLES

Variable	Degrees of Freedom	Chi Square Value	Probability
Sex	7	5.13	n.s.
Age	14	24.42	<.02
Family Religion	28	53.32	<.002
Urban Living-No. of Yrs.	35	51.67	<.03
Father's Status	28	26.90	n.s.
Mother's Status	28	36.81	n.s.
Half-Day Student	7	11.25	n.s.

TABLE 2

ANALYSES OF VARIANCE OF CONTINUOUS DEMOGRAPHIC INFORMATION VARIABLES

Variable	Degrees of Freedom	F ratio	Probability
Grade	7/148	1.74	n.s.
Father's Financial Success	7/148	1.38	n.s.

The contingency table for the non-significant variable "Sex" has been presented in TABLE 3 in order to describe the subjects of the sample. Although 57.1 percent of the Ss are males and 42.94 percent are females, the ratio of males to females is similar throughout the eight groups.

TABLE 3

CONTINGENCY TABLE FOR OVER-ALL CHI SQUARE ANALYSIS OF VARIABLE "SEX"

Sex		Male %	Female %	TOT.
Group	NAL	13 (52.0)	12 (48.0)	25
	NMA	16 (72.7)	6 (27.3)	22
	NMU	14 (56.0)	11 (44.0)	25
	NNONE	19 (57.6)	14 (42.4)	33
	HAL	9 (69.2)	4 (30.8)	13
	HMA	2 (50.0)	2 (50.0)	4
	HMU	13 (50.0)	13 (50.0)	26
	HNONE	3 (37.5)	5 (62.5)	8
TOTAL and TOT %		89 (57.1)	67 (42.9)	156(100)

χ^2=5.12, d.f.=7, p=.64

Although the groups did not differ significantly in their "Grade" distribution, the means from the analysis of variance have been presented in TABLE 4 in order to describe the subjects of the sample. A mean of one is equivalent to grade 10, two is equivalent to grade 11 and three is equivalent to grade 12.

The over-all chi square value for the variable "Age" was 24.42, d.f.=14, ($p < .02$) and has been presented in TABLE 5.

The significant selected chi square comparisons for items "15-16" and "17-18" years of age were groups: NMA against NNONE (chi^2=6.14, d.f.=1, $p < .01$), presented in TABLE 6; and NMU against HMU (chi^2=5.68, d.f.=1, $p < .02$), presented in TABLE 7. A higher percentage in the NMU and NNONE groups were "15 to 16 years of age" whereas a higher percentage of the NMA

and HMU groups were "17 to 18 years of age."

TABLE 4

ANALYSIS OF VARIANCE OF VARIABLE "GRADE"

Group	No.	Mean	Variance	Standard Deviation
NAL	25	1.92	0.58	0.76
NMA	22	2.23	0.66	0.81
NMU	25	1.80	0.50	0.71
NNONE	33	1.58	0.56	0.75
HAL	13	1.92	1.24	1.12
HMA	4	1.25	0.25	0.50
HMU	26	1.77	1.86	1.36
HNONE	8	2.50	1.71	1.31
Total	156	1.86	0.92	0.96

F ratio=1.74, d.f.=7/148, $p < .10$

TABLE 5

CONTINGENCY TABLE FOR CHI SQUARE ANALYSIS OF VARIABLE "AGE"

Age		15-16 years	%	17-18 years	%	19-20 years	%	Total
Group	NAL	14	(56)	11	(44)	0	(0)	25
	NMA	8	(36)	13	(59)	1	(5)	22
	NMU	16	(64)	9	(36)	0	(0)	25
	NNONE	23	(69)	9	(27)	1	(3)	33
	HAL	3	(23.1)	4	(30.8)	6	(46)	13
	HMA	1	(25)	3	(7.5)	0	(0)	4
	HMU	8	(30.8)	14	(53.8)	4	(15.4)	26
	HNONE	3	(37.5)	4	(50)	1	(12.5)	8
TOTAL and TOT. %		76	(48.7)	67	(43)	13	(8.3)	156

χ^2=24.42, d.f.=14, ($p < .02$)

TABLE 6

CHI SQUARE ANALYSIS OF SELECTED GROUPS NMA x NNONE FOR VARIABLE "AGE"

Age	15-16	17-18	Tot
Group NMA	8	13	22
NNONE	23	9	33
Total	76	64	156

x^2=6.14, d.f.=1, (p <.02).

TABLE 7

CHI SQUARE ANALYSIS OF SELECTED GROUPS NMU x HMU FOR VARIABLE "AGE"

Age	15-16	17-18	Tot
Group NMU	16	9	25
HMU	8	14	26
Total	76	67	156

x^2=5.68, d.f.=1, (p <.02)

The over-all chi square value for the variable "Religion" was 53.31, d.f.=28, (p <.003).

The significant selected chi square comparisons were groups: NMU against HMU for items "Catholic plus Protestant" and "No Religion" (chi^2=9.36, d.f.=1, p <.002 and chi^2=10.35, d.f.=1, p <.001); NAL against NMU for items "Protestant" and

"Catholic" (chi^2=4.06, d.f.=1, $p < .04$); and NMU against NNONE for items "Protestant" and "Catholic" (chi^2=3.69, d.f.=1, $p < .05$). The NMU group had a significantly higher percentage of Ss of the "Catholic and Protestant" religion than the HMU group, which was overrepresented in the "No Religion" item. The NMU group had a significantly higher percentage of "Protestant" Ss than the NAL and NNONE groups which had a higher "Catholic" representation.

The significant over-all chi square value for the discrete dependent variable "Urban Living—Number of Years" was 51.67, d.f.=35, ($p < .03$).

Only the chi square values for the selected comparisons of the NMU against the HMU group for the items "15 years" and "5-10 years" were significant; (chi^2=7.28, d.f.=1, $p < .006$ and chi^2=7.64, d.f.=1, $p < .006$). Most Ss in the NMU group had lived in the city all their lives whereas a significant percentage of the HMU group had lived in the city for only 5 to 10 years.

In general, over one half of the Ss in each of the remaining groups had lived in the city most of their lives, while the remaining one half were distributed over the "5 years" and "10 years" responses.

Summary

A summary of the significant results of the selected chi square comparisons has been presented in TABLE 8.

TABLE 8

SIGNIFICANT SELECTED CHI SQUARE COMPARISONS FOR THE DEMOGRAPHIC INFORMATION VARIABLES

Groups / Variable	NAL x NMA	NAL x NNONE	NMU x HMU	NAL x NMU	NMA x NMU	NMU x NNONE	HAL x HMU	NMA† x NNONE
Age	n.s.	n.s.	5.68*	n.s.	n.s.(.07)	n.s.	n.s.	6.14*
Family Religion	n.s.	n.s.	9.36* 10.35**	4.06* 4.19*	n.s.	3.69* 4.38*	n.s.	
Urban Living No. of Yrs.	n.s.	n.s.	7.28** 7.64**	n.s.	n.s.	n.s.	n.s.	

* .05
** .01
† Gp. Comparison for Age Only

Analyses of the variables "Sex," "Grade," "Father's Financial Success," "Father's Status," "Mother's Status" and "Half-Day Student" did not produce significant results. The sample was composed of 57.1 percent males and 42.94 females. The "mean grade" was 10.86.

The results for the variable "Age" indicated a significantly high percentage of the NMU and NNONE groups to be "15 to 16" years of age and of the HMU group to be "17 to 18" years of age (TABLE 8).

The results for the variable "Religion" showed a significantly high "Catholic" representation for the NAL and NNONE groups, against a significantly high "Protestant" representation for the NMU group and "No Religion" for the HMU group. The NMA group did not differ significantly from any of the groups (TABLE 8).

For the variable "Urban Living-Number of Years" only the NMU against HMU selected chi square comparison reached significance, with a higher percentage of the NMU group than the HMU group having lived in the city all their lives (TABLE 8).

SPECIFIC DRUG-RELATED BEHAVIOR

Epidemiology

Of the total high school sample of 183 Ss (only 103 Ss used in data analyses), the incidence of use for the following categories was:

1. Frequent Al[illegible] (once to twice a month)—32.8%
2. Heavy Alcoh[illegible]nce to twice a week)—23.5%

3. Frequent Marijuana (once to twice a month) } 12.0%
4. Heavy Marijuana (once to twice a week) }
5. Frequent Multiple (once to twice a month)—6.0%
6. Heavy Multiple (once to twice a week)—7.7%
7. Non Use—18%

For the 51 Hospital Ss the incidence of use for the following categories was:

1. Frequent Alcohol Only (once to twice a month) } 25.5%
2. Heavy Alcohol Only (once to twice a week) }
3. Frequent Marijuana (once to twice a month) } 7.8%
4. Heavy Marijuana (once to twice a week) }
5. Frequent Multiple (once to twice a month)—15.7%
6. Heavy Multiple (once to twice a week)—35.3%
7. Non Use—15.8%

The Specific Drug-Related Behavior variables have been examined for the purpose of defining some of the relevant characteristics of each of the groups.

The chi square analyses of the discrete dependent variables "Non Use Reason" (four Non-Drug groups), "Motives" and "Drug Effects"—three questions (four Drug groups) and "Father Smoke/Drink Alcohol" and "Mother Smoke/Drink Alcohol" (all groups) did not produce significant differences.

The results of the over-all chi square analyses of all of the discrete Specific Drug Related Behavior variables have been presented in TABLE 9.

The analyses of variance of the continuous dependent variables "Drug Effects" (three questions) for the four "Drug"

groups did not produce results.

TABLE 9

CHI SQUARE ANALYSES OF THE DISCRETE SPECIFIC DRUG-RELATED BEHAVIOR VARIABLES

Variable	Degrees of Freedom	Chi Square Value	Probability
Intend Try Drugs	9	21.65	<.01
Non-use Reason	18	19.87	n.s.
Length of Use	12	30.39	<.002
Intend Continue	3	13.98	<.003
Motives Set I (a)	6	11.39	<.08 (n.s.)
(b)	6	10.60	n.s.
Motives Set II (a)	6	5.28	n.s.
(b)	6	1.16	n.s.
Drug Effects: (Marij. Exper.)	15	16.88	n.s.
(LSD Exper.)	4	4.34	n.s.
(More Aware Problems)	9	14.91	<.09 (n.s.)
Mother Smoke/Drink Alcohol	35	26.07	n.s.
Father Smoke/Drink Alcohol	36	36.45	n.s.
Smoke Cigarettes	7	39.95	<.000001

The results of the analyses of variance of all the continuous Specific Drug-Related Behavior variables have been presented in TABLE 10.

The significant over-all chi square value of the four Non Drug groups for the discrete dependent variable "Intend to Try Drugs" was 21.65, d.f.=9, ($p<.01$).

The significant selected chi square comparisons for the items "no" and "undecided" were groups: NAL against NNONE ($chi^2=5.26$, d.f.=1, $p<.02$ and $chi^2=6.17$, d.f.=1, $p<.01$); and NNONE against HNONE ($chi^2=5.85$, d.f.=1, $p<.01$).

A significantly higher percentage of the NAL and HNONE

groups were "undecided," whereas the NNONE group endorsed the "no" item. The majority of the HAL group also endorsed the "no" item.

TABLE 10

ANALYSES OF VARIANCE OF THE CONTINUOUS SPECIFIC DRUG-RELATED BEHAVIOR VARIABLES

Variable	Degrees of Freedom	F ratio	Probability
Gained Freedom	2/70	.71	n.s.
Religious change	2/70	.25	n.s.
Problem change	2/70	.69	n.s.
Number Smoke	7/148	14.48	<.000001

The significant over-all chi square value of the four Drug groups for the discrete dependent variable "Length of Use" was 30.39, d.f.=12, ($p < .002$).

The significant selected chi square comparisons were groups: NMA against NMU, for the items "this and last year" and "two to three years ago" ($chi^2=6.85$, d.f.=1, $p < .009$); and NMU against HMU, for the items "last year," "two to three years ago," and "four years ago" ($chi^2=10.24$, d.f.=1, $p < .001$ and $chi^2=12.12$, d.f.=1, $p < .0005$).

For a significantly higher percentage of the NMA group, initial use was "This and Last Year" and for the NMU, "Two to Three Years Ago." For a significantly higher percentage of the NMU than the HMU group, initial use was "last year," whereas for the HMU group initial use was "4 years ago" and "2-3 years ago." It is noteworthy that despite the longer

period of use for the NMU than the NMA group, the NMU group is, on the average, younger. The NMA and HMU groups are more similar in age distribution and older than the NMU group. (see TABLE 5, page 57).

The significant over-all chi square value for the discrete dependent variable "Intend Continue Drug Use" was 13.98, d.f.=3, ($p < .003$).

The significant selected chi square comparisons were groups: NMU against HMU and NMA against HMU for the items "intend continue" and "intend discontinue" ($chi^2=8.65$, d.f.=1, $p < .003$ and $chi^2=5.06$, d.f.=1, $p < .02$, respectively). A significant percentage of the HMU group intended to "discontinue" drugs, whereas the NMA and NMU groups were similar in their almost total to intention to "continue drugs."

The significant over-all chi square value for all groups, except the NNONE and HNONE groups, for the discrete dependent variable "Setting Drink Alcohol" was 26.48, d.f.=14, ($p < .02$).

Only the selected chi square comparison of the NAL against the NMU group for the items "before, during or after a party" and "when with close friends" was significant ($chi^2=5.91$, d.f.=1, $p < .02$). A significantly higher percentage of the NMU drinks "before, during, or after a party" whereas the NAL group drinks "when with close friends."

For all groups, the significant over-all chi square value for the discrete variable "Smoke Cigarettes" was 39.95, d.f.=7, ($p < .000001$).

The significant selected chi square comparisons for the

items "YES" and "NO" were groups: NMU against NNONE (chi^2=15.73. d.f.=1, $p < .00007$); NAL against NNONE (chi^2=5.16, d.f.=1, $p < .02$); and HAL against HMU (chi^2=5.23, d.f.=1, $p < .02$). A significantly higher percentage of the NMU, NAL and HMU groups "smokes cigarettes," whereas a significantly high percentage of the NNONE and HAL groups do not. In general, the ranking of the groups with the highest to lowest percentage of Ss who smoke cigarettes is HMA, HMU, HNONE, NMU, NMA, HAL, NAL and NNONE.

The means (TABLE 11) were calculated and the analysis of variance (TABLE 12) performed on the continuous dependent variable "Number of Cigarettes Smoked per Day" (F ratio=14.48, d.f.=7/148, $p < .000001$).

TABLE 11

RANKED* MEANS OF THE VARIABLE "NUMBER OF CIGARETTES SMOKED PER DAY"

Group	HMA	HMU	HAL	NMA	NMU	HNONE	NAL	NNONE
Mean	2.25	2.18	1.23	1.09	1.04	.88	.44	.27

*Ranked from "more than 1 package/per day" to "10 or less" (3 to 1).

The Scheffé multiple comparison of means was performed to determine which pairs of means showed significant differences.

TABLE 12

ANALYSIS OF VARIANCE OF VARIABLE "NUMBER OF CIGARETTES SMOKED PER DAY"

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F ratio
Between Groups	.69	7	9.93	14.48*
Within	.10	148	0.69	

* .00001

The results (TABLE 14), indicated the HMU group smokes a significantly greater number of cigarettes than all other groups except the HAL and HMA groups. The comparisons of the HMA group against both the NAL and NNONE groups reached significance (TABLE 14).

Summary

A summary of the significant results of the selected chi square comparisons and Scheffé comparison of means has been presented in TABLES 13 and 14.

The Non Drug groups did not express different "Reasons for Not Using Drugs." Similarly the Drug groups did not report dissimilar "Motivations to Use Drugs," neither did they experience different "Drug Effects" (five variables).

Of the Non Drug groups, the NAL and HNONE groups were more "undecided" about "trying drugs," whereas the NNONE and HAL groups "did not intend to try drugs."

TABLE 13

SIGNIFICANT SELECTED CHI SQUARE COMPARISONS FOR THE SPECIFIC DRUG RELATED BEHAVIOR VARIABLES

Groups / Variable	NAL x NMA	NAL x NNONE	NMU x HMU	NAL x NMU	NMA x NMU	NNONE x NMU	HAL x HMU	NNONE x HNONE	NMA x HMU
Intend try Drugs	†	5.26* 6.17**	†	†	†	†	†	5.85**	†
Length of Use	†	†	10.24*** 12.12***	†	6.85*	†	†	†	†
Intend Continue	†	†	8.65**	†	n.s.	†	†	†	5.06*
Setting Alcohol	n.s.	†	n.s.	5.41*	n.s.	†	n.s.	†	†
Smoke Cigarettes	n.s.	5.16*	n.s.	n.s.	n.s.	15.73*****	5.23*	†	†

* .05
** .01
*** .001
**** .0001
***** .00001
† not performed

TABLE 14

PROBABILITIES OF THE SIGNIFICANT SCHEFFÉ COMPARISONS OF THE VARIABLE "NUMBER OF CIGARETTES SMOKED"

Greater Number	HMA	HMA	HMU	HMU	HMU	HMU	HMU
	x	x	x	x	x	x	x
Smaller Number	NAL	NNONE	NAL	NMA	NMU	NNONE	HNONE
Probability	$<.03$	$<.007$	$<.00001$	$<.006$	$<.002$	$<.00001$	$<.04$

The oldest group on the average, the HMU group ("4 years" and "2-3 years") followed by the youngest, the NMU group ("two to three years") had used drugs for the longest period of time. At the time of data collection, the NMA group (older than NMU group, $p < .07$), had used drugs, on the average, for "one year or less."

On the whole, the Ss of the Drug groups "intend to continue" drug use, with the exception of a significant percentage of the HMU group which "intended to discontinue use."

Although the "Smoking and Drinking Behavior of the Mother and Father" did not differ between the groups, that of the Ss did. The NNONE group differed significantly from other groups in the fewer number of Ss of the group that "Smoked Cigarettes." A high percentage of the Ss of the HAL group also did not "smoke."

With regard to "Number of Cigarettes Smoked," the HMU group smoked significantly more than all other groups except the HAL and HMA group. The HMA group comparisons only reached significance when compared to the NAL and NNONE groups, however.

For the Alcohol and Drug groups, only the NAL against NMU group differed significantly in the "setting in which they drink alcohol." The NMU group was distinguished by the significantly high percentage of Ss who drink "before, during, or after a party" rather than with friends.

CALIFORNIA PERSONALITY INVENTORY

The analyses of variance of all eight groups was performed on each scale. A summary of the results has been presented in TABLE 15.

TABLE 15

SUMMARY OF ANALYSES OF VARIANCE OF THE CALIFORNIA PERSONALITY INVENTORY

Variable	Source of Variation	Sum of Squares	Mean Squares	Degrees of Freedom	F ratio	Probability
GROUPING I						
Sociability	B.g.	0.99	142.39	7	1.32	n.s.
	W.g.	0.16	107.62	147		
Socialization	B.g.	0.76	107.96	7	1.08	n.s.
	W.g.	0.15	100.26	147		
Self Control	B.g.	0.94	134.88	7	1.40	n.s.
	W.g.	0.14	96.63	147		
Tolerance	B.g.	0.62	83.39	7	0.81	n.s.
	W.g.	0.16	108.95	147		
Achievement via Independence	B.g.	0.47	66.61	7	1.33	n.s.
	W.g.	0.73	49.99	147		

TABLE 15 (continued)

Variable	Source of Variation	Sum of Squares	Mean Squares	Degrees of Freedom	F ratio	Probabilities
Intellectual Efficiency	B.g.	0.67	237.88	7	1.94	n.s.(.07)
	W.g.	0.18	122.87	147		
Psychological Mindedness	B.g.	0.63	89.40	7	0.93	n.s.
	W.g.	0.14	96.25	147		
GROUPING II						
Responsibility	B.g.	0.16	225.54	7	3.29	<.01
	W.g.	0.10	68.51	147		
Good Impression	B.g.	0.40	566.89	7	6.72	<.00001
	W.g.	0.12	84.32	147		
Communality	B.g.	0.33	471.36	7	3.80	<.001
	W.g.	0.18	124.00	147		
Achievement via Conformance	B.g.	0.74	1061.20	7	13.64	<.00001
	W.g.	0.11	77.82	147		
GROUPING III						
Self Acceptance	B.g.	0.82	1169.93	7	3.60	<.001
	W.g.	0.48	324.70	147		
Femininity	B.g.	0.13	190.55	7	2.24	<.03
	W.g.	0.13	85.20	147		
GROUPING IV						
Dominance	B.g.	0.31	436.46	7	4.65	<.0001
	W.g.	0.14	93.93	147		
Capacity for Status	B.g.	0.20	286.21	7	2.76	<.01
	W.g.	0.15	103.86	147		
Social Presence	B.g.	0.12	165.35	7	2.54	<.05
	W.g.	0.96	65.13	147		
Well-Being	B.g.	0.17	236.31	7	3.89	<.001
	W.g.	0.89	60.81	147		

If the F ratio was found to be significant, the Scheffé multiple comparison of means was performed to determine which pairs of group means differed significantly from each other. The mean standard scores of the groups are presented in ranked order in Figure I, along with the significant Scheffé probabilities (also presented in TABLE 16).

The results are reported under the following four groupings: (1) those scales for which the analyses of variance found no significant differences between groups (seven scales); (2) those scales for which both the analyses of variance and Scheffé method produced significant results (four scales); (3) those scales (two scales) for which the analyses of variance, but not the Scheffé method produced significant results (i.e., the ranked order of the group means is similar for 2 and 3 but not for 4); (4) those scales (five scales) for which the analyses of variance produced significant results, but the Scheffé method produced significant results on only one scale (ranked order of the group means is similar for all five scales but dissimilar to the ranked order of (2) and (3) above).

Grouping I

The analyses of variance of all eight groups did not result in significant F ratios on the following scales: Sociability, Socialization, Self Control, Tolerance, Achievement via Independence, Intellectual Efficiency, and Psychological Mindedness.

FIGURE 1 – MEAN STANDARD SCORES AND SIGNIFICANT SCHEFFÉ COMPARISONS

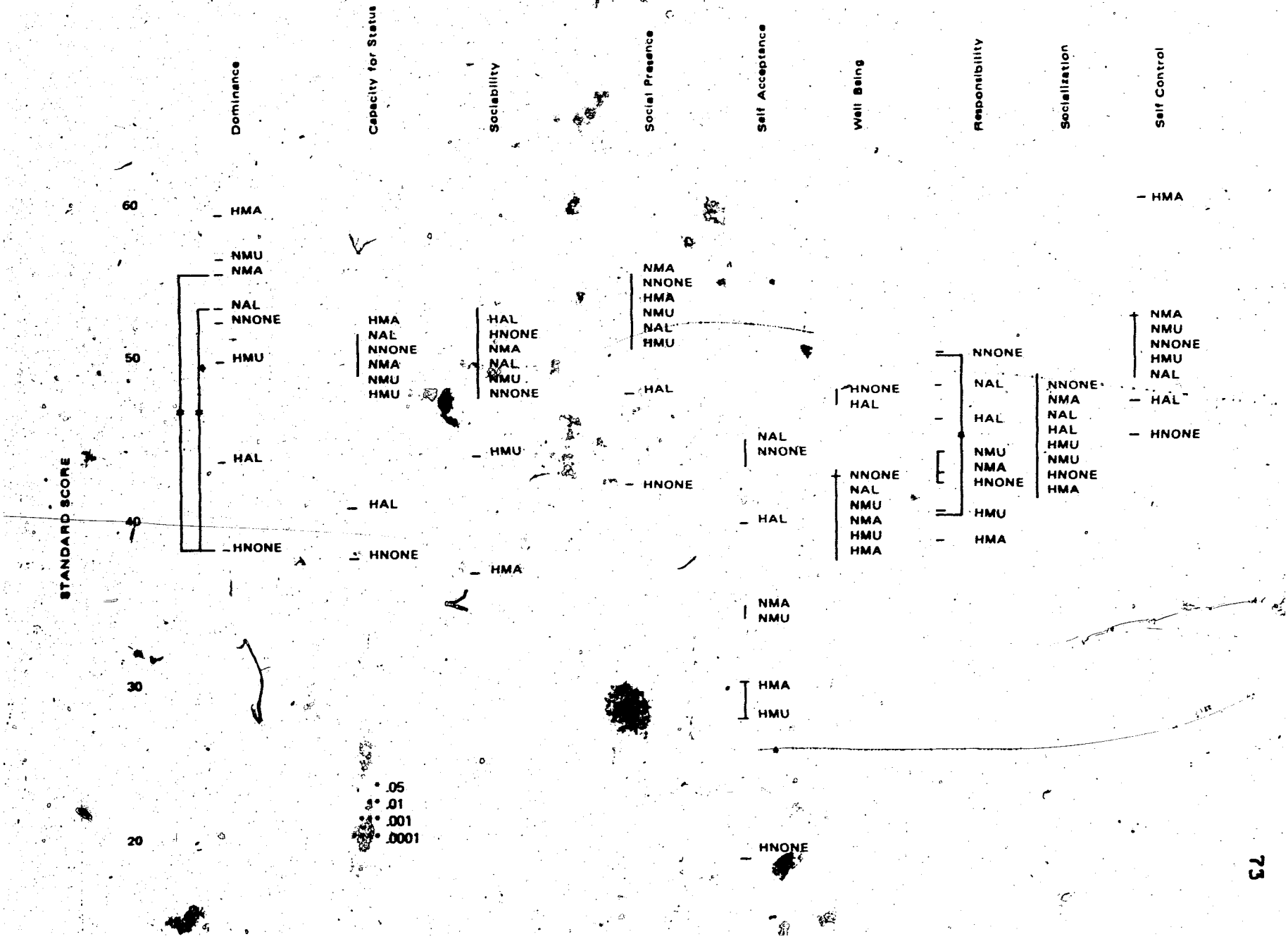
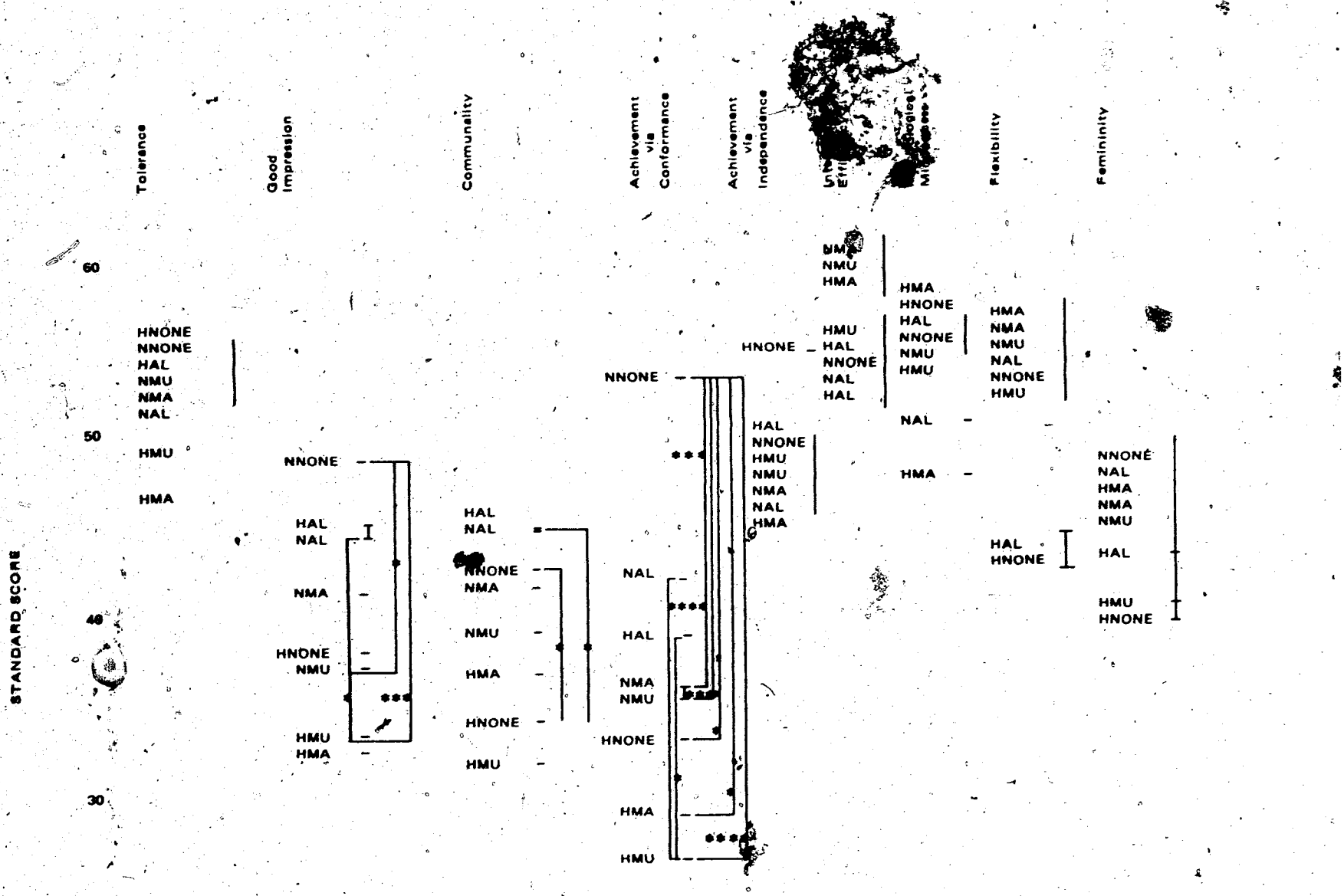


FIGURE 1 – CONTINUED



Grouping II

The analyses of variance resulted in significant F ratios and Scheffé probabilities for the following scales: Responsibility (F $p < .003$), Achievement via Conformance (F $p < .00001$), Good Impression (F $p < .00001$) and Communality (F $p < .001$). A summary of the significant Scheffé probabilities is presented in TABLE 16. For the Scheffé comparison of group means on the Good Impression and Communality scales both the NAL and NNONE groups against the HMU group comparisons reached significance ($p < .05$ and $p < .0001$, respectively). Also, the NNONE against NMU group comparison reached significance. For the Responsibility scale only the Scheffé comparison of the means of the NNONE group against the HMU group reached significance ($p < .05$). On the Achievement via Conformance scale the Scheffé comparison of the means of the NNONE, NAL and HAL against HMU groups all reached significance ($p < .0001$, .0001, and .05, respectively). In addition, the Scheffé comparisons of the means of the NNONE against Normal Drug groups (NMA and NMU) and Hospital Marijuana group, all reached significance ($p < .001$, $p < .0002$, $p < .05$, respectively). (Inspection of Figure I reveals that on these scales the NNONE, NAL and HAL groups had the highest scores, the HMU group the lowest score, with the Normal Drug groups' scores falling in between).

Grouping III

The analysis of variance resulted in significant F ratios, but not Scheffé probabilities for the following scales: Self Acceptance (F $p < .001$) and Femininity (F $p < .03$). Examination

TABLE 16

PROBABILITIES OF THE SIGNIFICANT SCHEFFE COMPARISONS OF THE CALIFORNIA PERSONALITY INVENTORY VARIABLES

Variable	Groups						
Dominance							
more dominant	NAL*	NMA					
	x	x					
less dominant	HNONE	HNONE*					
Responsibility							
more responsible	NNONE						
	x						
less responsible	HMU*						
Good Impression							
more favorable impression	NNONE	NNONE	NAL				
	x	x	x				
less favorable impression	NMU*	HMU****	HMU*				
Communality							
more common response	NNONE	NAL					
	x	x					
less common response	HMU*	HMU*					
Achievement via Conformance							
high score	NNONE	NNONE*	NNONE	NNONE	NNONE	NAL	HAL
	x	x	x	x	x	x	x
low score	HNONE*	HMA	NMA***	NMU***	HMU****	NMU****	HMU*

* .05
** .01
*** .001
**** .0001

of the variances for the Self Acceptance scale revealed a significant overlap in the distribution of scores for the eight groups. This is the most likely explanation for the non-significant between group comparisons.

On the Femininity scale there was homogeneity of variances, however, the group mean differences were not large enough to yield significant between group comparisons, even though the F ratio was significant. In addition the conservative nature of the Scheffé method would tend to reduce the probability of finding significant differences.

Figure I shows the ranked order of the groups means scores for Grouping III, which generally were not dissimilar to Grouping II.

Grouping IV

The analysis of variance resulted in significant F ratios on the following scales: Dominance, Capacity for Status, Social Presence, Well Being and Flexibility. However, only the Scheffé comparisons of the means of the HNONE against NAL and NMA groups on the Dominance scale reached significance, $p < .05$ and $p < .05$, respectively (TABLE 16, page 76).

Figure I shows the ranked order of the mean scores of the HNONE and HAL groups for Grouping IV which are similar, but different from Grouping II and III.

Summary

The major hypothesis was not supported. The High School Multiple and the four Hospital groups did not differ

significantly from the High School Alcohol Only, Marijuana and Non User groups on all of the dependent variables; California Personality Inventory (18 scales).

The analysis of variance produced significant results on twelve scales. However, the Scheffé multiple comparison of paired means only produced significant probabilities on the following scales: Dominance (NAL and NMA against HNONE); Responsibility (NNONE against HMU); Good Impression (NNONE against the two Multiple Drug groups and NAL against HMU); Communality (NNONE and NAL against HMU); and Achievement via Conformance (NNONE, NAL and HAL against HMU, and NNONE against NMA, NMU and HMA).

ACTIVITY AND INTEREST ORIENTATION

The chi square analyses of all of the discrete dependent Activity and Interest Orientation variables reached the level of significance. The results of the over-all chi square analyses of these variables appear in TABLE 17.

The analyses of variance of all three of the continuous Activity and Interest Orientation variables did not produce significant results. The results appear in TABLE 18.

The significant over-all chi square value for the discrete dependent variable "Political Activities" was 37.76, d.f.=21, ($p < .04$). Only the chi square value of the selected comparison of the NAL against the NMA group, for the items "yes" and "no" was significant ($chi^2=5.10$, d.f.=1, $p < .02$). The NAL group answered "no" to this item, which is significantly different

from the NMA group, of which 23 percent answered "yes."

TABLE 17

CHI SQUARE ANALYSES OF THE DISCRETE ACTIVITY AND INTEREST ORIENTATION VARIABLES

Variable	D.F.	Chi Square Value	Probability
Political Activity	21	32.76	<.04
Study Time	28	45.01	<.02
Employed	28	53.58	<.002
Future Occupational Plans	28	53.79	<.002
Favorite Activity I	56	92.60	<.002
Favorite Activity II	28	92.69	<.0000001

TABLE 18

ANALYSES OF VARIANCE OF THE CONTINUOUS ACTIVITY AND INTEREST ORIENTATION VARIABLES

Variable	Degrees of Freedom	F ratio	Probability
School Club Activities	7/148	.70	n.s.
Extracurricular Act.	7/148	.58	n.s.
Grade Average	7/148	1.95	.06(n.s.)

The significant over-all chi square value for the discrete dependent variable "Study Time" was 45.01, d.f.=28, ($p < .02$).

The significant selected chi square comparisons were groups: NNONE against NMU for the items "10-15 hours/week" and "none" (chi^2=7.65, d.f.=1, $p < .006$); NAL against NNONE for the item "10-15 hours/week" (chi^2=4.30, d.f.=1, $p < .04$); and HAL against HMU for the item "none" (chi^2=4.75, d.f.=1,

$p < .03$). A significantly greater percentage of Ss in the NMU and HMU, but not the HAL and NNONE group, claim "no" study time; a significantly high percentage of Ss in the NNONE, but not the NAL group, claim to study "10-15 hours/week," and a significantly high percentage of Ss in the NAL group study "5-10 hours/week." The most frequently endorsed item by all Ss was "1-5 hours/week."

The significant over-all chi square value for the discrete dependent variable "Future Occupational Plans" was 53.79, d.f.=28, ($p < .002$).

Only the chi square value for the selected comparison of the HAL against the HMU group, for items "university plus technical school" and "undecided," was significant (chi^2=5.04, d.f.=1, $p < .02$). Significantly more Ss in the HAL group endorsed the combined items "university and technical," whereas, significantly more Ss in the HMU group endorsed the "undecided" item.

The significant over-all chi square value for the discrete dependent variable "Employed" was 3.58, d.f.=28, ($p < .002$).

The significant chi square values for the selected comparisons were groups: NAL against NNONE for items "part-time" and "not at all" (chi^2=5.71, d.f.=1, $p < .02$); and NMA against NNONE for items "seasonally," "part-time" and "not at all" (chi^2=4.49, d.f.=1, $p < .03$ and chi^2=10.86, d.f.=1, $p < .001$). A significantly higher [illegible] in the NAL group worked "part-time," whereas a significantly high percentage of Ss in the NNONE group "do not work." A significantly high percentage

of Ss in the NMA group work "part-time" and "seasonally."

The significant over-all chi square value for the discrete dependent variable "Favorite Activity I" was 57.51, d.f.=35, ($p < .009$).

The significant selected chi square comparisons were groups: NAL against NMU for items "social," "outdoor activities" and "hedonistic activities" ($chi^2=6.58$, d.f.=1, $p < .01$, $chi^2=6.85$, d.f.=1, $p < .008$, and $chi^2=4.57$, d.f.=1, $p < .03$); NNONE against NMU for items "hedonistic activities," "intellectual" and "outdoor plus competitive sports" ($chi^2=4.95$, d.f.=1, $p < .03$, $chi^2=5.34$, d.f.=1, $p < .02$ and $chi^2=10.78$, d.f.=1 $p < .001$); NAL against NNONE for items "outdoor activities" and "competitive sports plus intellectual activities" ($chi^2=3.97$, d.f.=1, $p < .05$); and HAL against HMU for items "competitive sports" and "hedonistic activities" ($chi^2=3.78$, d.f.=1, $p < .05$ and $chi^2=9.95$, d.f.=1, $p < .001$)..

A significantly high percentage of Ss in the NAL group indicated a preference for "social" and "outdoor" activities, the NNONE preferred "intellectual activities" and "competitive sports," the HAL group preferred "competitive sports" and "outdoor activities" and the NMU and HMU groups indicated a preference for "hedonistic activities."

The significant over-all chi square value for the discrete dependent variable "Favorite Activity II" was 92.70, d.f.=28, ($p < .000001$).

The significant selected chi square comparisons were groups: NMA against NMU and NNONE against NMU, for the items

"dances and parties" and "rock festivals" (chi^2=10.16, d.f.=1, $p < .001$ and chi^2=19.48, d.f.=1, $p < .00001$, respectively); NNONE against NMU and NAL against NNONE, for the items "dances and parties" and "reading" (chi^2=9.65, 4.75, 4.27, d.f.=1, $p < .001$, .03, .04 and chi^2=21.64, 6.23, 4.76, d.f.=1, $p < .00003$, .01, and .04, respectively); and HAL against HMU for the items "reading" and "rock festivals" (chi^2=4.00, d.f.=1, $p < .04$ and chi^2=3.97, d.f.=1, $p < .05$).

A significant percentage of Ss in the NAL and NMA groups preferred "dances and parties," in the NMU and HMU groups a significant percentage of Ss preferred "rock festivals," and in the NNONE and HAL groups, a significant percentage of Ss preferred "reading." Also a significantly greater percentage of Ss in the HMU than the NNONE group preferred "dances and parties."

Summary

Hypothesis I was not supported for the Activity and Interest Orientation variables. The scores reflecting these variables for High School and Hospital Multiple Drug groups did not differ significantly from the scores of the High School and Hospital Non User, Alcohol Only, and Marijuana groups.

A summary of the significant results of the selected chi square comparisons has been presented in TABLE 19.

TABLE 19

CHI SQUARE VALUES AND PROBABILITIES OF SELECTED COMPARISONS FOR THE ACTIVITY AND INTEREST ORIENTATION VARIABLES

Hypothesis I predicts:	No significant Differences			Significant Differences			
Groups / Variable	NAL x NMA	NAL x NNONE	NMU x HMU	NAL x NMU	NMA x NMU	NNONE x NMU	HAL x HMU
Political Activities	5.10*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Study Time	n.s.	4.30*	n.s.	n.s.	n.s.	7.65**	4.75*
Employed	n.s.	5.71*	n.s.	n.s.	n.s.	n.s.	n.s.
Future Occup. Plans	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	5.04*
Favorite Activity I	n.s.	3.97*	n.s.	6.58** 6.85** 4.57*	n.s.	4.99* 5.34* 10.78***	3.78* 9.95***
Favorite Activity II	n.s.	2.64**** 6.23** 4.75*	n.s.	19.48****	10.16***	9.65*** 4.75* 4.27*	4.00* 3.97*

* <.05
** <.01
*** <.001
**** <.0001

Hypothesis I refers to the results of the analyses on the following variables:

1. "Political Activities"—the NMA group endorsed the "yes" item, which reached significance ($p < .05$) when compared to the NAL group.
2. "Study Time"—the NMU and HMU groups studied for significantly fewer hours per week than the NNONE and HNONE groups (TABLE 19). However, the scores of the NAL, NMA and NMU groups were similar and the NAL studied significantly fewer hours per week than the NNONE group (TABLE 19).
3. "Employed"—only the NAL against NNONE comparison reached significance (TABLE 19). The NAL group was employed part-time, whereas the NNONE group was "not employed."
4. "Future Occupational Plans"—only the HAL against HMU comparison reached significance (TABLE 19). The HAL group planned to attend "university or technical school" and the HMU group was "undecided."
5. "Favorite Activity I"—the scores of the two Multiple Drug groups were similar and significantly different from the NNONE, NAL and HAL groups (TABLE 19), but not from the NMA group. Although the scores of the NAL group were similar to those of NMA group, they were significantly different from the NNONE group (TABLE 19). The two Multiple Drug groups preferred "hedonistic" and "social" activities, the NAL and NMA drug groups

preferred "social" and "outdoor" activities and the NNONE and HAL groups preferred "competitive sports" and "intellectual activities."

6. "Favorite Activity II"—the scores of the two Multiple Drug groups were similar and significantly different from the scores of the other groups (TABLE 19). The scores of the NAL group were similar to the NMA group, but significantly different from the NNONE group (TABLE 19). The two Multiple groups preferred "rock festivals," the NAL and NMA groups preferred "dances and parties" and the NNONE and HAL groups preferred "reading."

7., 8., and 9. "School and Club Activities," "Extra-curricular Activities," and "Grade Average"—the analyses of variance revealed no significant differences among any of the groups.

FAMILY

The chi square analyses of the two discrete dependent variables "Parent Prefer Holiday With" did not produce significant results. The results of the over-all chi analyses of all of the discrete Family variables have been presented in TABLE 20.

The analyses of variance of the three continuous dependent variables "Number of Brothers," "Number of Sisters" and "Family Position" did not produce significant results. The results of the analyses of variance of all of the continuous Family variables have been presented in TABLE 21.

TABLE 20

CHI SQUARE ANALYSES OF THE DISCRETE FAMILY VARIABLES

Variable	Degrees of Freedom	Chi Square Value	Probability
Parent Live With	28	51.70	<.004
Closest Parent	28	44.86	<.02
Parent Prefer Holiday With I	14	20.61	<.06(n.s.)
II	14	22.94	n.s.

TABLE 21

ANALYSES OF VARIANCE OF THE CONTINUOUS FAMILY VARIABLES

Variable	Degrees of Freedom	F ratio	Probability
No. of Bros.	7/148	1.28	n.s.
No. of Sis.	7/148	1.85	<.08(n.s.)
Family Position	7/148	.91	n.s.
Family Closeness	7/148	5.73	<.00001
Family Activities	7/148	2.88	<.007

The significant over-all chi square value for the discrete dependent variable "Parent Live With" was 51.70, d.f.=28, ($p < .004$).

The significant selected chi square comparisons were: NMU against HMU for the items "both parents" and "other than own parents" ($chi^2=4.57$, d.f.=1, $p < .03$); and HAL against HMU for the items "both parents" and "mother only" ($chi^2=5.22$, d.f.=1, $p < .02$).

Significantly more Ss of the HMU than the NMU group lived with "other than own parents," whereas the Ss of the NMU group lived with "both parents." A significantly greater percentage of the HMU than the HAL group lived with "mother only," whereas the HAL group lived with "both parents." With the exception of the HMU group, most Ss in all groups lived with "both parents."

The significant over-all chi square value for the variable "Closest Parent" was 44.86, d.f.=28, ($p < .02$).

The significant selected chi square comparisons for the items "close to both" and "close to neither" were: NMA against NMU group ($chi^2=4.34$, d.f.=1, $p < .04$); and NMU against NNONE group.

A significant percentage of the Ss in the NMU group felt close to "neither parent" whereas a significant percentage of Ss in the NMA and NNONE groups felt close to "both parents." The NMU and HMU groups were not significantly different.

In general, Ss in most of the groups felt close to either "mother" or "father" or "both parents." The exception to this pattern were the NMU, HMA and HMU groups, particularly NMU, who had a high percentage of Ss who were close to "neither" parent. The two Alcohol Only groups when compared to NMU and HMU groups showed a trend ($p < .06$ and $p < .07$, respectively).

The means were calculated (TABLE 22) and the analysis of variance was performed (TABLE 23) on the scores of the continuous dependent variable "Family Closeness" ($F=5.73$, d.f.=7/148, $p < .00001$).

TABLE 22

RANKED* MEANS OF THE VARIABLE "FAMILY CLOSENESS"

Group	NAL	NNONE	HNONE	HAL	NMA	HMU	NMU	HMA
Mean	2.24	2.33	2.38	2.38	2.50	3.31	3.64	4.50

*Ranked from "very close" to "not close at all" (1 to 5).

TABLE 23

ANALYSIS OF VARIANCE OF THE VARIABLE "FAMILY CLOSENESS"

Source of Variation	Sum of Squares	Mean Square	Degrees of Freedom	F ratio	Probability
B.g.	0.56	8.07	7	5.73	.00001
W.g.	0.21	1.41	148		

The Scheffé multiple comparison of means was performed to determine which pairs of means showed significant differences. Significant differences were found between the means of the NAL against the NMU group and the NNONE against the NMU group (TABLE 27). The NAL and NNONE groups' families were significantly "more close" than the NMU group.

The means were calculated (TABLE 24) and the analysis of variance (TABLE 25) was performed on the scores of the continuous dependent variable "Family Activities" (F=2.88, $d.f.$=7/148, $p < .007$).

TABLE 24

RANKED* MEANS OF THE VARIABLE "FAMILY ACTIVITIES"

	NNONE	NMA	NAL	HNONE	HAL	HMU	NMU	HMA
Mean	2.81	3.27	3.36	3.78	3.46	3.96	4.04	5.00

*Ranked from "very many activities" to "none" (1 to 5).

TABLE 25

ANALYSIS OF VARIANCE OF THE VARIABLE "FAMILY ACTIVITIES"

Source of Variation	Sum of Squares	Mean Square	Degrees of Freedom	F ratio	Probability
B.g.	0.39	5.56	7	2.88	.007
W.g.	0.29	1.93	148		

The Scheffé multiple comparison of means was performed to determine which pairs of means showed significant differences. No significant differences for the comparisons of paired means were found. In this instance the Scheffé method proves to me a more conservative instrument than the analysis of variance for revealing mean differences between groups.

Summary

Hypothesis II was not supported for the Family variables. The scores of the two Multiple Drug groups did not differ significantly from the scores of the High School and Hospital Alcohol Only, Marijuana, and Non User groups on all of the

Family variables.

Summaries of the significant results of the selected chi square comparisons and Scheffé comparison of means have been presented in TABLES 26 and 27.

Hypothesis II refers to the results of the analyses on the following variables:

1. "Parent Live With"—only the HMU group had a significant percentage of Ss who lived with "other than parents." This percentage was significant against the NMU group, even though it had the relatively high figure of 24 percent of Ss living with "other than both parents."
2. "Closest Parent"—the two Multiple Drug groups were similar and significantly "less close to parents" than the NNONE and NMA groups. However, the NAL and HAL groups only showed a trend when compared to the NMU and HMU groups, respectively ($p < .06$ and $p < .07$, respectively).
3. "Family Closeness"—only the Scheffé comparisons of the NMU group against the NAL and NNONE groups reached significance ($p < .02$ and $p < .02$, respectively). The NMU group was significantly "less close to parents."
4. "Family Activities"—the analysis of variance produced a significant F ratio ($F=2.88$, $p < .008$). The Scheffé comparison of means, a more conservative test, did not result in significant differences between groups.

TABLE 26

SIGNIFICANT SELECTED CHI SQUARE COMPARISONS
FOR THE "FAMILY" VARIABLES

Hypothesis II predicts:	No Significant Difference			Significant Differences			
Groups / Variable	NAL x NMA	NAL x NNONE	NMU x HMU	NAL x NMU	NMA x NMU	NNONE x NMU	HAL x HMU
Parent Live With	n.s.	n.s.	4.57*	n.s.	n.s.	n.s.	5.22*
Closest Parent	n.s.	n.s.	n.s.	n.s.(.06)	4.34*	8.07**	n.s.(.07)

*p < .05
**p < .01

TABLE 27

PROBABILITIES OF THE SIGNIFICANT SCHEFFÉ COMPARISONS OF THE "FAMILY CLOSENESS" VARIABLE

Family Closeness	Groups	
Less Close	NMU	NMU
	x	x
More Close	NAL	NNONE
Probability	<.02	<.02

5., 6., and 7. "Number of Brothers," "Number of Sisters," and "Family Position"—the analyses of these continuous variables did not produce significant results. This suggests that the sample was representative in terms of actual family structure.

8. "Parent Prefer Holiday With"—the chi square analyses of these two discrete variables did not produce significant results.

SOCIAL AND PEER RELATIONS

The chi square analysis of the discrete dependent variable "Going Steady Presently" did not produce significant results. The results of the over-all chi square analyses of all of the discrete dependent Social and Peer Relations variables have been presented in TABLE 28.

The analyses of variance of the continuous dependent variables "Number of Close Friends" and "Steady Presently—Time" did not produce significant results. The results of the

analyses of variance of all of the continuous Social and Peer Relations variables have been presented in TABLE 29.

TABLE 28

CHI SQUARE ANALYSES OF THE DISCRETE SOCIAL AND PEER RELATIONS VARIABLES

Variable	Degrees of Freedom	Chi Square Value	Probability
Enjoy Parties	28	44.10	<.03
Age Date	35	66.10	<.001
Ever Gone Steady	21	40.98	<.005
Steady Presently	21	24.47	n.s.
Favorite Activity-People	35	57.51	<.01
Leisure Time-People	28	52.93	<.003

TABLE 29

ANALYSES OF VARIANCE OF THE CONTINUOUS SOCIAL AND PEER RELATIONS

Variable	Degrees of Freedom	F ratio	Probability
No. of Close Friends	7/148	.89	n.s.
Popularity Own Sex	7/148	3.36	<.002
Popularity Opposite Sex	7/148	3.97	<.0005
Steady Presently—Time	7/148	1.64	n.s.

The significant over-all chi square value for the discrete dependent variable "Enjoy Parties" was 44.10, d.f.=28, ($p < .03$).

The significant selected chi square comparisons were groups: NMA against NMU and NNONE against NMU for the items "enjoy same as others" and "enjoy more than others" (chi^2=5.19, d.f.=1, $p < .02$ and chi^2=10.36, d.f.=1, $p < .001$); and HAL

against HMU for the items "enjoy less than others" and "enjoy more than others" (chi^2=7.33, d.f.=1, $p < .007$) and for the items "enjoy more than others" and "enjoy same as others" (chi^2=3.75, d.f.=1, $p < .05$).

The two Multiple Drug groups were similar and claimed to "enjoy parties" significantly more than the NMA and NNONE groups ("enjoy same") and the HAL group ("enjoy less"). The NAL group did not differ significantly from any of the groups.

The significant over-all chi square value for the discrete dependent variable "Age First Date" was 66.10, d.f.=35, ($p < .001$).

The significant selected chi square comparisons were groups: NMA against NMU group for the items "never plus over fifteen" and "under twelve" (chi^2=3.71, d.f.=1, $p < .05$); NAL against NMU group for the items "never and "twelve to thirteen" (chi^2=6.68, d.f.=1, $p < .01$); NNONE against NMU for the items "never" and "twelve to thirteen," and "never" and "under twelve," (chi^2=12.57, d.f.=1, $p < .0004$ and chi^2=7.41, d.f.=1, $p < .006$, respectively); and HAL against HMU for the items "never" and "under twelve" (chi^2=9.08, d.f.=1, $p < .003$).

The NAL, NMA, NNONE, and HAL groups had a significant percentage of Ss who had "never dated" or not dated until "age fifteen." Both the NMU and HMU groups, apparently the most precocious, had a significant percentage of Ss who began dating at "age twelve to thirteen; or earlier." The HNONE most closely resembled the NNONE group.

The significant over-all chi square value for the discrete

dependent variable "Ever Gone Steady" was 40.98, d.f.=21, ($p < .005$).

The significant selected chi square comparisons were groups: NAL against NMU and HAL against HMU for the items "never" and "more than three times" ($chi^2=5.08$, d.f.=1, $p < .02$ and $chi^2=7.48$, d.f.=1, $p < .006$ respectively); and NNONE against NMU for the items "never," "twice" and "never" and "over three times" ($chi^2=10.70$, d.f.=1, $p < .001$ and $chi^2=7.65$, d.f.=1, $p < .006$).

The NMU and HMU groups showed the highest frequency of "going steady." The NAL, NNONE and HAL groups had a significantly high frequency of "gone steady once and never" responses. The majority of Ss in the HNONE group have "never gone steady." The NMA group did not differ significantly from any of the groups.

The significant over-all chi square value for the discrete dependent variable "Favorite Activity—People" was 57.51 (d.f.=35, $p < .01$).

The significant selected chi square comparisons were groups: NAL against NMU for the items "a very close friend" and "others" ($chi^2=5.83$, d.f.=1, $p < .02$) and "two or more friends" and "other" ($chi^2=4.71$, d.f.=1, $p < .03$); and NNONE against NMU for the items "two or more friends" and "other" ($chi^2=8.36$, d.f.=1, $p < .004$).

Significantly more Ss in the NMU endorsed the "other" item, whereas the NAL endorsed the "very close friend and two or more friends" items and the NNONE endorsed the "two or

more friends" item. The NMA ("friends") against NMU ("other") group comparison showed a trend ($p < .06$).

The significant over-all chi square value for the discrete dependent variable "Leisure Time—People" was 52.93 (d.f.=28, $p < .003$).

The significant selected chi square comparisons were groups: NMA against NMU for the items "a date" and "self" ($chi^2=8.11$, d.f.=1, $p < .004$); and NNONE against NMU for the items "family" and "self" ($chi^2=7.29$, d.f.=1, $p < .007$). For each of these comparisons a significant percentage of Ss in the NMU group spend their leisure time "alone," compared to the NMA and NNONE groups, who spend their time with a "date" and "family," respectively. The majority of all of the Ss spend their leisure time with "friends."

The means were calculated (TABLE 30) and the analysis of variance was performed (TABLE 31) on the scores of the continuous dependent variable "Popularity Own Sex," ($F=3.36$, d.f.=7/148, $p < .002$).

TABLE 30

RANKED* MEANS OF VARIABLE "POPULARITY OWN SEX"

Group	HMU	NNONE	NMU	NMA	NAL	HAL	HMA	HNONE
Mean	2.65	2.87	2.88	3.0	3.04	3.23	3.25	3.87

*Ranked from "most" to "least" popular (1 to 5).

TABLE 31

ANALYSIS OF VARIANCE OF THE VARIABLE "POPULARITY OWN SEX"

Source of Variation	Sum of Squares	Mean Square	Degrees of Freedom	F ratio	Probability
B.g.	.11	1.57	7	3.36	.002
W.g.	.69	.47	148		

The Scheffé multiple comparison of means was performed to determine which pairs of means showed significant differences. Only the Scheffé comparison of the paired means of the HNONE against the HMU group (TABLE 35) produced a significant difference ($p < .009$). The Ss of the HMU group claimed to be "more popular" than the HNONE group.

The means were calculated (TABLE 32) and the analysis of variance (TABLE 33) was performed on the scores of the continuous dependent variable "Popularity Opposite Sex." ($F=3.97$, d.f.=7/148, $p < .0005$).

TABLE 32

RANKED* MEANS OF VARIABLE "POPULARITY OPPOSITE SEX"

Group	HMA	HMU	NMU	NMA	NNONE	NAL	HAL	HNONE
Mean	2.50	2.54	2.72	2.91	3.09	3.24	3.30	4

*Ranked from "most" to "least" popular (1 to 5).

TABLE 33.

ANALYSIS OF VARIANCE OF THE VARIABLE "POPULARITY OPPOSITE SEX"

Source of Variation	Sum of Squares	Mean Square	Degrees of Freedom	F ratio	Probability
B.g.	.20	2.80	7	3.97	.0005
W.g.	.10	0.71	148		

The Scheffé multiple comparison of means was performed to determine which pairs of means showed significant differences. Only the Scheffé comparison of the paired means of the HNONE against the HMU group (TABLE 35) produced a significant difference ($p < .01$). More Ss in the HMU than the HNONE group claimed to be "more popular with the opposite sex."

Summary

Hypothesis III for all of the "Social and Peer Relations" variables was not supported. The scores, reflecting these variables for the two Multiple Drug groups, did not differ significantly from the scores of the High School and Hospital Alcohol Only, Marijuana and Non User groups.

A summary of the significant results of the selected chi square comparisons and Scheffé comparisons of means has been presented in TABLES 34 and 35.

TABLE 34

SIGNIFICANT SELECTED CHI SQUARE COMPARISONS OF THE "SOCIAL AND PEER RELATIONS" VARIABLES

Hypothesis III predicts:	No Significant Difference			Significant Differences			
Groups / Variable	NAL x NMA	NAL x NNONE	NMU x HMU	NAL x NMU	NMA x NMU	NNONE x NMU	HAL x HMU
Enjoy Parties	n.s.	n.s.	n.s.	n.s.	5.19**	10.36***	7.33**
Age First Date	n.s.	n.s.	n.s.	6.68**	3.71*	7.41**	3.75*
Ever Gone Steady	n.s.	n.s.	n.s.	5.08*	3.75*	12.58***	9.08**
Fav. Activity-People	n.s.	n.s.	n.s.	5.83*	n.s.	8.36**	7.94**
Leisure Time-People	n.s.	n.s.	n.s.	4.71*	8.11**	7.29**	7.48**
				n.s.			n.s.

* .05
** .01
*** .001

TABLE 35

PROBABILITIES OF THE SIGNIFICANT SCHEFFÉ COMPARISONS OF THE "SOCIAL AND PEER RELATIONS" VARIABLES

Variable	Groups
Popularity Own Sex	
more popular	HMU* × HNONE
less popular	
Popularity Opposite Sex	
more popular	HMU* × HNONE
less popular	

* .01

Hypothesis III refers to the results of the analyses on the following variables:

1. "Enjoy Parties"—the two Multiple Drug groups were similar and claimed to "enjoy parties" significantly more than the NMA and NNONE groups ("enjoy same") and the HAL group ("enjoy less"). However, the NAL group did not differ significantly from any of the groups.
2., and 3. "Age First Date" and "Ever Gone Steady"—as predicted, the two Multiple Drug groups were similar and significantly different from the Alcohol Only, Marijuana and Non User groups on these two variables. The Multiple Drug groups dated at a significantly earlier age and had gone steady significantly

more often than the other groups.

4. "Favorite Activity—People"—the two Multiple Drug groups were similar and significantly different from the NAL and NNONE groups, but only showed a trend against the NMA group (NMA x NMU $p < .06$). Also, the HMU against HAL group comparison did not show a significant difference. The NAL and NNONE (and NMA) groups did their favorite activity with "friends" and the NMU group with "other."

5. "Leisure Time—People"—the two Multiple Drug groups were similar and significantly different from the NMA and NNONE groups, but not the two Alcohol Only groups. In addition to spending leisure time with "friends"; the NMU group spent it "alone," the NMA with a "date" and the NNONE with "family."

6., and 7. "Popularity Own Sex" and "Popularity Opposite Sex"—only the Scheffé comparisons of the means of the HMU against HNONE group on these two variables reached significance. In both instances the HMU group claimed to be "more popular."

8., 9., and 10. "Number of Close Friends," "Steady Presently—Time," and "Steady Presently"—there were no significant differences among any of the groups on the scores reflecting these variables.

VALUES

The chi square analysis of the discrete dependent variable

"Life Value" did not produce significant results. The results of the over-all chi square analyses of all of the discrete Value variables have been presented in TABLE 36.

TABLE 36

CHI SQUARE ANALYSES OF THE DISCRETE VALUES VARIABLES

Variable	Degrees of Freedom	Chi Square Value	Probability
Life Value	49	55.59	n.s.
Personal Relig. Affil.	35	71.49	<.0002
Concept of God	28	54.19	<.002

The analysis of variance of the continuous dependent variable "Self-Ideal Self" did not produce significant results. The results of the analyses of variance of all of the continuous Values variables have been presented in TABLE 37.

TABLE 37

ANALYSES OF VARIANCE OF THE CONTINUOUS VALUES VARIABLES

Variable	Degrees of Freedom	F ratio	Probability
Self-Ideal Self	7/148	.51	n.s.
Church Attendance	7/148	5.02	.00004

The significant over-all chi square value for the discrete dependent variable "Personal Religious Affiliation" was 71.49, d.f.=35, ($p < .0002$).

Only the selected chi square comparison of the NMU against the HMU group for the item "no religion" reached significance (chi^2=5.13, d.f.=1, $p < .02$). A significantly higher percentage of Ss in the HMU than the NMU group endorsed the "no religion" item.

The significant over-all chi square value for the discrete dependent variable "God Concept" was 54.19, d.f.=28, ($p < .002$).

The significant selected chi square comparisons were groups: NMA against NMU for the items "traditional religious concept" and "agnostic" (chi^2=6.03, d.f.=1, $p < .01$); and NAL against NMU and NNONE against NMU for the items "traditional religious concept and agnostic" and "traditional religious concept and non-traditional-God is truth, etc.," (chi^2=9.83, d.f.=1, $p < .002$; chi^2=9.94, d.f.=1, $p < .002$ and chi^2=5.67, d.f.=1, $p < .02$; chi^2=4.70, d.f.=1, $p < .03$; chi^2=8.26, d.f.=1, $p < .004$, respectively).

A significant percentage of Ss in all groups, with the exception of the NMU and HMU, and HMA groups, had "traditional religious concepts." The majority of Ss in the NMU group were either agnostic or held a "non-traditional religious concept" and a high percentage of Ss in the HMU group were distributed over the "atheist," "agnostic" and "non-traditional religious concept" items.

The means (TABLE 38) were calculated and the analysis of variance (TABLE 39) was performed on the continuous dependent variable "Church Attendance" (F ratio=5.02, d.f.=7/148, $p < .00004$).

TABLE 38

RANKED* MEANS OF THE VARIABLE "CHURCH ATTENDANCE"

Groups	NNONE	NAL	NMA	HNONE	HAL	NMU	HMU	HMA
Means	3.06	3.24	3.36	3.50	4.07	4.16	4.46	4.75

*Ranked from "daily to never" (1 to 5).

TABLE 39

ANALYSIS OF VARIANCE OF THE VARIABLE "CHURCH ATTENDANCE"

Source of Variation	Sum of Squares	Mean Square	Degrees of Freedom	F ratio	Probability
	.48	6.89	7	5.02	.00004
	.20	1.37	148		

The Scheffé multiple comparison of means was performed to determine which pairs of means showed significant differences. Only the Scheffé comparison of the paired means of the NNONE against the HMU group (TABLE 41) showed a significant difference ($p < .006$).

Summary

Hypothesis IV for all of the Values variables was not supported. The scores, reflecting these variables, for the two Multiple Drug groups, did not differ significantly from the scores of all of the High School and Hospital Alcohol Only, Marijuana and Non User groups.

TABLE 40

SIGNIFICANT SELECTED CHI SQUARE COMPARISONS
FOR THE VALUES VARIABLES

Hypothesis IV predicts:	No Significant Difference			Significant Differences			
Groups / Variable	NAL x NMA	NAL x NNONE	NMU x HMU	NAL x NMU	NMA x NMU	NNONE x NMU	HAL x HMU
Personal Relig. Affil.	n.s.	n.s.	5.13*	n.s.	n.s.	n.s.	n.s.
God Concept	n.s.	n.s.	n.s.	9.83** 9.94**	6.03*	5.67* 4.70* 8.26*	n.s.

* .05
** .01

A summary of the significant results of the selected chi square comparisons and Scheffé comparison of means has been presented in TABLES 40 and 41.

TABLE 41

SIGNIFICANT SCHEFFÉ COMPARISON FOR VARIABLE "CHURCH ATTENDANCE"

Variable	Groups
Church Attendance	
less often	NNONE
more often	x
	HMU
Probability	<.006

Hypothesis IV refers to the results of the analyses on the following variables:

1. "Personal Religious Affiliation"—only the two Multiple Drug groups were significantly different. A significant percentage of the HMU group was of "no religion," whereas the NMU group was either "Protestant" or "Catholic."
2. "God Concept"—the two Multiple Drug groups were similar and significantly different from the NAL, NMA and NNONE groups. The HAL against HMU group comparison did not reach significance. The Multiple Drug groups were either "atheist," "agnostic" or had "non-traditional God concepts" as opposed to the

other groups which had "traditional concepts of God."

3. "Church Attendance"—only the Scheffé comparison of the NNONE (more frequent attendance) against the HMU group (less frequent attendance) reached significance.

4. and 5. "Life Value" and "Self-Ideal Self"—no significant differences between any of the group means were found.

ATTITUDES TOWARDS DRUGS

The analyses of variance for all of the continuous dependent variables, Attitudes Towards Drugs, produced significant results. Only a summary of the analyses have been presented and are to be found in TABLE 42.

The chi square analysis of the discrete dependent variable "Treatment Drug Offenders" resulted in a significant chi square value and has been presented in TABLE 42.

TABLE 42

ANALYSES OF VARIANCE AND CHI SQUARE ANALYSIS OF THE ATTITUDES TOWARDS DRUGS VARIABLES

Variable	Degrees of Freedom	F ratio	Probability
Analyses of Variance			
Marijuana Legalized	7/148	11.48	<.000001
Freedom Use Drugs	7/148	10.10	<.000001
LSD Expands Mind	7/148	7.74	<.00001
Potent Drug Harmful	7/148	3.33	<.002
Speed Harmful	7/148	2.09	<.04
Users Disturbed	7/148	2.37	<.02
Drug Users Typical	7/148	3.03	<.005

TABLE 42 (continued)

Variable	Degrees of Freedom	F ratio	Probability
Chi Square Analysis			
Treatment Drug Offenders	28	56.54	<.001

The Scheffé multiple comparison of means produced significant results for the following variables: "Marijuana Legalized" (F p <.000001); "Freedom Use Drugs" (F p <.000001); and "LSD Expands Mind" (F p <.00001).

For the variable "Marijuana Legalized" the significant Scheffé comparisons of group means were: NAL against NMU and HMU (p <.01 and p <.04, respectively); NNONE against NMA, NMU and HMU (p <.001, p <.0001 and p <.001, respectively); HAL against NMU (p <.05). The significant scores reflect the NMA, NMU and HMU groups' more favorable attitude toward legalization of marijuana.

For the variable "Freedom Use Drugs" the significant Scheffé comparisons of group means were: NAL against NMU (p <.001); NNONE against NMA, NMU and HMU (p <.01, p <.0001 and p <.001, respectively); and HAL against NMU (p <.01). The significant results reflect the more favorable attitude of the NMA, NMU and HMU groups toward freedom to use drugs.

For the variable "LSD Expands Mind" the significant comparisons of group means were: NAL against NMU and HMU

($p < .001$ and $p < .01$, respectively); NNONE against NMU and HMU ($p < .001$ and $p < .01$, respectively); and HAL against NMU and HMU ($p < .01$ and $p < .05$, respectively). The two Multiple Drug groups were more in agreement with the statement "LSD Expands Mind."

The analysis of variance, but not the Scheffé comparisons of group means, produced significant results for the following variables: "Potent Drugs Harmful" (F $p < .002$); "Speed Harmful" (F $p < .005$); "Drug Users Disturbed" (F $p < .005$) and "Drug Users Typical" (F $p < .005$). On these scales there was homogeneity of variances, however the group mean differences were not large enough to yield significant between group comparisons, even though the over-all F ratios were significant. In addition, the conservative nature of the Scheffé method would tend to reduce the probability of finding significant differences.

The over-all chi square value for the discrete dependent variable "Treatment Drug Offenders" was 55.54 ($d.f.=28$, $p < .001$).

The significant selected chi square comparisons for the items "vary according to drug involved" and "legalize" were groups: NAL against NMA ($chi^2=6.57$, $d.f.=1$, $p < .01$); NAL against NMU ($chi^2=11.78$, $d.f.=1$, $p < .001$); and NMU against HMU ($chi^2=6.29$, $d.f.=1$, $p < .01$). The NMA and NMU groups preferred "legalization of drug usage." The significant selected chi square comparison for the items "increase penalties" and "vary according to drug involved" was the NAL against the NNONE group ($chi^2=3.87$, $d.f.=1$, $p < .05$). An almost equal

percentage of Ss in both groups preferred "varying penalties," whereas the NNONE also preferred "increasing penalties." The significant selected chi square comparisons for the items "vary penalties and legalize drugs" and "increase penalties and legalize drugs" were the groups: NNONE against NMU (chi^2= 17.76, d.f.=1, $p < .0001$ and chi^2=20.20, d.f.=1, $p < .00001$, respectively). The NMU group preferred "legalizing drug usage" whereas the NNONE group preferred "increasing penalties" and secondarily "varying penalties according to drug involved."

Summary

Hypothesis V was not supported for the Attitudes Towards Drugs variables. The scores of the two Multiple Drug groups did not differ significantly from the scores of the High School and Hospital Alcohol Only, Marijuana and Non User groups on all of the Attitudes Towards Drugs variables.

Summaries of the significant results of the Scheffé comparisons of means and the selected chi square comparisons have been presented in TABLES 43 and 44.

Hypothesis V refers to the results of the analyses on the following variables:

1. "Marijuana Legalized"—the two Multiple Drug groups were similar in their significantly more favorable attitude toward legalization, than the NNONE, NAL and HAL groups. However, the NMA group had a significantly more favorable attitude toward legalization than the NNONE group.

TABLE 43

PROBABILITIES OF THE SIGNIFICANT SCHEFFÉ COMPARISONS OF THE ATTITUDES TOWARDS DRUGS VARIABLES

Variable	Groups					
Marijuana Legalized						
unfavorable attitude	NNONE***	NNONE****	NNONE*****	NAL***	NAL***	HAL**
	x	x	x	x	x	x
favorable attitude	NMA	NMU	HMU	NMU	HMU	HMU
Freedom Use Drugs						
unfavorable attitude	NNONE**	NNONE****	NNONE***	NAL***	HAL**	
	x	x	x	x	x	
favorable attitude	NMA	NMU	HMU	NMU	NMU	
LSD Expand Mind						
unfavorable attitude	NNONE***	NNONE**	NAL***	NAL**	HAL**	HAL
	x	x	x	x	x	x
favorable attitude	NMU	HMU	NMU	HMU	NMU	HMU*

* .05
** .01
*** .001
**** .0001
***** .00001

TABLE 44

SIGNIFICANT SELECTED CHI SQUARE COMPARISONS OF THE VARIABLE "TREATMENT DRUG OFFENDERS"

Hypothesis V predicts:	No Significant Difference			Significant Differences			
Groups	NAL x NMA	NAL x NNONE	NMU x HMU	NAL x NMU	NMA x NMU	NNONE x NMU	HAL x HMU
Treatment Drug Offenders	6.57**	3.87*	6.29**	11.78***	n.s.	17.76**** 20.20*****	n.s.

* .05
** .01
*** .001
**** .0001
***** .00001

2. "Freedom Use Drugs"—the two Multiple Drug groups were similar in their significantly more favorable attitude toward "freedom to use drugs" than the NNONE group. The NMU group's attitude, but not the HMU group, was also significantly more favorable toward "freedom to use drugs" than the two Alcohol Only groups. The NMA group had a significantly more favorable attitude than the NNONE group.
3. "LSD Expands Mind"—the two Multiple Drug groups were similar in their agreement that "LSD expands the mind," and significantly different from the two Non User and two Alcohol groups, but not the Marijuana groups.
4. "Treatment Drug Offenders"—the NMU group (preferred legalization) was significantly different from the HMU group (preferred varying penalties), but similar to the NMA group (also preferred legalization). The NAL group (preferred varying penalties) was similar to the HMU and HAL groups and significantly different from the NNONE group, (preferred increasing penalties and secondarily, varying penalties) and the NMA and NMU groups.
5., 6., 7., and 8. "Potent Drugs Harmful," "Speed Harmful," "Drug Users Disturbed," "Drug Users Typical,"—there were no significant differences found on the between group comparisons.

CHAPTER V

SUMMARY, DISCUSSION AND IMPLICATIONS

SUMMARY AND DISCUSSION

The purpose of the present study was to explore some relevant factors: perspnality characteristics, acquired belief systems and attitudes, social alienation in our current society, and familial relationships, which may be associated with non-medical drug use. Particular concern was with discovering if, and in which ways the two Multiple Drug groups were similar, and different from the Alcohol Only, Marijuana and Non User groups. In the present investigation, drug use was regarded as a complex phenomenon and involving "any" or "all" of the factors, of the individual, his immediate social milieu (family, peers) and his society, in an interactive and dynamic fashion.

King (1969) and Chein (1968) have been discussed at some length as they offered a frame of reference for consideration of a multiple causation approach. King (1969) emphasized that adolescence is a period of crisis, made more difficult when society is in a state of transition. Chein (1968) argued that if an individual has a need to retreat from his situation, drugs may offer the means to achieve this and also provide an alternative subgroup, but the chemical agent (drug) is irrelevant if the need does not exist. The family, and later on

school and society, may share a responsibility for an individual's failure to find satisfaction in life through legitimate means. (Chein, 1968).

Epidemiology

The original sample size of the present study, from which the subjects for the data analyses were derived, was used to provide estimates of the incidence of drug use in the High School and Hospital adolescent populations. Within the high school sample, the majority (over one half) of the students drank alcohol, one quarter of the sample regularly (at least once to twice a week). Alcohol, a socially accepted drug, was not the focus of concern in the present study. However, in view of the frequency of alcohol use and the age of the alcohol drinkers (fifteen to eighteen years of age), if this sample can be considered a representative estimate of local high school populations, alcohol must be considered as a potential danger. One quarter of the high school group was using drugs (one eighth—marijuana and one eighth—multiple drugs) at the time of the study. The Non Users comprised one sixth of the high school sample and statistically were a minority group. Within the hospital sample, the majority of subjects were Multiple Drug Users, followed by Alcohol Only Users. Again, the Non Users were a minority group. A Marijuana group (other psychoactive substances excluded) was virtually non-existent.

Demographic Information

With regard to the Demographic variables all eight groups were similar in sex, grade, and the status of their parents.

Both the age and family religion of the groups were found to be significant factors. The Normal Non User and Normal Multiple Drug groups were the youngest groups (fifteen to sixteen years of age), and the Normal Marijuana and Hospital Multiple groups the oldest (seventeen to eighteen years of age).

The Normal Multiple Drug group was disproportionately of a Protestant religion and the Normal Alcohol Only and Non User groups were disproportionately of the Catholic religion. A high percentage of the Hospital Multiple group was distinguished by claiming "no" religion. The Hospital Multiple group was also the only group who had a significant number of subjects from a rural area.

Specific Drug Related Behavior

One of the youngest groups, the Normal Multiple group, and one of the oldest groups, the Hospital Multiple group, had used drugs for the longest period of time (two to three years). The Marijuana group, also older, had used the drug for one year or less. Evidently the multiple drug use pattern began at an early age in this sample and only the Hospital Multiple group, after a long history of drug use and institutionalization, intended to discontinue use. The young age of the Normal Multiple Drug group had many possible implications; one being, that over time; their drug use may lead to problems

similar to the Hospital Multiple group, which required institutionalization. Those subjects of the Normal Marijuana group that may advance to a multiple drug use pattern could be regarded as having the advantage of beginning multiple drug use at a more mature age.

The drug use of the Hospital Multiple and Marijuana groups also included a greater frequency of cigarette smoking. The Normal Non Users and Alcohol Only groups were significantly differentiated by the fewer number of subjects who smoked cigarettes.

MAJOR HYPOTHESIS

California Personality Inventory

The major hypothesis of the study was not supported. The Normal Multiple and the four Hospital groups were not significantly different from the Normal Alcohol Only, Marijuana, and Non User groups on all of the scales. Only five of the eighteen scales produced significant group differences.

In terms of the drug-non drug continuum there were no significant differences on measures related to such dimensions as sociability, self-assurance, self control and flexibility. However, on the Achievement via Conformance scale the scores of the Normal Non Users and the Normal Alcohol Only groups were higher than the Hospital Non User and Normal Drug groups (Multiple and Marijuana) and the Hospital Drug groups (Multiple and Marijuana), which had the lowest scores. Gough (1957) described low scorers on this scale as: insecure, easily

disorganized under stress or pressure to perform and pessimistic about their occupational futures. Gough (1957) described high scorers as: responsible, persistent, industrious and valuing intellectual activities and intellectual achievements.

This finding may relate to the view of Crook (1970), who described the educational system as dehumanizing, without providing security. Drugs, for some, may remain the only retreatist mode. Whether or not this result reflects a "voluntary" rejection of conformance to the value of academic achievement (Suchman, 1968) or rejection because of an inability to respond as a result of stress, insecurity and failure, can not presently be determined. Nevertheless, drug users, particularly the hospitalized group, would appear to be pessimistic about their future occupational role in society.

A similar hierarchical group distribution of Normal Non Users and Alcohol Only groups, followed by Hospital Non User and Normal Drug groups (Multiple and Marijuana), followed by the lowest scoring groups, the Hospital Drug groups (Marijuana and Multiple) was found on the Good Impression and Communality scales. Only the comparisons of the Normal Non User against the Multiple groups and the Normal Alcohol Only against Hospital Multiple group but not against Marijuana group, reached significance, however. Gough (1957) described low scorers on the Good Impression scales as: aloof, resentful and self centered; whereas, the high scorers were described as: cooperative, diligent and persistent. High scorers on the Communality scale were described as: dependable, realistic, and having common

sense and good judgment. Low scorers were described as: confused and having internal conflicts and problems.

On the Responsibility scale only the Hospital Multiple and Normal Non User groups were significantly different. Gough (1957) described a high scorer on this scale as conscientious and dependable. A low scorer was described as immature and undercontrolled.

In general, on the California Personality Inventory, the two Multiple Drug groups were not characterized as having "self concept" or "sociability" problems but rather problems related to the socialization-asocialization (delinquency) continuum. The Normal Marijuana groups fell between the Normal Non User and Alcohol Only groups and the Multiple Drug groups on this continuum.

The only other scale to differentiate the groups was the Dominance Scale. The Hospital Non User (and to a lesser extent, the Hospital Alcohol Only groups) were differentiated from the other groups and characterized by problems of assertiveness and a lack of self-confidence.

The results on the California Personality Inventory suggest the possibility that the drug behavior of the Multiple Drug users, particularly the Hospital group, and to a much lesser extent the Normal Drug groups, may be part of a complex of delinquent types of activities. This does not imply the groups can be defined as delinquent.

Weckowicz (1973) also found that drug users scored lower than the non drug group on the Communality, Responsibility,

Good Impression, and Achievement via Conformance Scales of the California Personality Inventory. However, unlike the subjects of the present study, they scored higher than the non-drug group on the Flexibility, Capacity for Status, Social Presence, Achievement via Independence and Sociability scales. The researchers concluding image of the chronic drug user was "not one of a non-conforming rebel at variance with the existing social order, but, rather, of an individual capable of autonomous growth and a broad moral perceptive" Weckowicz (1973). In the present investigation, a similar conclusion was not warranted, as the same personality strengths were not reflected in the scale scores. Nevertheless, the cautionary warning of Kleber (1965) should be acknowledged, "orientation to counter-culture values may reflect adjustment to a smaller group." Standard psychological tests, such as the California Personality Inventory, equate deviance with pathology which may, in the drug culture, prove to be a misleading value judgment.

MINOR HYPOTHESES

The minor hypotheses regarding the variables Family, Social and Peer Relations, Activity and Interest Orientation, Values, and Attitudes Towards Drugs were not supported. The two Multiple Drug groups were not similar and significantly different from the other groups on all of the respective variables.

NON SIGNIFICANT VARIABLES

The groups were not differentiated on the following vari-

ables: motivations to use or not use drugs, parents' smoking and drinking behavior, effects of psychoactive drugs, grade average, school and extracurricular activities, number of brothers, number of sisters, family position, number of close friends, going steady at present time, self concept, life goals or values, attitudes towards the more dangerous drugs, image held of drug users, number of family activities and church attendance.

SIGNIFICANT VARIABLES

Family

The absence of close familial relationships (either "Family Closeness" or "Closest Parent") significantly differentiated the two Multiple Drug groups from the other groups. However, many of the subjects of the Hospital Multiple group were actually physically separated from one or both parents (foster or broken homes), which was not the case with the Normal Multiple group. Wispinski (1972) also noted the history of poor familial relationships in his adolescent drug using sample from Alberta Hospital, Edmonton (similar sample to present study).

Poor family relationships as a crucial factor relating to the non-medical use of drugs have been discussed by Stevenson, Lingley, Trasov and Stanfield (1956), who found this to be the sole variable distinguishing an addict from a non-addict group, who shared similar attitudes and a delinquent orientation.

Blum (1972) was one investigator who explicitly described

the role family influence plays in non-medical drug use. One of his conclusions was that the support of "healthy" parents produced a child who liked himself and was resistant to peer group pressure.

A number of cautionary comments about the findings regarding the "Family" variables should be considered. Firstly, it should be emphasized that in the present study a causal relationship should not be assumed. Secondly, interpretation or inference regarding similar findings has frequently followed from a Sociological model. In this model, the environment in this context, that provided by the family, has been considered a causal factor, historically, in delinquency (and alcoholism), and more currently in drug abuse. The alternative interpretation, that from an early age the child has been problematic, which consequently has led to a poor parent-child relationship, warrants attention. To conclude that the failure of parents to foster a close relationship with a child has left him more susceptible to drug use, may be misleading.

Many of the Multiple Drug Users (Alberta Hospital, Edmonton) investigated by Wispinski (1972), who were from a sample similar to the present study, were characterized by a pathological state. The histories of poor family relationships were considered causal within the framework of an environmental model. When considering a pathological state, the assumption of environmental influences as the sole contributing factors may deprive an individual of appropriate or effective therapy. Further, the high rate of broken homes which characterized the

Hospital Multiple Drug group of both Wispinski's study (1972) and the present study should also be considered as possibly reflecting the emotional instability of the parents, which has had its effect on the child as a nature (genetic), rather than nurture (environmental) influence.

Support regarding the importance of non environmental factors in drug dependency with specific reference to alcohol comes from Goodwin, Schulsinger, Møller and Guze (1974). They compared the sons of alcoholic parentage adopted in infancy to non alcoholic parents, with their brothers who were raised by the alcoholic parent. Both the adopted and nonadopted sons had high rates of alcoholism (25 percent and 17 percent, respectively) and the two groups also had a comparable frequency of alcohol problems. Although the nonadopted sons, but not the adopted sons, came from lower socio-economic backgrounds and general conditions associated with delinquency, there were no significant differences between the two groups in alcohol problems.

Either generalizations that the family has had its effect as exclusively an environmental or a genetic influence leading to drug abuse, alcoholism, delinquency, etc., may be inaccurate, particularly if conceptualization does not appreciate interaction effects.

And finally, that the adolescents drug use itself has been the major variable leading to a recent lessening of family cohesiveness, deserves consideration.

Social and Peer Relationships

The Peer group has been discussed as a variable related to drug use by (a) providing situations for influencing drug use through normal social learning (Becker, 1968); (b) satisfying needs within a drug culture left unfulfilled by conventional society (Chein, 1968); and (c) conversely, the role family support may play in providing insulation against the influence to use drugs from the peer group (Blum, 1972).

The present study found both Multiple Drug groups were significantly more heterosexually oriented ("age first date" and "number of times gone steady") than all other groups. However, the other groups were as/or more peer group oriented (same sex) than the Multiple Drug groups (Favorite Activity—People, Leisure Time—People, Number of Close Friends). The Multiple Drug groups preferred spending their leisure time alone, or, other than with friends. However, the Multiple Drug groups did indicate greater enjoyment of parties than all other groups, with the exception of the Normal Alcohol group. Only the Hospital Non User group was distinguished by claiming to be less popular with both their own sex and the opposite sex.

It may be tempting to assume a relationship exists between the low family cohesiveness and the heterosexual orientation of the Multiple Drug groups by suggesting heterosexual relationships satisfy needs not satisfied in a close family. However, any one of the following may be relevant: (a) bordeom (i.e., need for excitement), (b) disturbance in sexual image, (c) greater freedom and opportunity for heterosexual involvement

not permitted by the families of the other groups, or (d) the greater susceptibility of the two Multiple Drug groups to accepting the "modern" mores of sexual freedom frequently conveyed by certain of the media.

To summarize the Social and Peer Relationship variables, the non-multiple drug groups were apparently as, or more involved in "same sex" peer group activities as the Multiple drug groups, but less heterosexually oriented. There is evidently opportunity for the peer group to equally influence non-drug behaviors and attitudes.

Activity and Interest Orientation

The activities (Favorite Activity I and II) pursued by the groups may be conceptualized in terms of the three different patterns which emerged. The two Multiple Drug groups preferred "hedonistic activities" ("have fun," "get stoned," "sex") as well as those described as "social." The Normal Alcohol and Normal Marijuana groups described involvement in "social" and outdoor activities, without the hedonistic connotations. The Normal Non User and Hospital Alcohol Only groups indicated a preference for intellectual activities and competitive sports, those pursuits most valued by conventional society (similar to finding on California Personality Inventory—Achievement via Conformance scale). In addition, only the Normal Marijuana group was involved in Political Activities (limited activity) and only the Multiple Drug groups attended Rock Festivals.

A more hedonistic orientation of drug groups has also been observed by Hughes (1971), Northern Alberta Institute of Tech-

nology, and Wardell (1974), a University of Alberta (Edmonton) Residence.

The absence of "any" or "positive" experiences and/or present opportunities with what may be called more "meaningful" activities may have significance. The inferred disinterest or inability for more planned or sustained activities can be considered in terms of pre-drug experiences or as reflecting the amotivational syndrome, described by McGlothlin and West (1968), as a consequence of drug (marijuana) use. Again, boredom, associated with a need for excitement, may provide an explanation. Grinspoon (1971) considered boredom, especially in the late adolescent, may reflect a maladaptive control of unacceptable sexual and aggressive impulsives.

The remainder of the Activity and Interest Orientation variables did not discriminate the groups in terms of the drug—non-drug continuum. The Non User groups were different from all other groups in their significantly greater study time (similar to finding on California Personality Inventory —Achievement via Conformance Scale).

A greater number of the subjects of the Normal Alcohol groups were employed part-time; whereas, the Normal Non User group had the lowest rate of part-time employment. Only the Hospital Alcohol Only and Multiple Drug groups were significantly different with regard to their future occupational plans. The Alcohol Only group intended to go to University or Technical School; whereas, the Multiple group was undecided about its future.

Values

Self-concept as measured by the questionnaire did not prove to be a distinguishing feature between the groups (similar to finding on California Personality Inventory—measures of self confidence, self assurance). Neither did the life goals differ between the groups.

Only the Hospital Multiple group claimed to have "no personal religious" affiliation. However, the two Multiple Drug groups, as well as the Hospital Alcohol Only group, did not accept traditional religious concepts and claimed to be either agnostic, atheists or conceived of God as truth, nature, etc. The rest of the groups held a traditional concept of God.

Suchman (1968) also found similar religious beliefs in the group of drug users he examined (replicated by Hughes, 1971 in Edmonton). He suggested this difference reflects the emergence of a new ethic, the "hang loose" ethic, subscribed to by drug users, which questions traditional values, including Christianity.

Attitudes Towards Drugs

Between group differences were not found in the attitudes towards the potential harmfulness of the more dangerous drugs, nor the "image" of the drug user. Attitudes related to the "legal question" (Treatment Drug Offenders, Legalization of Marijuana and Freedom to Use Drugs) of non-medical drug use were found to differ significantly between groups. The Normal Multiple and Marijuana groups expressed highly favorable attitudes towards lessened legal involvement; the two Alcohol Only

and Hospital Multiple groups expressed more "moderate" attitudes and the Normal Non-User group favored strict and severe legal control of drugs and drug users. The Drug groups (Multiple and Marijuana) agreed that "LSD expands the mind," whereas, the Alcohol Only and Non User groups did not.

Riggs (1971) similarly found regular drug users could be distinguished by their more favorable attitudes towards drugs than occasional users and a non-drug group. However, in the present study all groups agreed on the danger of such drugs as "speed," LSD, etc. Also, the expectation that the Multiple Drug groups would have significantly more favorable attitudes than the Marijuana group (which would resemble the non-drug groups) was not confirmed.

IMPLICATIONS FOR PRACTICE AND RESEARCH

The important findings are: (a) the two Multiple Drug groups were similar and showed some significant differences from the other groups on the socialization-asocialization dimension of personality, family and peer relationships and specific activities and behavior; (b) there were differences in "family structure" (Normal Multiple—intact families and Hospital Multiple—"broken" homes) and "age." The Normal Multiple group was one of the youngest groups, and the Hospital Multiple group, which had a long history of non-medical drug use and personal problems, was one of the oldest groups.

Some of the implications of these findings for treatment and research are:

1. For research purposes it is meaningful to distinguish between multiple drug users, those who experiment (use once or twice) with psychoactive substances and users of only marijuana.
2. The "chemical agent" is only one of a complex of factors and should not be the sole target in educative or therapeutic programs.
3. Educative programs, specific to drug use, may have merit, however, an individual's attitudes towards drugs may be only one aspect of his/her belief system.
4. Research on high school drug users has frequently emphasized assessment of the normal dimensions of personality (e.g., those assessed by standard psychological tests) and investigation of psychopathology extant within these groups may prove of value.
5. If clinical psychopathology (e.g., neuroses, psychoses, psychopathy) is demonstrated to be manifest within the high school multiple drug group, a system for therapeutic intervention is advocated. Therapeutic efforts would require skilled professionals trained in the clinical area.
6. The "family" would have to be considered an important variable in broader preventative programs.

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APPENDIX A

QUESTIONNAIRE ON STUDENTS' OPINIONS

INTRODUCTION

Individuals vary a great deal in their attitudes and opinions on drug usage. The main purpose of this questionnaire is, with your cooperation, to determine your opinions about this issue.

You are asked to honestly and seriously answer all the questions on this questionnaire. There are no right or wrong answers.

Please do not put your name on the answer sheet. The anonymity of your answers is guaranteed.

Definition

The term "drugs" used in this questionnaire refers to the hallucinogenic or "psychedelic" substances which are being used illegally. Examples: Glue, Nail Polish Remover, Marijuana (Pot), Hashish (Hash), Mescaline (Mesc.), LSD (Acid), Amphetamines (Speed), etc.

Unless specifically indicated, prescribed drugs such as barbituates (goofballs), analgesics ("pain-killers"), and "hard" narcotics such as Opium, Heroin, and Cocaine, are not meant to be included for your consideration in answering.

Instructions

All answers are indicated by marking, on the answer sheet, the letter of your choice from the alternatives.

Please do not mark the question booklet.

PLEASE USE PENCIL, marking each answer heavily and if you make an error, erase the mark completely.

Try to answer all questions.

THANK YOU.

Drug Use

Which of the following drugs have you used, and how often?

Alcohol (wine, beer, liquor)?

a. Once or twice a day
b. Once or twice a week
c. Once or twice a month
d. Only once or twice
e. Never

Marijuana, hashish, tetrahydrocannabinol (pot, weed, hash)?

a. Once or twice a day
b. Once or twice a week
c. Once or twice a month
d. Only once or twice
e. Never

Sedatives or tranquilizers (Phenobarbital, chlopromazine, sleeping pill, etc.)?

a. Once or twice a day
b. Once or twice a week
c. Once or twice a month
d. Only once or twice
e. Never

Amphetamine stimulants (Benzedrine, Dexedrine, diet pills, etc.)?

a. Once or twice a day
b. Once or twice a week
c. Once or twice a month
d. Only once or twice
e. Never

Speed?

a. Once or twice a day
b. Once or twice a week

Speed continued

c. Once or twice a month
d. Only once or twice
e. Never

LSD?

a. Once or twice a day
b. Once or twice a week
c. Once or twice a month
d. Only once or twice
e. Never

Other Hallucinogens (peyote or mescaline, psilocybin, STP, 5-HT, etc.)?

a. Once or twice a day
b. Once or twice a week
c. Once or twice a month
d. Only once or twice
e. Never

Opiates (heroin, cocaine, etc.)?

a. Once or twice a day
b. Once or twice a week
c. Once or twice a month
d. Only once or twice
e. Never

I. Demographic Information

1. Sex

a. male
b. female

2. Age

a. 15-16 years
b. 17-18 years
c. 19-20 years

3. Grade
   a. 10
   b. 11
   c. 12

4. I am a half-day student (Half-Day Student)
   a. Yes
   b. No

5. I have lived in a city for approximately (Live Urban-Rural)
   a. 5 years
   b. 10 years
   c. 15 years
   d. 20 years

6. Father's Status (Father's Status)
   a. professional
   b. business
   c. office worker
   d. manual worker
   e. other, or not employed

7. How would you rate your father financially (Father's Financial Success)
   a. He has been very successful
   b. He has been quite successful
   c. He has been fairly successful
   d. He has not been too successful
   e. He has not been successful at all

8. Mother's Status (Mother's Status)
   a. professional
   b. business or office worker
   c. manual worker
   d. other
   e. homemaker

9. What is your Family Religion (Religion practiced in your home)
(Family Religion)

a. Catholic
b. Protestant (Anglican, Presbyterian, United, Baptist, etc.)
c. Jewish
d. No religion or I don't know
e. Other

II. Specific Drug Related Behavior

10. Do you smoke cigarettes?
(Smoke Cigarettes)

a. Yes
b. No

11. If yes, what is the average number of cigarettes that you smoke in one day
(Number Cigarettes Smoke/Day).

a. 10 or less
b. 10 to 1 package
c. 1 package or more

12. Which of the following does your father use
(Father Smoke/ Drink Alcohol)

a. Tobacco only
b. Alcohol only
c. Tobacco and alcohol
d. Neither tobacco nor alcohol
e. I don't know
f. I have no father

13. Which of the following does your mother use
(Mother Smoke/ Drink Alcohol)

a. Tobacco only
b. Alcohol only
c. Tobacco and alcohol
d. Neither tobacco nor alcohol
e. I don't know
f. I have no mother

14. When do you usually drink?
(Setting Alcohol)

a. Usually when I am alone
b. When I am with my close friends
c. Before, during, or after a party

15. When did you first use DRUGS (consider drugs as named in questions at beginning of this questionnaire, i.e., exclude alcohol)?
(Length of Use)

a. This year
b. Last year
c. Two or three years ago
d. Over four years ago
e. Never

Answer questions in box (number 16 to 23) only if you now use drugs

16. IF YOU NOW USE DRUGS: Choose the reasons that come closest to your real reasons for taking drugs (rank in order of importance)
(Motives - Set I)

a. To keep awake and alert while working or studying
b. To relieve or escape personal problems or school worries
c. To be more at ease, less self-conscious in a group
d. They make you feel good—to feel new body sensations or images
e. For fun, kicks or thrills
f. Have a doctor's prescription (for allergies, nerves, etc.)
g. Drugs help you sleep more easily—calm you down

17. Reasons for your using DRUGS. (rank in order of importance) (Motives - Set II)

a. Friends respect drug users as leaders or as being grown ups

17. continued
    b. With drugs it is easier to express your feelings
    c. One way to rebel against adult authority
    d. Because of boredom—there is not much else to do
    e. To be more creative—writing, music, thinking
    f. For curiosity—want to find out what it is like

18. If you have used MARIJUANA, what have you usually experienced? (Drug Effects)
    a. Feeling of transcendence; increased awareness of self and reality
    b. Enhanced perceptual or visual awareness; pleasant floaty feeling
    c. Little or no effect
    d. Feeling of loss and loneliness; depression and anxiety
    e. Nightmarish illusions; loss of contact with reality; feeling of terror

19. If you have used LSD, what have you usually experienced? (Drug Effects)
    a. Feeling of transcendence; increased awareness of self and reality
    b. Enhanced perceptual or visual awareness, pleasant floaty feeling
    c. Little or no effect
    d. Feeling of loss and loneliness, depression and anxiety
    e. Nightmarish illusions; loss of contact with reality; feeling of terror

20. When taking drugs do you feel that you have attained a freedom from the pressures of society?
    (Drug Effects)
    a. Yes, the above is <u>true</u> for me
    b. The above is <u>sometimes</u> true for me
    c. No, the above is <u>not true</u> for me

21. Have your religious beliefs changed since taking any drugs?
(Drug Effects)
a. Yes, quite a lot
b. Yes, but only in a few ways
c. No, my religious beliefs have not changed

22. Have any personal problems (psychological and physical) changed since taking any drugs?
(Drug Effects)
a. Yes, quite a lot
b. Yes, but only in a few ways
c. No, my problems have not changed

23. Do you think that after taking drugs you became <u>more aware</u> of your personal problems (psychological and physical)?
(Drug Effects)
a. Yes
b. No
c. I don't know

24. I intend to continue taking drugs
(Intend Continue Use)
a. Yes
b. No
c. Does not apply

25. Although I have not tried drugs I intend to try one or more drugs
(Intend to Use)
a. Yes
b. No
c. Undecided
d. Yes, if legalized
e. Does not apply

26. The following questions in the BOX below are for students who have never taken any "soft drugs."

If No—why have you never smoked marijuana? CHECK ONE—Please check in order of most importance to you.

(Non Use Reason)

a. I have just not been particularly interested in taking a drug
b. I have not known how to obtain it
c. I have been afraid of the possible medical or health dangers
d. I do not wish to run the risk of legal problems (arrest)
e. I do not believe in doing what is illegal, as a matter of principle
f. I do not believe in it because of my religious convictions
g. Other

III. Activity and Interest Orientation

27. My average on the last exams was

(Grade Average)

a. over 85%
b. 70-79%
c. 60-69%
d. 50-59%
e. under 50%

28. I am employed

(Employed)

a. seasonally (i.e. during holidays)
b. part time on a regular basis
c. part time occasionally
d. full time
e. not at all

29. After completing school, I am planning

(Future Occupational Plans)

a. University education
b. technical, commercial, or trade school training

29. continued

c. employment
d. travel
e. undecided

30. The average amount of time I spend on homework and/or study is
(Study Time)

a. more than 15 hours a week
b. 10-15 hours a week
c. 5-10 hours a week
d. 1-5 hours a week
e. none at all

31. What ONE thing do you like to do most in your spare time?
(Favorite Activity I)

32. I participate in school clubs or activities
(School Club Activities)

a. more than 15 hours a week
b. 10-15 hours a week
c. 5-10 hours a week
d. 1-5 hours a week
e. none at all

33. I participate in clubs or organized activities outside of school
(Extracurricular Activities)

a. more than 10 hours a week
b. 7-9 hours a week
c. 4-6 hours a week
d. 1-3 hours a week
e. Not at all

34. Do you participate in "political" activities outside your home
(Political Activities)
a. Yes
b. No

35. The activity I enjoy most is
(Favorite Activity II)
a. reading
b. watching TV or going to parties
c. going to dances or parties
d. attending Rock festivals
e. being alone

IV. Family

36. I live with
(Parent Live With)
a. both parents
b. my father
c. my mother
d. foster parents
e. other

37. Which parent do you feel closest to? CHECK ONE.
(Closest Parent)
a. Father
b. Mother
c. Neither, I feel closest to another relative
d. Both
e. Neither, I feel closest to someone else who is not a relative

38. How many brothers do you have? CHECK ONE.
(Number of Brothers)
a. None
b. One

38. continued

c. Two
d. Three
e. Four
f. Five or more

39. How many sisters do you have? CHECK ONE.
(Number of Sisters)

a. None
b. One
c. Two
d. Three
e. Four
f. Five or more

40. What is your <u>position</u> in the family? Were you born first, second, third, etc.
(Family Position)

a. First born
b. Second
c. Third
d. Fourth
e. Fifth
f. Sixth
g. Seventh
h. Eighth
i. Ninth or later

41. How would you describe your family? CHECK ONE.
(Family Closeness)

a. We are very close
b. We are quite close
c. We are somewhat close
d. We are not too close
e. We are not close at all

42. How would you describe your family activities? CHECK ONE.
(Family Activities)

a. We do very many things together
b. We do many things together

42. continued

c. We do some things together
d. We do a few things together
e. We hardly do anything together
f. We never do anything together

43. Suppose you had a chance to take a trip to San Francisco or Los Angeles this summer with just ONE of your parents or ONE other relative. Which ONE would you choose?
(Parent Prefer Holiday With— I)

a. Father
b. Mother
c. Another relative

44. Concerning the above question, would you prefer to go by yourself?
(Parent Prefer Holiday With— II)

a. Yes
b. No

V. Social

45. Do you think that you enjoy parties or dances more, less, or about the same as others in your class? CHECK ONE.
(Enjoy Parties)

a. More
b. Less
c. About the same

46. Compared to your classmates, how popular do you think you are with people of your own sex? CHECK ONE.
(Popularity Own Sex)

a. Very much more popular
b. More popular
c. About the same as others
d. Less popular
e. Very much less popular

47. Compared to your classmates, how popular do you think you are with people of the opposite sex? CHECK ONE.

(Popularity Opposite Sex)

a. Very much more popular
b. More popular
c. About the same as others
d. Less popular
e. Very much less popular

48. Of all the people you know, not including your immediate family, how many would you consider to be close personal friends?

(Number Close Friends)

a. None
b. One
c. Two
d. Three
e. Four
f. Five
g. More than 5

49. At what age did you have your first date?

(Age First Date)

a. Have never had a date
b. Under 12 years old
c. 12 to 13 years
d. 14 years old
e. 15 years old
f. Over 15 years

50. Have you ever gone steady?

(Ever Gone Steady)

a. Yes, once
b. Yes, twice
c. Yes, three or more times
d. No

51. Are you going steady now?

(Steady Presently)

a. Yes
b. No

52. If yes, how long have you been going steady with your present steady.

(Steady Presently-Time)

a. Less than 1 month
b. 1 or 2 months
c. 3, 4, or 5 months
d. 6 months to 1 year
e. More than 1 year
f. More than 2 years

53. With whom do you usually do your favorite activity?

(Favorite Activity-People)

a. No one, I do it alone
b. A very close friend
c. Two or more friends
d. Parents
e. Sister or brother
f. Other

54. Most of my leisure time is spent

(People-Leisure)

a. with my family
b. dating
c. with friends
d. by myself
e. other

VI. Values

55. What church do you belong to, if any?

(Personal Religion)

a. Catholic
b. Protestant, (Anglican, Presbyterian, United, Baptist, etc.)
c. Jewish
d. No religion
e. I don't know

56. How often do you attend Church?
(Church Attendance)
a. Daily
b. Weekly
c. Several times a month
d. Several times a year
e. Never

57. Which of the following statements most closely approximates your concept of God.
(God Concept)
a. A supreme being concerned with each individual person
b. A supreme being not concerned with each individual person
c. Does not exist—I am an atheist
d. I am an agnostic—I neither believe not disbelieve in God
e. God is Nature, Truth, Good, etc., but does not exist in the Traditional Christian sense

58. Different people strive for different things. Here are some things that you have probably thought about. Check the one thing that you consider to be the most important. CHECK ONE.
(Life Value)
a. Pleasing my parents
b. Learning as much as possible in school
c. Living up to (fulfilling) my religious ideals
d. Living up to my moral and/or ethical views
e. Being accepted and liked by other students
f. Having a good time
g. Other_____

59. Which of the following statements come closest to describing your feelings about yourself? CHECK ONE.
(Self-Ideal Self)
a. I would like to change a lot about myself

59. continued

I would like to change some things about myself
I would like to remain just the way I am

VII. Attitudes toward Drugs

60. Marijuana should be legalized
(Legalize Marijuana)
a. I agree strongly
b. I agree
c. Undecided
d. I disagree
e. I disagree strongly

61. Adults should have the freedom to use drugs
(Freedom Use Drugs)
a. I agree strongly
b. I agree
c. Undecided
d. I disagree
e. I disagree strongly

62. LSD expands the mind
(LSD Expands Mind)
a. I agree strongly
b. I agree
c. Undecided
d. I disagree
e. I disagree strongly

63. The more "potent" drugs such as LSD and Mescaline have definite harmful effects
("Potent" Drugs Harmful)
a. I agree strongly
b. I agree
c. Undecided
d. I disagree
e. I disagree strongly

64. Speed has definite harmful effects
(Speed Harmful)
a. I agree strongly
b. I agree
c. Undecided
d. I disagree
e. I disagree strongly

65. The majority of drug users are "disturbed" or emotionally unstable people
(Drug Users Disturbed)
a. I agree strongly
b. I agree
c. Undecided
d. I disagree
e. I disagree strongly

66. As students, drug users are typical or "average" i.e. are not different from others with respect to their interest, attendance, marks, conduct, etc.
(Drug Users Typical)
a. I agree strongly
b. I agree
c. Undecided
d. I disagree
e. I disagree strongly

67. Our government should treat drug offenders by
(Treatment Drug Offenders)
a. Increasing the severity of penalties
b. Varying the penalty according to the kind of drug involved
c. Penalizing only drug "pushers," not users
d. Decreasing the severity of penalties
e. Legalizing drug usage

APPENDIX B

SUMMARY OF RESULTS OF THE ANALYSES OF VARIANCE AND THE OVER-ALL CHI SQUARE ANALYSES

TABLE 1

SUMMARY OF THE ANALYSES OF VARIANCE
OF THE CONTINUOUS VARIABLES

Grouping of Tests and Variable	Degrees of Freedom	F ratio	Probabilities
Personal			
Grade	7/148	1.74	n.s.
Father's Financial Success		1.38	n.s.
Specific Drug-Related Behavior			
Gained Freedom	2/70	.71	n.s.
Religious Change	2/70	.25	n.s.
Problems Change	2/70	.69	n.s.
Number Smoke	7/148	14.48	<.000001
Activity and Interest Orientation			
School Club Activities	7/148	.70	n.s.
Extracurricular Activities	7/148	.58	n.s.
Grade Average (marks)	7/148	1.95	.06 (n.s.)
Family			
No. Brothers	7/148	1.28	n.s.
No. Sisters	7/148	1.85	.08 (n.s.)
Family Position	7/148	.91	n.s.
Family Close	7/148	5.73	<.00001
Family Activities	7/148	2.88	<.007
Social and Peer Relations			
No. of Close Friends	7/148	.89	n.s.
Popularity Own Sex	7/148	3.36	<.002
Popularity Opposite Sex	7/148	3.97	<.0005
Steady Presently-Time	7/148	1.64	n.s.
Values			
Church Attendance	7/148	5.02	<.00004
Self-Ideal Self	7/148	.51	n.s.

TABLE 1 (continued)

Grouping of Tests and Variable	Degrees of Freedom	F ratio	Probabilities
Attitudes Towards Drugs			
Marijuana Legalized	7/148	11.48	.000001
Freedom Use Drugs	7/148	10.10	.000001
LSD Expands Mind	7/148	7.74	.000003
Potent Drugs Harmful	7/148	3.33	.002
Speed Harmful	7/148	2.09	.04
Drug Users Disturbed	7/148	2.37	.02
Drug Users Typical	7/148	3.03	.005

TABLE 2

SUMMARY OF THE CHI SQUARE ANALYSES OF THE DISCRETE VARIABLES

Grouping of Tests and Variable	Chi Square Value	Degrees of Freedom	Probabilities
Personal			
Sex	5.13	7	n.s.
Age	24.42	14	<.02
Family Religion	53.32	28	<.002
Father's Status	26.90	28	n.s.
Mother's Status	36.81	28	n.s.
Live Urban-Rural	51.67	35	.03
Half-Day Student	11.25	7	n.s.
Specific Drug-Related Behavior			
Non Use Reason	19.87	18	n.s.
Intend to try Drugs	21.65	9	.01
Length of Use	30.39	12	.002
Intend to Continue	13.98	3	.003
Motives Set I (a)	11.39	6	.08 (n.s.)
(b)	10.60	6	n.s.
Motives Set II (a)	5.28	6	n.s.
(b)	1.16	6	n.s.
Drug [illegible]s (Mar. Exper.)	16.88	15	n.s.

TABLE 2 (continued)

Grouping of Tests and Variable	Chi Square Value	Degrees of Freedom	Probabilities
Drug Effects (LSD Exper.)	4.34	4	n.s.
Drug Effects (More Aware Problems)	14.91	9	.09 (n.s.)
Setting Drink Alcohol	26.48	14	.02
Mother Smoke/Alcohol	26.07	35	n.s.
Father Smoke/Alcohol	36.45	35	n.s.
Activity and Interest Orientation			
Political Activities	32.76	21	<.04
Study Time	45.01	28	<.02
Employed	53.58	28	<.002
Future Occupational Plans	53.79	28	<.002
Favorite Activity I	92.60	56	<.002
Favorite Activity II	92.69	28	<.000001
Family			
Parent Live With	51.70	28	.004
Closest Parent	44.86	28	.02
Parent Prefer Holiday With I	20.61	14	n.s.
Parent Prefer Holiday With II	22.94	14	.06 (n.s.)
Social and Peer Relations			
Enjoy Parties	44.10	28	<.03
Age Date	66.10	35	<.001
Ever Gone Steady	40.98	21	<.005
Steady Presently	24.47	21	n.s.
Favorite Activ. (People)	57.51	35	<.01
Leisure Time (People)	52.93	28	<.003
Values			
God Concept	54.19	28	<.002
Personal Religion	71.49	35	<.0002
Life Value	55.59	49	n.s.
Attitudes			
Treatment Drug Offenders	54	28	<.001

APPENDIX C

CONTINGENCY TABLES FOR SIGNIFICANT OVER-ALL AND SELECTED CHI SQUARE ANALYSES

TABLE 1

OVER-ALL CHI SQUARE ANALYSIS FOR
"FAMILY RELIGION"

Family Religion		Catholic%	Protestant%	Jewish%	No Religion%	Other	Total
Group	NAL	17(68.0)	7(28.0)	0(0.0)	1(4.0)	0(0.0)	25
	NMA	14(63.6)	6(27.3)	0(0.0)	0(0.0)	2(9.1)	22
	NMU	10(40.0)	13(52.0)	0(0.0)	2(8.0)	0(0.0)	25
	NNONE	20(60.6)	9(27.3)	0(0.0)	0(0.0)	4(12.1)	33
	HAL	4(30.8)	6(46.2)	0(0.0)	3(23.1)	0(0.0)	13
	HMA	2(50.0)	1(25.0)	0(0.0)	1(25.0)	0(0.0)	4
	HMU	6(23.1)	8(30.8)	1(3.8)	9(34.6)	2(7.7)	26
	HNONE	2(25.0)	5(62.5)	0(0.0)	0(0.0)	1(12.5)	8
TOTAL and TOT.%		75(48.1)	55(35.3)	1(0.6)	16(10.3)	9(5.8)	156(100)

x^2=53.31, d.f.=28, p=.003

TABLE 2

CHI SQUARE ANALYSES OF NMU x HMU
FOR "FAMILY RELIGION"

Religion	Catholic	No Religion	Protestant	No Religion	Tot.
Group NMU	10	2	13	2	25
HMU	6	9	8	9	26
Total	75	16	55	16	156

$\chi^2=9.36$, $p < .002$ $\chi^2=10.35$, $p < .001$

TABLE 3

CHI SQUARE ANALYSIS OF NAL x NMU
FOR "FAMILY RELIGION"

Religion	Catholic	Protestant	Tot.
Group NAL	17	7	25
NMU	10	13	25
Total	75	55	156

$\chi^2=4.06$, $p < .04$

TABLE 4

CHI SQUARE ANALYSIS OF NMU x NNONE
FOR "FAMILY RELIGION"

Family Religion	Catholic	Protestant	Tot.
Group NMU	10	13	25
NNONE	20	9	33
Total	75	55	156

$\chi^2=3.69$, d.f.=1, $p < .05$

TABLE 5

OVER-ALL CHI SQUARE ANALYSIS FOR
"URBAN LIVING—NO. OF YEARS"

Urban Living No. of Years	5 years	10 years	15 years	20 years	less than 5	other (military)	Tot.
Group NAL	8(33.3)*	3(12.5)	9(37.5)	3(12.5)	1(4.2)	0(0.0)	24
NMA	3(13.6)	4(18.2)	14(63.6)	1(4.5)	0(0.0)	0(0.0)	22
NMU	1(4.2)	3(12.5)	19(79.2)	0(0.0)	1(4.2)	0(0.0)	24
NNONE	6(18.18)	5(15.6)	18(56.3)	2(6.2)	1(3.1)	0(0.0)	32
HAL	2(18.2)	1(9.1)	3(27.3)	2(18.2)	3(27.3)	0(0.0)	11
HMA	0(0.0)	1(25.0)	2(50.0)	1(25.0)	0(0.0)	0(0.0)	4
HMU	7(29.2)	5(20.8)	9(37.5)	1(4.2)	0(0.0)	2(8.3)	24
HNONE	2(25.0)	2(25.0)	3(37.5)	1(12.5)	0(0.0)	0(0.0)	8
TOTAL and TOT. %	29(19.5)	24(16.1)	77(51.7)	11(7.4)	6(4.0)	2(1.3)	149

χ^2=51.67, d.f.=35, p=.03

TABLE 6

OVER-ALL CHI SQUARE ANALYSIS FOR
"SMOKE CIGARETTES"

Smoke		Yes%	No%	Tot.
Group	NAL	12(48.0)	13(52.0)	25
	NMA	13(59.1)	9(40.9)	22
	NMU	17(70.8)	7(29.2)	24
	NNONE	6(18.2)	27(81.8)	33
	HAL	7(53.8)	6(46.2)	13
	HMA	4(100.0)	0(0.0)	4
	HMU	24(92.3)	2(7.7)	6
	HNONE	5(71.4)	2(28.6)	7
TOTAL and TOT. %		88(57.1)	66(42.9)	154(100)

χ^2=39.95, d.f.=7, p <.000001

TABLE 7

CHI SQUARE ANALYSIS OF NAL x NNONE
FOR "SMOKE CIGARETTES"

Smoke		Yes	No	Tot.
Group	NAL	12	13	25
	NNONE	6	21	33
Total		88	66	154

χ^2=5.16, d.f.=1, p <.02

TABLE 8

CHI SQUARE ANALYSIS OF NMU x NNONE
FOR "SMOKE CIGARETTES"

Smoke		Yes	No	Tot.
Group	NMU	17	7	24
	NNONE	6	27	33
Total		88	66	154

$\chi^2 = 15.73$, $p < .00007$

TABLE 9

CHI SQUARE ANALYSIS OF HAL x HMU
FOR "SMOKE CIGARETTES"

Smoke		Yes	No	Tot.
Group	HAL	7	6	13
	HMU	24	2	26
Total		88	66	152

$\chi^2 = 5.24$, d.f.=1, $p < .02$

TABLE 10

OVER-ALL CHI SQUARE ANALYSIS FOR "LENGTH OF USE OF DRUGS"

Length of Use		This Year	Last Year	2-3 Years	Over 4 Years	Tot.
Group	NMA	6(27.3)	11(50)	4(18.2)	1(4.5)	22
	NMU	2(8.0)	8(32.0)	14(56.0)	1(4.0)	25
	HMA	0(0.0)	1(25.0)	2(50.0)	1(25.0)	4
	HMU	3(11.5)	4(15.4)	28(30.8)	11(42.3)	26
TOTAL and TOT. %		11(14.3)	24(31.2)	28(36.4)	14(18.2)	77(100.0)

$x^2=30.39$, d.f.=12, $p < .002$

TABLE 11

CHI SQUARE ANALYSIS OF NMA x NMU FOR "LENGTH OF USE OF DRUGS"

Length of Use		This Year	Last Year	Tot.
Group	NMA	6	4	22
	NMU	2	14	25
Total		11	28	77

$x^2=6.85$, d.f.=1, $p < .009$

TABLE 12

CHI SQUARE ANALYSES OF NMU x HMU
FOR "LENGTH OF USE OF DRUGS"

Length of Use	Last Year	4 years	2-3 years	4 years	Tot.
Group NMU	8	1	14	1	25
HMU	4	11	8	11	26
Total	24	14	28	14	77

$x^2=10.24$, d.f.=1, $p < .001$ $x^2=12.12$, d.f.=1, $p < .0005$

TABLE 13

OVER-ALL CHI SQUARE ANALYSIS FOR
"INTEND CONTINUE DRUG USE"

Intend Continue Drug Use	Yes	No	Tot.
Group NMA	16(88.8)	2(11.2)	18
NMU	22(95.7)	1(4.3)	23
HMA	1(25.0)	3(75.0)	4
HMU	13(59.1)	9(40.9)	22
Total	52(77.6)	15(22.4)	67(100.0)

$x^2=13.98$, d.f.=3, $p < .003$

TABLE 14

CHI SQUARE ANALYSIS OF NMU x HMU FOR "INTEND CONTINUE DRUG USE"

Intend Continue Drug Use	Yes	No	Tot.
Group NMU	22	1	23
HMU	13	9	22
Total	52	15	67

$\chi^2 = 8.65$, d.f.=1, $p < .003$

TABLE 15

CHI SQUARE ANALYSIS OF NMA x HMU FOR "INTEND CONTINUE DRUG USE"

Intend Continue Drug Use	Yes	No	Tot.
Group NMA	16	2	18
HMU	13	9	22
Total	52	15	67

$\chi^2 = 5.06$, d.f.=1, $p < .02$

TABLE 16

OVER-ALL CHI SQUARE ANALYSIS OF NON-DRUG GROUPS
FOR "INTEND TRY DRUGS"

Intend Try Drugs	Yes	No	Undecided	Yes, if Legalized	Tot.
Group NAL	3(13.0)	8(34.8)	9(39.1)	3(13.0)	23
NNONE	0(0.0)	24(82.8)	5(17.2)	0(0.0)	29
HAL	2(16.7)	8(66.7)	2(16.7)	0(0.0)	12
HNONE	1(14.3)	2(28.6)	4(57.1)	0(0.0)	7
TOTAL and TOT. %	6(8.5)	42(59.2)	20(28.2)	3(4.2)	71(100.0)

$\chi^2=21.65$, d.f.=9, $p < .01$

TABLE 17

CHI SQUARE ANALYSES OF NAL x NNONE
FOR "INTEND TRY DRUGS"

Intend Try Drugs	No	Undecided	Undecided	Yes, if Legalized	Tot.
Group NAL	8	9	9	3	23
NNONE	24	5	5	0	29
Total	42	20	20	3	71

$\chi^2=6.17$, d.f.=1, $p < .01$ $\chi^2=5.26$, d.f.=1, $p < .02$

TABLE 18

CHI SQUARE ANALYSIS OF NNONE x HNONE FOR "INTEND TRY DRUGS"

Intend Try Drugs	No	Undecided	Tot.
Group NNONE	24	5	29
HNONE	2	4	7
Total	42	20	71

$\chi^2 = 5.85$, d.f.=1, $p < .02$

TABLE 19

OVER-ALL CHI SQUARE ANALYSIS FOR "POLITICAL ACTIVITY"

Political Activity	Yes	No	Tot.
Group NAL	0(0.0)	25(100.0)	25
NMU	5(22.7)	17(77.3)	22
NMA	4(16.0)	21(84.0)	25
NNONE	3(9.1)	30(90.9)	33
HAL	1(7.7)	12(92.3)	13
HMA	1(25.0)	3(75.0)	4
HMU	5(19.2)	21(80.7)	26
HNONE	2(25.0)	6(75.0)	8
TOTAL and TOT. %	21(13.5)	135(86.5)	156

$\chi^2 = 32.76$, d.f.=21, $p < .05$

TABLE 20

CHI SQUARE ANALYSIS OF NAL x NMA
FOR "POLITICAL ACTIVITY"

Political Activity		Yes	No	Tot.
Group	NAL	0	25	25
	NMA	5	17	22
Total		21	133	156.

$\chi^2 = 5.20$, d.f.=1, $p < .02$

TABLE 21

OVER-ALL CHI SQUARE ANALYSIS FOR "STUDY TIME"

Study Time		plus 15 hrs./wk.	10-15 hrs./wk.	5-10 hrs./wk.	1-5 hrs./wk.	None	Tot.
Group	NAL	0(0.0)	1(4.0)	7(28.0)	14(56.0)	3(12.0)	25
	NMA	0(0.0)	2(9.1)	3(13.6)	10(45.5)	7(31.8)	22
	NMU	1(4.0)	1(4.0)	5(20.0)	10(40.0)	8(32.0)	25
	NNONE	1(3.0)	6(18.2)	9(27.3)	15(45.5)	2(6.1)	33
	HAL	3(23.1)	0(0.0)	2(15.4)	5(38.5)	3(23.1)	13
	HMA	1(25.0)	0(0.0)	0(0.0)	1(25.0)	2(50.0)	4
	HMU	2(8.0)	0(0.0)	1(4.0)	11(44.0)	11(44.0)	25
	HNONE	1(14.3)	0(0.0)	2(28.6)	2(28.6)	2(28.6)	7
TOTAL and TOT. %.		9(5.8)	10(6.5)	29(18.8)	68(44.2)	38(24.7)	154(100.0)

$\chi^2 = 45.01$, d.f.=28, $p < .02$

TABLE 22

CHI SQUARE ANALYSIS OF NMU x NNONE
FOR "STUDY TIME"

Study Time		10-15 hrs./wk.	None	Tot.
Group	NMU	1	8	25
	NNONE	6	2	33
Total		10	38	154

$\chi^2 = 7.65$, d.f.=1, $p < .006$

TABLE 23

CHI SQUARE ANALYSIS OF NAL x NNONE
FOR "STUDY TIME"

Study Time		10-15 hrs./wk	None	Tot.
Group	NAL	1	3	25
	NNONE	6	2	33
Total		10	38	154

$\chi^2 = 4.30$, d.f.=1, $p < .04$

TABLE 24

CHI SQUARE ANALYSIS OF HAL x HMU
FOR "STUDY TIME"

Study Time		plus 15 hrs./wk	None	Tot.
Group	HAL	3	3	13
	HMU	2	11	25
Total		9	38	154

$\chi^2 = 4.75$, d.f.=1, $p < .03$

TABLE 25

OVER-ALL CHI SQUARE ANALYSIS FOR "EMPLOYED"

Employed		Seasonally	Part-time (regular)	Part-time (occasional)	Full-time	Not at all	Tot.
Group	NAL	4(16.0)	11(44.0)	3(12.0)	0(0.0)	7(28.0)	25
	NMA	7(31.8)	8(36.4)	3(13.6)	0(0.0)	4(18.2)	22
	NMU	4(16.0)	5(20.0)	5(20.0)	1(4.0)	10(40.0)	25
	NNONE	2(6.1)	7(21.2)	5(15.2)	0(0.0)	19(57.6)	33
	HAL	0(0.0)	0(0.0)	0(0.0)	2(15.4)	11(84.6)	13
	HMA	0(0.0)	1(25.0)	0(0.0)	0(0.0)	3(75.0)	4
	HMU	1(3.8)	3(11.5)	3(11.5)	3(11.5)	16(61.5)	26
	HNONE	1(12.5)	1(12.5)	0(0.0)	0(0.0)	6(75.0)	8
TOTAL and TOT. %		19(12.2)	36(23.1)	19(12.2)	6(3.8)	76(48.7)	156

x^2=53.58, d.f.=28, p < .002

TABLE 26

CHI SQUARE ANALYSES OF NMA x NNONE
FOR "EMPLOYED"

Employed		Seasonally	Not At All	Part-time (Regular)	Not At All	Tot.
Group	NMA	7	14	2	4	22
	NNONE	2	19	4	19	33
Total		19	76	36	76	156

χ^2=10.86, d.f.=1, p <.001 χ^2=4.49, d.f.=1, p <.03

TABLE 27

CHI SQUARE ANALYSIS OF NAL x NNONE
FOR "EMPLOYED"

Employed		Part-time (regular)	Not at all	Tot.
Group	NAL	17	7	25
	NNONE	7	19	33
Total		36	76	156

χ^2=5.71, d.f.=1, p <.02

TABLE 28

OVER-ALL CHI SQUARE ANALYSIS FOR
"FUTURE OCCUPATIONAL PLANS"

Future Occupational Plans		University	Technical, Commercial School	Employment	Travel	Undecided	Tot.
Group	NAL	10(40.0)	4(16.0)	2(8.0)	4(16.0)	5(20.0)	25
	NMA	12(54.5)	4(18.2)	3(13.6)	0(0.0)	3(13.6)	22
	NMU	8(32.0)	5(20.0)	3(12.0)	3(12.0)	6(24.0)	25
	NNONE	19(57.6)	6(18.2)	2(6.1)	0(0.0)	6(18.2)	53
	HAL	3(23.1)	6(46.2)	1(7.7)	1(7.7)	2(15.4)	13
	HMA	0(0.0)	1(25.0)	0(0.0)	1(25.0)	2(50.0)	4
	HMU	4(15.4)	3(11.5)	2(7.7)	6(23.1)	11(42.3)	26
	HNONE	0(0.0)	0(0.0)	3(37.5)	0(0.0)	5(62.5)	8
TOTAL and TOT. %		56(35.9)	29(18.6)	16(10.3)	15(9.6)	40(25.6)	156(100.0)

x^2=53.79, d.f.=28, p <.002

TABLE 29

CHI SQUARE ANALYSIS OF HAL x HMU
FOR "FUTURE OCCUPATIONAL PLANS"

Future Occupational Plans		University plus Technical	Undecided	Tot.
Group	HAL	9	2	13
	HMU	7	11	26
Total	[redacted]	85	40	156

$\chi^2 = 5.04$, d.f.=1, $p < .02$

TABLE 30

OVER-ALL CHI SQUARE ANALYSIS FOR
"FAVORITE ACTIVITY I"

Favorite Activity I	Hedonistic Activ.	Social	Comp. Sports	Outdoor Activ.	Intel-lectual	Passive	Alone	Social & Outdoor	Work	Tot.
Group NAL	[illegible].0)	10(40.0)	0(0.0)	8(32.0)	1(4.0)	3(12.0)	2(8.0)	0(0.0)	0(0.0)	25
NMA	[illegible].3)	6(28.6)	0(0.0)	5(23.8)	5(23.8)	2(9.5)	0(0.0)	0(0.0)	0(0.0)	21
NMU	[illegible]29.2)	6(25.0)	0(0.0)	4(16.7)	4(16.7)	3(12.5)	0(0.0)	0(0.0)	1(3.3)	24
NNONE	6.7)	3(10.0)	5(16.7)	6(20.0)	8(26.7)	3(10.0)	1(3.3)	1(3.3)	0(0.0)	30
HAL	0.0)	1(9.1)	3(27.3)	2(18.2)	4(36.4)	1(9.1)	0(0.0)	0(0.0)	0(0.0)	11
HMA	[illegible]25.0)	1(25.0)	0(0.0)	0(0.0)	1(25.0)	1(25.0)	0(0.0)	0(0.0)	0(0.0)	4
HMU	[illegible]3.1)	5(19.2)	1(3.8)	2(7.7)	7(26.9)	4(15.4)	0(0.0)	1(3.8)	0(0.0)	26
HNONE	[illegible].0)	1(16.7)	0(0.0)	1(16.7)	1(16.7)	0(0.0)	3(50.0)	0(0.0)	0(0.0)	6
TOTAL and TOT. %	20(13.6)	33(22.4)	9(6.1)	28(19.0)	31(21.1)	17(11.6)	6(4.1)	2(1.4)	1(0.7)	147

χ^2=92.60, d.f.=56, p <.001

TABLE 31

CHI SQUARE ANALYSES OF NAL x NMU FOR "FAVORITE ACTIVITY I"

Favorite Activity I	Hedonistic Activities	Social	Hedonistic Activities	Outdoor Activities	Outdoor plus Intellectual	Hedonistic Activities	Tot.
Group NAL	1	10	1	8	9	1	25
NMU	7	6	7	4	8	7	24
Total	20	33	20	28	59	20	147

x^2=6.58, d.f.=1, p <.01 x^2=6.85, d.f.=1, p <.009 x^2=4.57, d.f.=1, [illegible]

TABLE 32

CHI SQUARE ANALYSES OF NMU x NNONE FOR "FAVORITE ACTIVITY I"

Favorite Activity I	Hedonistic Activities	Intel-lectual	Hedonistic Activities	Competitive Sports	Outdoor plus Intellectual	Hedonistic Activities	Tot.
Group NMU	7	4	8	7	7	0	24
NNONE	2	8	14	2	2	5	30
Total	20	31	59	20	20	9	147

x^2=4.99, d.f.=1, p <.02 x^2=5.34, d.f.=1, p <.02 x^2=10.78, d.f.=1, p <.001

TABLE 33

CHI SQUARE ANALYSIS OF NAL x NNONE
FOR "FAVORITE ACTIVITY I"

Favorite Activity I	Outdoor Activities	Intellectual	Tot.
Group NAL	8	1	25
NNONE	6	8	30
Total	28	31	147

$\chi^2=3.96$, d.f.=1, $p < .05$

TABLE 34

CHI SQUARE ANALYSES OF HAL x HMU
FOR "FAVORITE ACTIVITY I"

Favorite Activity I	Competitive Sports plus Outdoor Act.	Hedonistic Activities	Hedonistic Activities	Competitive Sports	Tot.
Group HAL	6	0	0	3	11
HMU	9	6	6	1	26
Total	59	20	20	9	147

$\chi^2=3.78$, d.f.=1, $p < .05$

$\chi^2=9.95$, d.f.=1, $p < .002$

TABLE 35

OVER-ALL CHI SQUARE ANALYSIS FOR
"FAVORITE ACTIVITY II"

Favorite Activity II		Reading	T.V.-Parties	Dances-Parties	Rock Festivals	Alone	Tot.
Group	NAL	1(4.0)	6(24.0)	18(72.0)	0(0.0)	0(0.0)	25
	NMA	2(9.1)	2(9.1)	14(63.6)	3(13.6)	1(4.5)	22
	NMU	2(8.0)	0(0.0)	9(36.0)	13(52.0)	1(4.0)	25
	NNONE	13(40.6)	10(31.3)	5(15.6)	2(6.2)	2(6.2)	32
	HAL	5(38.5)	3(23.1)	3(23.1)	1(7.7)	1(7.7)	13
	HMA	0(0.0)	0(0.0)	1(25.0)	2(10.0)	1(25.0)	4
	HMU	1(4.0)	3(12.0)	6(24.0)	12(48.0)	3(12.0)	25
	HNONE	3(42.9)	2(28.6)	1(14.3)	0(0.0)	1(14.3)	7
TOTAL and TOT. %		27(17.6)	26(17.0)	57(37.3)	33(21.6)	10(6.5)	153(100.0)

$\chi^2 = 92.69$, d.f.=28, $p < .0000001$

TABLE 36

CHI SQUARE ANALYSIS OF NMA x NMU
FOR "FAVORITE ACTIVITY II"

Favorite Activity II	Dances-Parties	Rock Festivals	Tot.
Group NMA	14	8	22
NMU	9	16	25
Total	57	33	153

$x^2=10.16$, d.f.=1, $p < .001$

TABLE 37

CHI SQUARE ANALYSIS OF NAL x NMU
FOR "FAVORITE ACTIVITY II"

Favorite Activity II	Dances-Parties	Rock Festivals	Tot.
Group NAL	18	0	25
NMU	9	13	25
Total	57	33	153

$x^2=19.48$, d.f.=1, $p < .00001$

TABLE 38

CHI SQUARE ANALYSES OF NMU x NNONE FOR "FAVORITE ACTIVITY II"

Favorite Activity II	Read.	Dances-Parties	Dances-Parties	Rock Festivals	Rock Festivals	Alone	Tot.
Group NMU	2	9	9	13	13	1	25
NNONE	13	5	5	2	2	2	32
Total	27	57	57	33	33	10	153

x^2=9.64, d.f.=1, p <.002 x^2=4.75, d.f.=1, p <.03 x^2=4.28, d.f.=1, p <.04

TABLE 39

CHI SQUARE ANALYSES OF NAL x NNONE FOR "FAVORITE ACTIVITY II"

Favorite Activity II	Read.	Dances-Parties	Dances-Parties	Rock Festivals	Dances-Parties	Alone	Tot.
Group NAL	1	18	18	0	18	0	25
NNONE	13	5	5	2	5	2	32
Total	27	57	57	33	57	10	153

x^2=21.64, d.f.=1, p <.000003 x^2=6.23, d.f.=1, p <.01 x^2=4.76, d.f.=1, p <.03

TABLE 40

CHI SQUARE ANALYSES OF HAL x HMU
FOR "FAVORITE ACTIVITY II"

Favorite Activity II	Read.	Dances-Parties	Dances-Parties	Rock Festivals	Tot.
Group HAL	5	3	3	1	13
HMU	1	6	6	12	25
Total	27	57	57	33	153

χ^2=4.01, d.f.=1, p <.04 χ^2=3.97, d.f.=1, p <.05

TABLE 41

OVER-ALL CHI SQUARE ANALYSIS FOR
"ENJOY PARTIES"

Enjoy Parties	More%	Less%	Same%	Tot.
Group NAL	6(24.0)	3(12.0)	16(64.0)	25
NMA	3(13.6)	5(22.7)	14(63.6)	22
NMU	10(40.0)	4(16.0)	11(44.0)	25
NNONE	3(9.1)	4(12.1)	26(78.8)	33
HAL	0(0.0)	6(46.2)	7(53.8)	13
HMA	0(0.0)	2(50.0)	2(50.0)	4
HMU	6(24.0)	3(12.0)	16(64.0)	25
HNONE	0(0.0)	5(62.5)	3(37.5)	8
TOTAL and TOT. %	28(18.1)	32(20.6)	95(61.2)	155(100.0)

χ^2=44.12, d.f.=28, p <.03

TABLE 42

CHI SQUARE ANALYSIS OF NMA x NMU
FOR "ENJOY PARTIES"

Enjoy Parties	More	Same	Tot.
Group NMA	3	14	22
NMU	10	11	25
Total	28	95	155

$x^2=51.96$, d.f.=1, $p < .02$

TABLE 43

CHI SQUARE ANALYSIS OF NMU x NNONE
FOR "ENJOY PARTIES"

Enjoy Parties	More	Same	Tot.
Group NMU	10	11	25
NNONE	3	26	33
Total	28	95	155

$x^2=10.36$, d.f.=1, $p < .001$

TABLE 44

CHI SQUARE ANALYSES OF HAL x HMU
FOR "ENJOY PARTIES"

Enjoy Parties	More	Less	Less	Same	More plus Same	Less	Tot.
Group HAL	0	6	6	7	7	6	13
HMU	6	3	3	16	22	3	25
Total	28	32	32	95	123	32	155

$x^2=7.33$, d.f.=1, $p < .007$

$x^2=3.75$, d.f.=1, $p < .05$

$x^2=5.53$, d.f.=1, $p < .02$

TABLE 45

OVER-ALL CHI SQUARE ANALYSIS FOR
"AGE DATE"

Age Date		Never	Under 12	12-13	14	15	Over 15	Tot.
Group	NAL	4(16.0)	1(4.0)	4(16.0)	6(24.0)	7(28.0)	3(12.0)	25
	NMA	1(4.5)	0(0.0)	5(22.7)	7(31.8)	8(36.4)	1(4.5)	22
	NMU	0(0.0)	3(12.0)	12(48.0)	3(12.0)	5(20.0)	2(8.0)	25
	NNONE	8(24.2)	0(0.0)	4(12.1)	7(21.2)	8(24.2)	6(18.2)	33
	HAL	4(30.8)	0(0.0)	1(7.7)	4(30.8)	2(15.4)	2(15.4)	13
	HMA	0(0.0)	0(0.0)	2(50.0)	1(25.0)	1(25.0)	0(0.0)	4
	HMU	3(11.5)	6(23.1)	7(26.9)	5(19.2)	4(15.4)	1(3.8)	26
	HNONE	5(71.4)	0(0.0)	1(14.3)	0(0.0)	1(14.3)	0(0.0)	7
TOTAL and TOT. %		25(16.1)	10(6.5)	36(23.2)	33(21.3)	36(23.2)	15(9.7)	155(100.0)

$x^2=66.10$, d.f.=35, $p < .001$

TABLE 46

CHI SQUARE ANALYSIS OF NMA x NMU
FOR "AGE DATE"

Age Date	Never and over 15	Under 12	Tot.
Group NMA	9	0	22
NMU	5	3	25
Total	61	10	155

$x^2=3.71$, d.f.=1, $p < .05$

TABLE 47

CHI SQUARE ANALYSIS OF NAL x NMU
FOR "AGE DATE"

Age Date	Never	12-13	Tot.
Group NAL	4	4	25
NMU	0	12	25
Total	25	36	155

$x^2=6.68$, d.f.=1, $p < .01$

TABLE 48

CHI SQUARE ANALYSES OF NMU x NNONE
FOR "AGE DATE"

Age Date	Never	Under 12	Never	12-13	Never plus 15	Under 12	Tot.
Group NMU	0	3	0	12	5	3	25
NNONE	8	0	8	4	16	0	33
Total	25	10	25	36	61	10	155

$x^2=7.41$, d.f.=1, $p < .006$ $x^2=12.58$, d.f.=1, $p < .0004$ $x^2=5.26$, d.f.=1, $p < .02$

TABLE 49

CHI SQUARE ANALYSES OF HAL x HMU
FOR "AGE DATE"

Age Date	Never	Under 12	Never plus 15	Under 12	Tot.
Group HAL	4	1	6	0	13
HMU	3	7	7	6	26
Total	25		61	10	155

$x^2=9.08$, d.f.=1, $p < .002$ $x^2=7.94$, d.f.=1, $p < .005$

TABLE 50

OVER-ALL CHI SQUARE ANALYSIS FOR
"GONE STEADY"

Gone Steady	Yes, once	Yes, twice	Yes, three or more times	No	Tot.
Group NAL	5(20.0)	4(16.0)	4(16.0)	12(48.0)	25
NMA	4(18.2)	4(18.2)	7(31.8)	7(31.8)	22
NMU	4(16.0)	6(24.0)	10(40.0)	5(20.0)	25
NNONE	8(24.2)	2(6.1)	3(9.1)	20(60.6)	33
HAL	4(30.8)	2(15.4)	1(7.7)	6(46.2)	13
HMA	1(25.0)	0(0.0)	3(75.0)	0(0.0)	4
HMU	2(8.3)	4(16.7)	13(54.2)	5(20.8)	24
HNONE	0(0.0)	1(12.5)	1(12.5)	6(75.0)	8
TOTAL and TOT.-%	28(18.2)	23(14.9)	42(27.3)	61(39.6)	154(100.0)

$x^2=40.98$, d.f.=21, $p < .005$

TABLE 51

CHI SQUARE ANALYSIS OF NAL x NMU
FOR "GONE STEADY"

Gone Steady	Yes, three or more times	No	Tot.
Group NAL	4	12	25
NMU	10	5	25
Total	42	61	154

$x^2=5.08$, d.f.=1, $p < .02$

TABLE 52

CHI SQUARE ANALYSES OF NMU x NNONE
FOR "GONE STEADY"

Gone Steady	Yes, three times or more	No	Yes, twice	No	Tot.
Group NMU	10	5	6	5	25
NNONE	3	20	2	20	33
Total	42	61	23	61	154

$x^2=10.70$, d.f.=1, $p < .001$ $x^2=7.65$, d.f.=1, $p < .006$

TABLE 53

CHI SQUARE ANALYSIS OF HAL x HMU
FOR "GONE STEADY"

Gone Steady	Yes, three times or more	No	Tot.
Group HAL	1	6	13
HMU	13	5	24
Total	42	61	154

$x^2=7.48$, d.f.=1, $p < .006$

TABLE 54

OVER-ALL CHI SQUARE ANALYSIS FOR
"FAVORITE ACTIVITY—PEOPLE"

People do Favorite Activity with (Activity-People)	Alone	Very close Friend	Two or more Friends	Parents	Sister or Brother	Other	Tot.
Group NAL	5(20.0)	6(24.0)	13(52.0)	0(0.0)	0(0.0)	1(4.0)	25
NMA	8(36.4)	2(9.1)	10(45.5)	1(4.6)	0(0.0)	1(4.6)	22
NMU	8(33.3)	2(8.3)	7(29.2)	1(4.2)	1(4.2)	5(20.8)	24
NNONE	8(25.0)	3(9.4)	19(59.4)	1(3.1)	1(3.1)	0(0.0)	32
HAL	6(46.2)	0(0.0)	3(23.1)	1(7.7)	0(0.0)	3(23.1)	13
HMA	0(0.0)	0(0.0)	0(0.0)	0(0.0)	1(33.3)	2(66.6)	3
HMU	6(23.1)	4(15.4)	11(42.3)	1(3.8)	0(0.0)	4(15.4)	26
HNONE	4(57.1)	1(14.3)	2(28.6)	0(0.0)	0(0.0)	0(0.0)	7
TOTAL and TOT. %	45(29.6)	18(11.8)	65(42.8)	5(3.3)	3(2.0)	16(10.5)	152(100.0)

χ^2=57.52, d.f.=35, p <.01

TABLE 55

CHI SQUARE ANALYSES OF NAL x NMU
FOR "FAVORITE ACTIVITY-PEOPLE"

Favorite Activity-People	Close Friends	Other	Two Friends	Other	Tot.
Group NAL	6	1	13	1	25
NMU	2	5	7	5	24
Total	18	16	65	16	152

$x^2=5.86$, d.f.=1, $p < .02$ $x^2=4.71$, d.f.=1, $p < .03$

TABLE 56

CHI SQUARE ANALYSIS OF NMU x NNONE
FOR "FAVORITE ACTIVITY-PEOPLE"

Favorite Activity-People	Two Friends	Other	Tot.
Group NMU	7	5	24
NNONE	19	0	32
Total	65	16	152

$x^2=8.36$, d.f.=1, $p < .004$

TABLE 57

OVER-ALL CHI SQUARE ANALYSIS FOR
"PEOPLE—LEISURE"

People-Leisure		Family	Dating	Friends	Self	Other	Tot.
Group	NAL	2(8.0)	4(16.0)	15(60.0)	3(12.0)	1(4.0)	25
	NMA	1(4.5)	7(31.8)	12(54.5)	2(9.1)	0(0.0)	22
	NMU	1(4.0)	2(8.0)	15(60.0)	7(28.0)	0(0.0)	25
	NNONE	9(27.3)	1(3.0)	18(54.5)	4(12.1)	1(3.0)	33
	HAL	4(30.8)	0(0.0)	2(15.4)	6(46.2)	1(7.7)	13
	HMA	0(0.0)	0(0.0)	4(100.0)	0(0.0)	0(0.0)	4
	HMU	1(3.8)	3(11.5)	14(53.8)	6(23.1)	2(7.7)	26
	HNONE	3(37.5)	0(0.0)	12(25.0)	3(37.5)	0(0.0)	8
TOTAL and TOT. %		21(13.5)	17(10.9)	82(52.6)	31(19.9)	5(3.2)	156(100.0)

χ^2=52.93, d.f.=28, p <.003

TABLE 58

CHI SQUARE ANALYSIS OF NMA x NMU
FOR "PEOPLE-LEISURE"

People Leisure		Date	Self	Tot.
Group	NMA	7	2	22
	NMU	2	7	25
Total		17	31	156

x^2=8.11, d.f.=1, $p < .004$

TABLE 59

CHI SQUARE ANALYSIS OF NMU x NNONE
FOR "PEOPLE-LEISURE"

People Leisure		Family	Self	Tot.
Group	NMU	1	7	25
	NNONE	9	4	33
Total		21	31	156

x^2=7.29, d.f.=1, $p < .007$

TABLE 60

OVER-ALL CHI SQUARE ANALYSIS FOR
"PARENT LIVE WITH"

Parent Live With		Both	Father	Mother	Foster	Other	Tot.
Group	NAL	23(92.0)	0(0.0)	2(8.0)	0(0.0)	0(0.0)	25
	NMA	21(95.5)	0(0.0)	1(4.5)	0(0.0)	0(0.0)	22
	NMU	19(76.0)	1(4.0)	3(12.0)	0(0.0)	2(8.0)	25
	NNONE	30(90.9)	0(0.0)	1(3.0)	1(3.0)	1(3.0)	33
	HAL	7(58.0)	1(8.3)	0(0.0)	1(8.3)	3(25.0)	12
	HMA	2(50.0)	0(0.0)	0(0.0)	1(25.0)	1(25.0)	4
	HMU	12(46.2)	1(3.8)	6(23.1)	1(3.8)	6(23.1)	26
	HNONE	6(85.7)	0(0.0)	0(0.0)	1(14.3)	0(0.0)	7
TOTAL and TOT. %		120(77.9)	3(1.9)	13(8.4)	5(3.2)	13(8.4)	154(100.0)

$\chi^2 = 51.70$, d.f.=28, $p < .004$

TABLE 61

CHI SQUARE ANALYSIS OF NMU x HMU
FOR "PARENT LIVE WITH"

Parent Live With	Both	Other	Tot.
Group NMU	19	2	25
HMU	12	6	26
Total	120	13	154

$x^2=4.57$, d.f.=1, $p < .03$

TABLE 62

CHI SQUARE ANALYSIS OF HAL x HMU
FOR "PARENT LIVE WITH"

Parent Live With	Both	Mother	Tot.
Group HAL	7	0	12
HMU	12	6	26
Total	120	13	154

$x^2=5.22$, d.f.=1, $p < .02$

TABLE 63

OVER-ALL CHI SQUARE ANALYSIS FOR "CLOSEST PARENT"

Closest Parent		Father	Mother	Neither, Relative	Both	Neither, Someone Else	Tot.
Group	NAL	6(24.0)	10(40.0)	0(0.0)	6(24.0)	3(12.0)	25
	NMA	3(13.6)	12(54.5)	0(0.0)	5(22.7)	2(9.1)	22
	NMU	5(20.0)	7(28.0)	2(8.0)	3(12.0)	8(32.0)	25
	NNONE	5(15.2)	12(36.4)	1(3.0)	12(36.4)	3(9.1)	33
	HAL	2(16.7)	4(33.3)	1(8.3)	4(33.3)	1(8.3)	12
	HMA	1(25.0)	0(0.0)	2(50.0)	0(0.0)	1(25.0)	4
	HMU	4(16.0)	11(44.0)	1(4.0)	3(12.0)	6(24.0)	25
	HNONE	0(0.0)	4(50.0)	0(0.0)	1(12.5)	3(37.5)	8
TOTAL and TOT. %		26(16.9)	60(39.0)	7(4.5)	34(22.1)	27(17.5)	154(100.0)

$x^2 = 44.86$, d.f.=28, $p < .02$

TABLE 64

CHI SQUARE ANALYSIS OF NMA x NMU
FOR "CLOSEST PARENT"

Closest Parent		Father plus Mother	None	Tot.
Group	NMA	15	2	22
	NMU	12	8	25
Total		86	27	154

$\chi^2 = 4.34$, d.f.=1, $p < .04$

TABLE 65

CHI SQUARE ANALYSIS OF NMU x NNONE
FOR "CLOSEST PARENT"

Closest Parent		Both	None	Tot.
Group	NMU	3	8	25
	NNONE	12	3	33
Total		34	27	154

$\chi^2 = 8.07$, d.f.=1, $p < .004$

TABLE 66

OVER-ALL CHI SQUARE ANALYSIS FOR
"GOD CONCEPT"

God Concept		Supreme-Indiv. Concern	Supreme, not Indiv. Concern	Atheist	Agnostic	Non Tradit.	Tot.
Group	NAL	18(75.0)	0(0.0)	0(0.0)	2(8.3)	4(16.7)	24
	NMA	11(50.0)	0(0.0)	2(9.1)	2(9.1)	7(31.8)	22
	NMU	7(28.0)	1(4.0)	1(4.0)	9(36.0)	7(28.0)	25
	NNONE	22(66.7)	1(3.0)	0(0.0)	6(18.2)	4(12.1)	33
	HAL	9(69.2)	0(0.0)	0(0.0)	3(23.1)	1(7.7)	13
	HMA	1(25.0)	0(0.0)	2(50.0)	0(0.0)	1(25.0)	4
	HMU	11(42.3)	3(11.5)	3(11.5)	4(15.4)	5(19.2)	26
	HNONE	7(87.5)	0(0.0)	0(0.0)	0(0.0)	1(12.5)	8
TOTAL and TOT. %		86(55.5)	5(3.2)	8(5.2)	26(16.8)	30(19.4)	155(100.0)

$x^2=54.19$, d.f.=1, $p < .002$

TABLE 67

CHI SQUARE ANALYSIS OF NMA x NMU
FOR "GOD CONCEPT"

God Concept		Supreme-Indiv. Concern	Agnostic	Tot.
Group	NMA	11	2	22
	NMU	7	9	25
Total		56	26	155

$\chi^2=6.03$, d.f.=1, $p < .01$

TABLE 68

CHI SQUARE ANALYSES OF NAL x NMU
FOR "GOD CONCEPT"

God Concept		Supreme-Indiv. Concern	Agnostic	Supreme-Indiv. Concern	Agnostic plus Non Tradit.	Tot.
Group	NAL	18	2	18	6	24
	NMU	7	9	7	16	25
Total		86	26	86	56	155

$\chi^2=9.83$, d.f.=1, $p < .002$

$\chi^2=9.44$, d.f.=1, $p < .002$

TABLE 69

CHI SQUARE ANALYSES OF NMU x NNONE
FOR "GOD CONCEPT"

God Concept	Supreme Indiv. Concern	Agnostic	Supreme Indiv. Concern	Non-Tradit.	Agnostic plus Non-Traditional	Supreme Indiv. Concern	Tot.
Group NMU	7	9	7	5	16	7	25
NNONE	22	6	22	4	10	22	33
Total	86	26	86	30	56	86	155

$\chi^2=5.67$, d.f.=1, $p < .02$ $\chi^2=4.70$, d.f.=1, $p < .03$ $\chi^2=8.26$, d.f.=1, $p < .004$

TABLE 70

OVER-ALL CHI SQUARE ANALYSIS FOR "PERSONAL RELIGION"

Personal Religion		Catholic	Protest-ant	None	Don't Know	Other	Tot.
Group	NAL	17(70.8)	6(25.0)	0(0.0)	1(4.2)	0(0.0)	24
	NMA	13(59.1)	5(22.7)	3(13.6)	1(4.5)	0(0.0)	22
	NMU	9(36.0)	10(40.0)	4(16.0)	2(8.0)	0(0.0)	25
	NNONE	20(60.6)	10(30.3)	0(0.0)	0(0.0)	3(9.1)	33
	HAL	3(23.1)	4(30.8)	4(30.8)	2(15.4)	0(0.0)	13
	HMA	1(25.0)	1(25.0)	0(0.0)	2(50.0)	0(0.0)	4
	HMU	5(19.2)	9(34.6)	11(42.3)	1(3.8)	0(0.0)	26
	HNONE	2(25.0)	9(62.5)	0(0.0)	1(12.5)	0(0.0)	8
TOTAL and TOT. %		70(45.2)	50(32.3)	22(14.2)	10(6.5)	3(9.1)	155(10

$\chi^2=71.49$, d.f.=35, $p < .0003$

TABLE 71

CHI SQUARE ANALYSIS OF NMU x HMU FOR "PERSONAL RELIGION"

Personal Religion		Protestant	None	Tot.
Group	NMU	10	4	25
	HMU	9	11	26
Total		50	22	155

$\chi^2=5.13$, $p < .02$

TABLE 72

OVER-ALL CHI SQUARE ANALYSIS FOR
"TREATMENT DRUG OFFENDERS"

Treatment Drug Offenders		Increase Severity	Vary Penalty	Penalize Pusher	Decrease Severity	Legalize	Tot.
Group	NAL	2(8.3)	12(50.0)	5(20.8)	2(8.3)	3(12.5)	24
	NMU	1(4.5)	4(18.2)	5(22.7)	4(18.2)	8(36.4)	22
	NMA	0(0.0)	2(9.1)	2(9.1)	8(36.4)	10(45.5)	22
	NNONE	8(25.0)	14(43.8)	7(21.9)	3(9.4)	0(0.0)	32
	HAL	0(0.0)	4(33.3)	4(33.3)	2(16.7)	2(16.7)	12
	HMA	0(0.0)	3(75.0)	1(25.0)	0(0.0)	0(0.0)	4
	HMU	1(4.0)	9(36.0)	3(12.0)	7(28.0)	5(20.0)	25
	HNONE	2(25.0)	2(25.0)	1(12.5)	1(12.5)	2(25.0)	8
TOTAL and TOT, %		14(9.4)	50(33.6)	28(18.8)	27(18.1)	30(20.1)	149(100.0)

$x^2=56.54$, d.f.=28, $p < .001$

TABLE 73

CHI SQUARE ANALYSIS OF NAL x NMA
FOR "TREATMENT DRUG OFFENDERS"

Treatment Drug Offenders	Vary Penalties	Legalize	Tot.
Group NAL	12	3	24
NMA	4	8	22
Total	50	30	149

$\chi^2=6.57$, d.f.=1, $p < .01$

TABLE 74

CHI SQUARE ANALYSES OF NAL x NMU
FOR "TREATMENT DRUG OFFENDERS"

Treatment Drug Offenders	Vary Penalties	Legalize	Increase Penalties	Legalize	Tot.
Group NAL	12	3	2	3	24
NMU	2	10	0	10	22
Total	50	30	14	30	149

$\chi^2=11.78$, d.f.=1, $p < .0006$ $\chi^2=4.68$, d.f.=1, $p < .03$

TABLE 75

CHI SQUARE ANALYSES OF NMU x NNONE
FOR "TREATMENT DRUG OFFENDERS"

Treatment Drug Offenders	Vary Penalties	Legalize	Increase Penalties	Legalize	Tot.
Group NMU	2	10	0	10	22
NNONE	14	0	8	0	32
Total	50	30	14	30	149

$\chi^2=17.76$, d.f.=1, $p < .00003$ $\chi^2=20.20$, d.f.=1, $p < .000007$

TABLE 76

CHI SQUARE ANALYSES OF NAL x NNONE
FOR "TREATMENT DRUG OFFENDERS"

Treatment Drug Offenders	Increase Penalties	Vary Penalties	Increase Penalties	Legalize	Tot.
Group NAL	2	12	2	3	24
NNONE	8	14	8	0	32
Total	14	50	14	30	149

$x^2=3.87$, d.f.=1, $p < .05$ $x^2=5.04$, d.f.=1, $p < .02$

TABLE 77

CHI SQUARE ANALYSIS OF NMU x HMU
FOR "TREATMENT DRUG OFFENDERS"

Treatment Drug Offenders	Vary Penalties	Legalize	Tot.
Group NMU	2	10	22
HMU	9	5	25
Total	50	30	149

$x^2=6.29$, d.f.=1, $p < .01$