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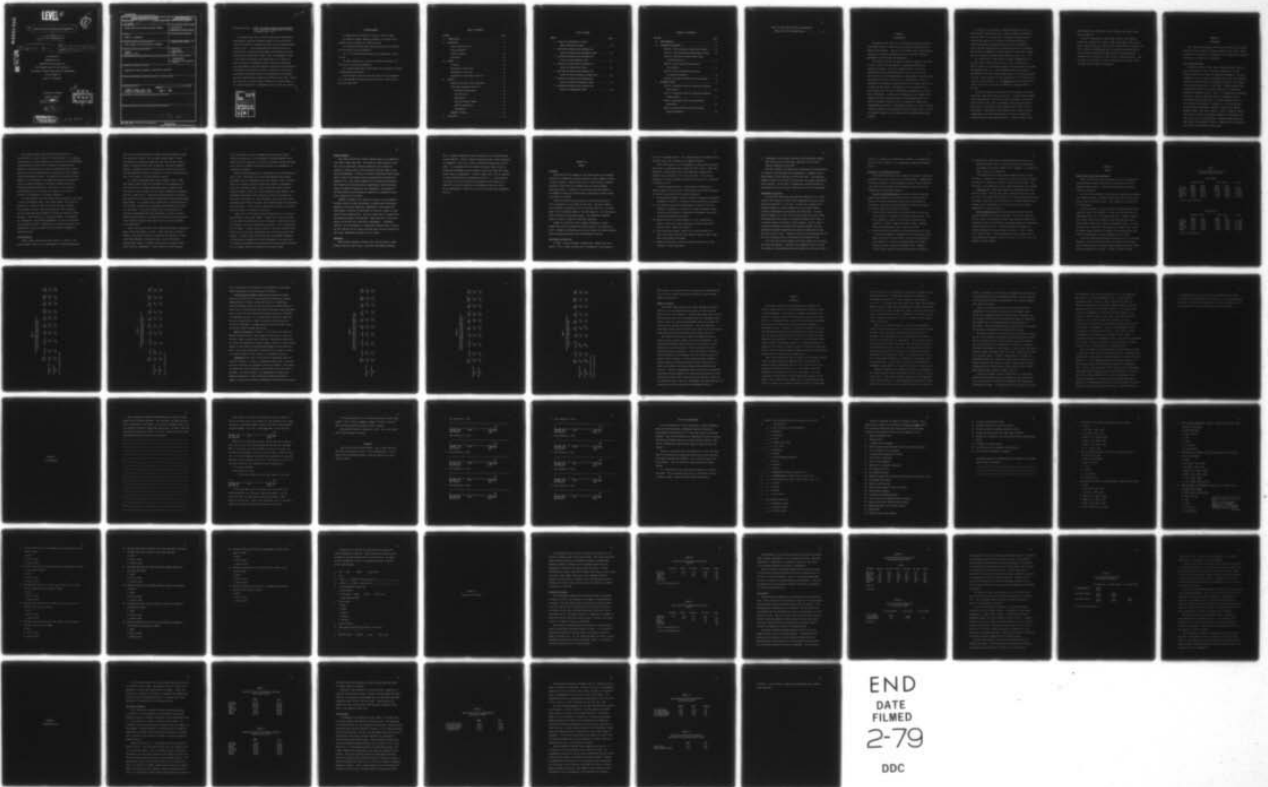
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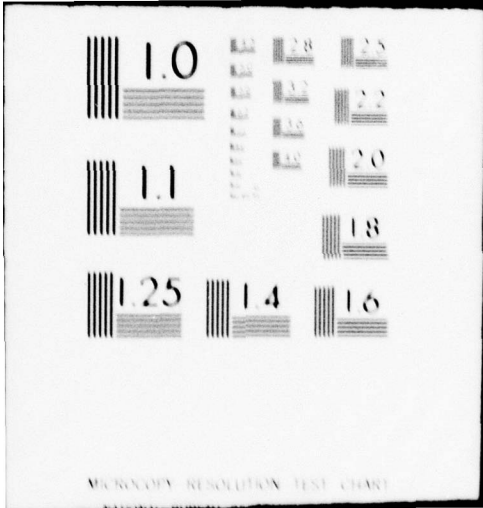
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⑥ VALUES AND DRUG USE AMONG COLLEGE STUDENTS.

by

⑩ Robert D. Hindelang

⑨ Doctoral thesis,

⑭ AFIT-CI-79-64D

A Dissertation
Submitted to the
Department of Psychology and
The Graduate School of the University
of Wyoming in Partial Fulfillment of Requirements
for the degree of
Doctor of Philosophy

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ABSTRACT

Hindelang, Robert D., Values and Drug Use Among College Students, Ph.D., Department of Psychology, University of Wyoming, July, 1978.

One hundred three junior college students were administered questionnaires obtaining information about illicit drug use and selected personality variables from Rotter's Social Learning Theory (Rotter, 1954). It was hypothesized that nonusers would place higher values on Recognition-Achievement and Peer Affection goals while drug users would place higher values on Independence goals. It was further hypothesized that among drug users a pattern of drug use defined as problematic would be positively associated with Independence values and negatively associated with Recognition-Achievement and Peer Affection values. Statistical significance was obtained only between values for Independence and problematic drug use although several supporting trends were also found. Results were discussed in terms of recent findings with attention paid to the possible uniqueness of Independence goals in drug use research.

ABSTRACT

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Your turn comes soon.

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CHAPTER I

INTRODUCTION

The object of this study is to investigate the possible relationship between Rotter's (1954) concept of values and reported drug use among college students. Drug use in the present study is operationally defined as the reported consumption rates of four drugs: marijuana, amphetamines, hallucinogens and barbiturates.

The prevalence of drug use among the younger population continues to rise in spite of the development of widespread education and prevention programs. According to Blumberg (1975), the rate of marijuana use nearly doubled from 1968 to 1972, (17.5% to 34.5%) while the rate of LSD and amphetamine use showed modest increases during this period (3.8% to 4.7% and 6% to 9.7%, respectively). Rate of barbiturate use evidenced a slight decline but the figures are only for a single two year period. Percentages of "any use during the past year" suggest that the rate of occasional, experimental use of drugs may be even higher. In addition to increased drug use, Kimmel (1974) suggests that the attention focused on hallucinogenic drugs in the 1960's has shifted to heroin use and its spread into middle class neighborhoods and schools. This apparent inability to control increases in drug use and fear of the spread of heroin use seems likely to result in increased pressure to find solutions to the widespread drug abuse problem.

An increase in the quantity of drug-related research is not in itself likely to provide solutions. Braucht, Brakarsh, Follingstad and Berry (1973) in a review of the literature of deviant drug use conclude that reporting of statistics and personality traits of confirmed drug users are important but do little to demonstrate causes, possible interventions or plausible solutions to the problem. They therefore recommend that future research in this area be "comprehensive, systematic and theory bound" (Braucht, et al., 1973, p. 92).

One possible way to comply with the above recommendation is by utilizing Social Learning Theory (Rotter, 1954) as a theoretical basis to explore the relationship between selected personality variables and subsequent drug use. A major assumption within this theory is that behavior is directed toward obtaining goals or satisfying individual needs. Thus, potential for the occurrence of a set of behaviors is a function of two factors, i.e. the expectation that the behavior will result in obtaining a goal and the importance or value attached to the goal.

The present study will investigate the relationship of the value placed upon goals (Need Value) and drug use. In Social Learning Theory (Rotter and Hochreich, 1975; Rotter, Chance and Phares, 1972; Rotter, 1954), behaviors that lead to attainment of highly valued goals are more likely to occur than are other behaviors which lead to lesser valued goals. Additionally, when behaviors fail to directly satisfy valued needs, less direct behaviors may be used as a substitute or alternate means for satisfying that need. In Rotter's theory, these

distal behaviors are defined as "irreal" behaviors and would include drug use behaviors.

Previous investigators, using Rotter's theory, have examined alcohol use, (Carman, 1971; Jessor, Carman and Grossman, 1968; Jessor, Graves, Hanson and Jessor, 1968) and more recently drug use (Carman, 1973, 1974). Previous investigations have not however focused specifically on the possible relationship between socially learned personality characteristics and patterns of drug use in a college population. Thus, the further investigation of Rotter's Need Values in relation to drug use among college students is warranted.

CHAPTER II

BACKGROUND

This chapter first presents an outline of Rotter's Social Learning Theory with a brief review of research relevant to this study. Next an overview of the variables to be examined in this study will be presented followed by a statement of the hypotheses.

Social Learning Theory

According to Rotter (1954), Rotter, Chance and Phares (1972) and Rotter and Hochreich (1975), the study of personality in Social Learning Theory rests on three very important assumptions. The first assumption is that the study of personality deals with the interaction of both the individual and his meaningful environment. This implies that the study of personality is the study of learned behavior which is modifiable and which can and does change with an individual's experiences throughout his life. Next, it is assumed that personality has unity; a person's experiences and his interactions with his environment influence each other. The final assumption has to do with the nature of motivation. Behavior is viewed as being goal-directed, and reinforcement is defined as anything that affects movement toward a goal (law of effect). Goals or needs are learned very early in life but are modified throughout an individual's life span as the result of his experience. Behaviors become associated with needs by an individual's belief or expectancy that the behaviors will lead to the attainment of those needs.

These assumptions contain important constructs relevant to this study and can be described by the general predictive formula, $NP=f(FM \ \& \ NV)$, which is not intended to predict a specific behavior in a very limited situation. Instead, Need Potentials (NP), are potentials for occurrence of classes or sets of behaviors that lead to the satisfaction of some need. Prediction of the occurrence of these behaviors depends on two components, Freedom of Movement, (FM), and Need Value, (NV).

Freedom of Movement (FM) is a set of expectancies that related behaviors will lead to valued goals. It is a subjective probability held by an individual that certain behaviors will lead to successful goal or need acquisition. Rotter, Chance and Phares (1972) define Freedom of Movement as:

"...the mean expectancy of obtaining positive satisfactions as a result of a set of related behaviors directed toward obtaining a group of functionally related reinforcements." (p. 34)

The value or worth placed upon certain goals by an individual is that goal's Need Value (NV). Given different sets of attainable goals or satisfactions, individuals will differ in their selection of these satisfactions. The selection, ignoring the expectancy component, will be based upon preference for one set of satisfactions over another.

"Need Value....the mean preference value of a set of functionally related reinforcements."
(Rotter, Chance, Phares, 1972, p. 31)

With Freedom of Movement and Need Value thus defined, a more thorough definition of NP is:

"...the mean potentiality of a group of functionally related behaviors, directed at obtaining the same or a set of similar reinforcements, occurring in any segment of an individual's life." (Rotter, Chance, Phares, 1972, p. 31)

Need Potential, then, is the potentiality of occurrence of behaviors directed toward the attainment or satisfaction of certain needs. It is a function of the expectancy that the behaviors will lead to the successful attainment of the goals and the importance or value placed upon those goals. In sum, $NP=f(FM \& NV)$ states that the potential for occurrence of a set of behaviors that lead to the satisfaction of a need is a function of the expectation that the behaviors will result in obtaining those needs or reinforcements and the reinforcement's value (Rotter and Hochreich, 1975). Finally, the relationship between Freedom of Movement and Need Value is generally assumed to be multiplicative.

A crucial part of Rotter's Social Learning Theory involves predicting behaviors when Freedom of Movement is low and Need Value is high. Low Freedom of Movement implies that an individual does not expect to achieve a certain goal or satisfy a particular need. At the same time when the individual highly desires that goal (high NV) he is likely to seek alternative behaviors that avoid the anticipated failure. Needs are not perceived as likely to be satisfied in usual, socially appropriate ways. As a result, the individual will resort to "irreal" behaviors in an attempt to obtain desired goals, and perhaps more importantly, to avoid failure.

The conflict between high value and low expectation, or inaccessibility of goals, results in "irreal behavior". For example, rationalization, reaction formation, or fantasy could allow individuals alternate means of coping with or avoiding anticipated failure. Similarly, the excessive use of drugs, including alcohol, to alter emotional states is another behavior allowing for at least temporary escape from potential failure. The adoption of a particular irreal behavior by an individual can be explained through such concepts as: access to alternate behaviors, individual learning history and resulting individual differences. The utility of the concept of irreal behavior lies in its ability to explain a wide range of occurrence of maladaptive, or abnormal, behaviors.

One final concept of Social Learning Theory relevant to this study is that of generalized needs. This concept implies that groups of behaviors are related in that they lead to the same or similar reinforcements or goals. Rotter and Hochreich (1975) illustrate six very broad needs which attempt to include most kinds of learned behaviors. These needs are (1) recognition-status, (2) dominance, (3) independence, (4) protection-dependency, (5) love and affection, and (6) physical comfort. Although these categories are meant to be comprehensive, they are viewed as only one possible framework of generalized needs.

Related Research

Jessor, Graves, Hanson and Jessor (1968) in a study of a tri-ethnic community found in their measurements of perceived opportunity

that the three ethnic groups held similar values but differed in what they expected to achieve. The two ethnic groups lowest in their expectations for achieving valued goals were also the most likely to engage in socially deviant kinds of behavior, including problematic drinking. Although the level of association by itself was low, the perceived opportunity measure accounted for a distinct and significant part of the variance in the multivariate analysis.

In a study of drinking among college students, Jessor, Carman and Grossman (1968) found that individuals with low expectation of need satisfaction in academic achievement and peer affection were more likely to report higher rates of alcohol consumption, drunkenness and social complications. Problem oriented motivations for drinking were also found to be associated with problematic drinking, particularly among females. In a similar study, Carman (1971) studied expectations for successful satisfaction of achievement and affection needs among U.S. servicemen. The results indicated that low expectations of satisfying achievement needs were significantly related to problem drinking, characterized by a preference for personal-effects functions, a high quantity frequency index and a high rate of social problems and of drunkenness.

Jessor, Collins and Jessor (1972) examined longitudinal differences among a high school sample in order to study the onset of drinking behavior. They found a pattern of attributes that appeared to signal a shift from abstainer to drinker status. Part of the pattern included lower values on academic recognition and a tendency toward higher values on independence. Other attributes included personal

control differences, social environmental differences and actual behavioral differences. The environmental variables emerged consistently as the most important in relation to becoming a drinker followed by the value for academic recognition and value for independence, or "instigator" variables.

Applying similar measures to a longitudinal study of marijuana use, Jessor, Jessor and Finney (1973) found that marijuana users valued achievement less and independence more than nonusers. Also, for users there was a greater discrepancy between the ratings of independence values and achievement values. These results were found for three different samples: junior high, senior high and college students. The independence-achievement value discrepancy was also correlated with the onset of marijuana use. Other variables, such as perceived social environment and different behaviors, were studied besides the personality-values variables. In the context of these other variables, personality was still critical to variation in drug use.

Carman (1973, 1974) studied values and expectations in relation to drug use among a high school sample. Carman (1973) tested the hypothesis that drug use would be positively correlated to high values placed on friendship, trust and interpersonal acceptance. Such a relationship was not evident. Instead, drug use tended to correlate negatively with values for peer affection and positively with values placed upon independence. Finally, Carman (1974) found that low Freedom of Movement, as reflected by low expectation of goal attainment, in the goal area of recognition-achievement was significantly associated with the problem of use of drugs, especially barbiturates and hallucinogens.

Present Research

The concept from Rotter's Social Learning Theory to be examined in this study is Need Value (NV). NV defined as a mean preference value for a set of functionally related reinforcers can be viewed as a measure of internal needs so that both goals and needs labels can be used interchangeably. A revision of Rotter's generalized needs (Carman, 1973) is used in the present study to operationalize and refine the measures of NV. The revised categories are: Recognition-Achievement, Peer Affection and Social Relations, Experiential, Social-Ecological Change, and Material Possessions and Independence. Measurements of NV within these six need categories represent the independent personality variables for this study.

Dependent variables to be studied in relation to the personality variables consist of drug use measures, including quantity-frequency measures of four drugs (marijuana, amphetamines, hallucinogens and barbiturates), functions or motivations for drug use, number of times high and social complications. Drug use versus nonuse is assessed with the quantity-frequency (Q-F) measures. Among drug users a particular pattern of drug use can be defined as "problematic". Problematic drug use, or irreal behavior, is indicated by personal effect functions for use, high Q-F use of a drug, increased times high and occurrence of more social complications related to use or drugs.

Hypothesis

While Rotter's equation, $NP=f(FM \ \& \ NV)$, does not predict irreal behavior drug use from NV alone, the present investigation explores

NV as a separate explanatory concept contributing to the understanding of drug behavior. Based on research already outlined, several hypotheses are suggested. First, NV is used to distinguish between users and non-users. It is hypothesized that nonusers will place higher values on Recognition-Achievement and Peer-Affection goals while users will place higher values on Independence. Secondly, among users, NV's are expected to relate differentially to problematic drug use, i.e. irrational behavior, as follows: (1) NV for Recognition-Achievement and Peer Affection is expected to correlate negatively with problematic drug use, and (2) NV for Independence is expected to correlate positively with problematic drug use.

CHAPTER III

METHOD

Procedure

Questionnaires (see Appendix A) were administered to 103 students enrolled in introductory psychology courses at Casper Community College in Casper, Wyoming. Subjects were part of a larger group of students surveyed to gather drug use information for the Central Wyoming Counseling Center. In addition to the drug use data the students at the community college were administered a questionnaire obtaining data on personality variables.

Before receiving the questionnaires, the subjects were given a brief introduction to the purpose of the study. They were informed of the complete confidentiality of the data and asked not to put their names or any identifying number on the questionnaires. All instructions were contained with each questionnaire. The experimenter remained present in order to answer any individual questions.

Student's t-tests were used to examine differences in means between drug users and nonusers for values placed on six generalized goals. Spearman r correlations were used to analyze the relation between values for goals among drug users and problematic drug use.

Measurement of Need Value

In order to obtain a measure of Need Value, subjects were first asked to "list...things you would like to accomplish or have happen to

you in the foreseeable future". This allowed subjects to determine their own goals rather than responding to an imposed structure.

After listing goals, up to ten maximum, the subjects were provided with scales to assign each goal a numerical "value" rating. Each scale allowed for a quantified rating of goal importance ranging from 0 (neither like nor dislike) to 100 (like very much). The scale was divided into ten equal increments providing for scores to be calculated in multiples of ten.

A revised system of Rotter's generalized needs (based upon a study by Carman, 1973) was used to operationalize and refine the measure of Need Value and includes the following categories:

- I. Recognition-Achievement: getting a good job, graduating from school, succeeding in athletics, increasing skills and excelling in hobbies
- II. Peer Affection and Social Relationships: a desire for love and affection, friendship, the raising of a family, marriage, helping socially and psychologically handicapped individuals, and desires for good relationships with others
- III. Experiential Goals: finding happiness in life, good physical health, a desire for travel, emotionally elevating experiences, getting "high", finding God and peace
- IV. Social-Ecological Change: eradication of racial prejudice, an end to war, educational and legal reforms, changes in man's treatment of the natural environment
- V. Material Possessions: a desire for money, property, cars, land, clothing, or other possessions

VI. Independence: getting away from home, being financially independent, making one's own decisions, pursuing one's own values without interference from others

Each goal listed by the subject was categorized by the experimenter.

A reliability check was made of the experimenter's judgments using a random sample of seven subjects and fifty-five goals. Two psychology graduate students were trained in the procedure for judging generalized need categories. An 89% level of agreement was obtained between the experimenter and the two trainees indicating a high level of agreement.

Measurement of Drug Use

Drug use data include type and quantity-frequency of use. First, subjects were required to select from a comprehensive drug list those drugs used presently or in the past. Second, both a quantity and a frequency measure of use were obtained for four groups of drugs: marijuana, amphetamines, hallucinogens and barbiturates. Previous studies (Carman, 1973, 1974; Jessor, Graves, Hanson and Jessor, 1968) have demonstrated the utility of a quantity-frequency (Q-F) index as an accurate measure of alcohol or drugs consumed. This Q-F index is obtained by combining the quantity and frequency measures into one comprehensive measure representing the amount consumed each time and how often a drug is used. Numerical values were assigned such that the Q-F score increased directly with quantity and frequency of use.

Q-F scores were used to separate the entire sample into two groups, drug users and nonusers. Individuals who responded "never" to either the quantity or frequency questions were placed into the nonuser group.

A total of 53 subjects were identified as nonusers. The remaining 50 drug users are the sample to be considered when examining problematic drug use.

Measurement of Problematic Drug Use

The variables described in this section are intended to delineate and measure the possible occurrence of irreal behavior. Combined with the above Q-F measures of drug consumption, personal effect functions, times high and social complications represent a pattern of socially inappropriate and maladaptive drug use.

Drug Use Functions/Motivations: To measure drug use functions, subjects were requested to select from a list of thirty specific functions those which would best describe their own reasons for using drugs. The thirty items represented three function categories (10 items per function) described as follows:

- I. Positive Social: Motivations and attitudes which link drug use to activities of a pleasant, festive and sociable nature. Drug use is engaged in largely for the convivial pleasure which surrounds it (Jessor, Carman and Grossman, 1968). Examples:
"makes get togethers fun; just to have a good time"
- II. Personal Effects: Motivations and attitudes which link drug use to unresolved problems or inadequacies of a psychological nature. Drugs are used as an escape from or relief for such problems or short comings, or as a way of achieving goals not otherwise attainable (Jessor, Carman and Grossman, 1968). Examples:
"feeling lonely; makes you feel more satisfied with yourself"

III. Experiential: Motivations and attitudes which link drug use to pleasant emotional states, religious experiences, self-awareness and changes in perception (Burns, 1975). Examples: "it enhances your senses, just for the experience"

A total motivation score was obtained summing across all three categories. Furthermore, the proportion of each of the three categories was obtained to establish an estimate of their relative weight. This proportion is the percentage of total items represented by each category.

Times High: The "times high" measure was obtained by asking each subject to report, "How many times have you gotten really high in the last year?" The subject then selected one of either responses indicating the number of times high over the past year. The eight responses were assigned scores ranging from 0 to 6 with the last two items being combined into a single rating of 6.

Social Complications: Social complications resulting from drug use were measured by an eighteen-item scale. Five of the items were "filler" items. The remaining thirteen items involved situations with authorities, family or friends where the subjects might have experienced trouble because of drug use. Subjects reported the incidence of a particular problem by selecting either (a) never, (b) once or twice, or (c) several times. A social complication score, ranging from 0 to 13 was derived by assigning a score of 0 to (a), one to (b) or (c), and summing the items together.

CHAPTER IV

RESULTS

Nonusers and Users: Value Differences

Table 1 presents the data and resulting t-tests for differences in means between nonusers and users for values placed on the six generalized needs (goals). Data for both total values and average values are presented.

Only for Social-Ecological change goals do significant differences exist between the means. Nonusers placed significantly higher values on these goals than did drug users. This finding was not predicted by the hypothesis.

There does appear to be some tentative, although non-significant, support for part of the hypothesis. Values for Peer Affection and Independence goals are in the expected direction. Nonusers tended to place higher values on Peer Affection goals than did users, while users tended to place higher values on Independence goals. For these two goals, the t values for total values were "larger" than t values for average values indicating the number of goals mentioned by each user group contributes to greater differences in the means.

Values for Recognition-Achievement goals were not in the expected direction. For total values the means for nonusers and users were nearly identical while for average values the expected direction based upon the hypothesis was reversed. Instead of nonusers valuing

TABLE 1

t-tests for Differences in Values
Between Nonusers and Users

TOTAL VALUES

	Nonusers (N=47)		Users (N=36)		t-test
	Mean	S.D.	Mean	S.D.	
Rec-Ach	217.23	112.10	214.86	125.33	t=.091
Peer-Aff	179.04	118.35	132.78	109.25	t=1.824
Exper	164.89	137.58	146.81	117.59	t=.631
Soc-Ecol	37.87	69.30	5.28	22.07	t=2.716*
Mat Poss	83.72	111.17	98.47	105.38	t=-.613
Indep	18.94	43.49	31.11	59.94	t=-1.074

*p < .05 two-tailed test

AVERAGE VALUES

	Nonusers (N=47)		Users (N=36)		t-test
	Mean	S.D.	Mean	S.D.	
Rec-Ach	76.53	19.07	81.03	17.68	t=-1.099
Peer-Aff	72.49	29.38	68.92	32.63	t=-.523
Exper	68.13	31.94	71.06	53.89	t=-.309
Soc-Ecol	24.36	38.52	5.28	22.07	t=2.655*
Mat Poss	46.53	40.19	60.00	42.09	t=-1.483
Indep	15.32	32.34	21.39	38.16	t=-.784

*p < .05 two-tailed test

Recognition-Achievement goals more, the tendency was for users to value these goals more than nonusers.

Values and Problematic Drug Use

Recognition-Achievement: The correlations between values for Recognition-Achievement goals and drug use variables are presented in Table 2. As predicted in the hypothesis, values for Recognition-Achievement goals are negatively associated with most drug use variables. This is particularly true with average values. The largest correlations tended to occur between average values and the Q-F measures of drug use. Among this sample of drug users, it appears that consumption of drugs tends to covary negatively although non-significantly with values for Recognition-Achievement goals.

Peer Affection: Table 3 presents correlations within Peer Affection goals. Support for the hypothesis is indicated by the negative correlations, specifically the significant correlations obtained for Q-F marijuana, times high and social complications. Except for personal effect functions, values for Peer Affection covary negatively and significantly with the pattern of problematic drug use.

Experiential: The one significant correlation within Experiential goals, Table 4, indicates that values for this goal are negatively related to positive social functions. Experiential values are positively related to experiential functions. The positive correlations between Experiential values and functions reflect the shared variance of these parallel measures but are low enough to demonstrate adequate independence of the measures. Except for social complications, all

TABLE 2

Correlations Between Drug Variables and
Values for Recognition-Achievement Goals

	Total Mot	% Pos-Soc	% Pers-Eff	% Exper	Q-F Marij	Q-F Amph	Q-F Halluc	Q-F Barb	Times High	Soc Comps
Total Values (N)	.12 (36)	-.21 (36)	.11 (36)	.14 (36)	-.10 (36)	.01 (35)	.12 (35)	-.05 (35)	-.09 (36)	-.06 (34)
Ave Values (N)	-.03 (36)	.02 (36)	.12 (36)	-.12 (36)	-.15 (36)	-.32 (35)	-.27 (35)	-.28 (35)	-.10 (36)	-.20 (34)

TABLE 3

Correlations Between Drug Variables and
Values for Peef Affection Goals

	Total Mot	% Pos-Soc	% Pers-Eff	% Exper	Q-F Marij	Q-F Amph	Q-F Halluc	Q-F Barb	Times High	Soc Comps
Total Values (N)	-.16 (36)	-.17 (36)	.15 (36)	.09 (36)	-.36* (36)	-.04 (35)	-.29 (35)	-.09 (35)	-.42* (36)	-.30 (34)
Ave Values (N)	-.10 (36)	.02 (36)	.16 (36)	-.13 (36)	-.18 (36)	-.06 (35)	-.30 (35)	-.01 (35)	-.20 (36)	-.38* (34)

*p < .05 two-tailed test

TABLE 4
Correlations Between Drug Variables and
Values for Experiential Goals

	Total Mot	% Pos-Soc	% Pers-Eff	% Exper	Q-F Marij	Q-F Amph	Q-F Halluc	Q-F Barb	Times High	Soc Comps
Total Values (N)	-.05 (36)	-.43** (36)	.08 (36)	.31 (36)	-.14 (36)	.06 (35)	.02 (35)	.04 (35)	.01 (36)	-.32 (34)
Ave Values (N)	.01 (36)	-.30 (36)	.00 (36)	.24 (36)	-.14 (36)	.03 (35)	.16 (35)	.09 (35)	-.15 (36)	-.26 (34)

**p < .01 two-tailed test

other correlations are uniformly low and suggest no relationship between Experiential values and pattern of drug use.

Social-Ecological Change: Although Social-Ecological Change goals were the only goals to show significant differences in means between nonusers and users, among users there is no significant correlation between values for the goal and drug variables (Table 5). Values tend to correlate positively with Q-F measures, except marijuana which is near zero, and correlate negatively with the other variables of problematic drug use, i.e., personal effect functions, times high and social complications. The low correlations and inconsistent relation to problematic use imply minimal interaction between values for Social-Ecological Change and drug use.

Material Possessions: In Table 6, it is evident that values for Material Possession goals covary negatively with nearly all drug use variables except personal effect functions. Although non-significant, the correlations manifest an overall negative relation to drug variables similar to that found for Recognition-Achievement and Peer Affection goals. Once again personal effect functions fail to relate to values in a fashion similar to other variables of problematic drug use.

Independence: The final correlations for Independence goals are presented in Table 7. Values for Independence goals show a consistent positive correlation with problematic drug use variables. Significance is obtained for total motivations, personal effect functions and Q-F marijuana. Two other variables, Q-F amphetamines and times high, approach significance. Other correlations appear high enough to support a strong relation between Independence values and drug variables.

TABLE 5
 Correlations Between Drug Variables and
 Values for Social-Ecological Change Goals

	Total Mot	% Pos-Soc	% Pers-Eff	% Exper	Q-F Marij	Q-F Amph	Q-F Halluc	Q-F Barb	Times High	Soc Comps
Total Values (N)	-.15 (36)	-.19 (36)	-.21 (36)	-.04 (36)	-.01 (36)	.08 (35)	.14 (35)	.16 (35)	-.06 (36)	-.08 (34)
Ave Values (N)	-.15 (36)	-.19 (36)	-.21 (36)	-.04 (36)	-.01 (36)	.08 (35)	.14 (35)	.16 (35)	-.06 (36)	-.08 (34)

TABLE 6
 Correlations Between Drug Variables and
 Values for Material-Possession Goals

	Total Mot	% Pos-Soc	% Pers-Eff	% Exper	Q-F Marij	Q-F Amph	Q-F Halluc	Q-F Barb	Times High	Soc Comps
Total Values (N)	-.18 (36)	-.11 (36)	.15 (36)	-.11 (36)	-.12 (36)	-.24 (35)	-.29 (35)	-.09 (35)	-.07 (36)	-.21 (34)
Ave Values (N)	-.21 (36)	-.13 (36)	.16 (36)	-.10 (36)	-.11 (36)	-.10 (35)	-.16 (35)	-.01 (35)	.04 (36)	-.15 (34)

TABLE 7
 Correlations Between Drug Variables and
 Values for Independence Goals

	Total Mot	% Pos-Soc	% Pers-Eff	% Exper	Q-F Marij	Q-F Amph	Q-F Halluc	Q-F Barb	Times High	Soc Comps
Total Values (N)	.40* (36)	-.14 (36)	.47** (36)	.06 (36)	.32 (36)	.30 (35)	.09 (35)	.21 (35)	.31 (36)	.21 (34)
Ave Values (N)	.43** (36)	-.14 (36)	.44** (36)	.06 (36)	.33** (36)	.33 (35)	.13 (35)	.25 (35)	.31 (36)	.22 (34)

*p < .05 two-tailed test

**p < .01 two-tailed test

This relation is positive which not only supports the hypothesis but is also the only consistently positive relation to drug variables among all other goals.

Summary of Results

Even though significance was not always achieved, the results tended to be in the expected direction giving at least tentative support for the first hypothesis. Nonusers had higher values for Peer Affection goals while users had higher values for Independence goals. However, values for Recognition-Achievement tended to be higher for users which was opposite of expectations. The only significant differences between nonusers and users were found for Social-Ecological Change goals with values for nonusers being higher than users.

The results for relation of values to problematic drug use measures offered stronger support for the second hypothesis. Both Recognition-Achievement and Peer-Affection goals tended to relate negatively to drug use variables. Three correlations for Peer-Affection goals were significant. The correlations for both goals covaried negatively with problematic drug use variables except for personal effect functions. Material Possession goals evidenced a similar pattern of correlations between values and drug use, i.e., negative correlations with drug variables except personal effect functions. Values for Independence goals were found to be positively correlated with drug measures, and significance was achieved on total motivations, personal effect functions and Q-F marijuana. Among all six generalized goals, values for Independence goals manifested the only consistent, positive correlations with problematic drug use.

CHAPTER V

DISCUSSION

The primary concern of this study has been to establish the relation between values for six generalized goals and drug use among a college population. Some evidence to support both hypotheses was found but significant results were obtained only for the second hypothesis, i.e., among drug users, Values for Peer Affection and Independence goals were significantly correlated with most measures of problematic drug use. However, no significant differences in values were found between drug users and nondrug users for these two goals. Only for social ecological change goals was a significant difference found, but there appeared to be no trend for Social-Ecological Change Values to relate to problematic drug use. It appears that values as measured in this study are primarily related to differences among drug users in terms of drug used, amount consumed, motivations and associated measures of times high and social complications.

Many of the correlations used as evidence of relationships between values and drug measures were admittedly low. The correlations generally ranged in magnitude from the .20's to the high .40's with significance obtained in the low .30's. The highest correlation obtained, .47, accounts for only 22% of the variance. Yet, this correlation is high relative to other correlations obtained in this study or other studies such as Carman (1973). Considering that Need Value is in theory only indirectly related to drug use, the magnitude

of the correlations is not surprising. Personality variables such as Need Value may not be as immediately implicative of behavior as environmental variables (i.e. access to drugs, social support for use, etc.). At the same time, other authors have shown that personality measures similar to Need Values do apparently contribute significantly to the variation in drug use behaviors (Jessor, Jessor and Finney, 1973; Jessor, Collins and Jessor, 1972). Although the correlations in this study are modest, they appear to reflect a possible relation between values and drug use.

Among all six generalized goals, only Values for Independence covaried positively with drug use. Significance was obtained on three measures: total motivations, personal effect functions and Q-F marijuana. The trend appears to be for problematic use of drugs to coincide with values places on independence. The significant positive correlation between values and personal effect functions underscores the "problematic" aspects of drug use. This motivational category is based upon attitudes which link drug use to unresolved problems or inadequacies of a psychological nature. Drugs may therefore be used as an escape from problems and as a substitute or alternative means of achieving goals. In this sense, the concept of Need Values for independence goals appears to be positively related to irreal behavior.

Additional support for the finding that values for independence are linked to drug use comes from Carman (1973) and Jessor, Jessor and Finney (1973). These authors likewise found values for independence to be related to drug use. Carman's measuring techniques were nearly identical to those used in this study but the pattern of significant

results was different. He found that Q-F amphetamines and times high correlated significantly with independence values. The inconsistency with the present data might be attributable to the different samples, high school and college.

Jessor, Jessor and Finney (1973) not only found values for independence to be related to drug use, but also found a slight tendency for independence values to predict onset of marijuana use. The strength of prediction was increased when values for independence were combined into a discrepancy measure involving values for achievement. The more independence was valued relative to achievement the greater the likelihood of involvement with marijuana.

No attempt was made in the present study to measure value discrepancies and the approach for measuring personality variables (values) and drug variables for this study and Jessor et al. were different. This is particularly true in measurement of values for recognition-achievement (achievement in Jessor et al.). Jessor et al. specifically measured academic achievement while this study's measure was intended to be much more global. Perhaps a global measure of recognition-achievement allows for a diffusion of value ratings resulting in only modest correlations with drug use. Among a college sample, academic achievement may be of more pressing concern and thus such a measure might have been more strongly related to drug use.

Overall the evidence from this study, which is to some extent consistent with previous research, indicates that drug use tends to occur in the context of striving for independence and freedom from interference by others. For young people who are maturing into adults

and attempting to gain adult responsibilities it is not surprising that drug use, especially experimental use, is associated with independence goals. Drug use in this context may be a means of expressing individuality and freedom or perhaps adolescent rebellion against parental and societal norms. However, it also appears that striving for independence can be associated with alienation and rejection of societal norms. Jessor, Jessor and Finney (1973) give evidence of this in their finding that alienation and social criticism were associated with and predictive of drug use along with their measure of independence. It may be that independence, when associated with alienation and rejection, is more likely to result in problematic use of drugs (irreal behavior), while "normal" adolescent strivings for independence result in occasional, experimental use of drugs. However, the evidence in this study does not provide a basis for such a differentiation of independence goals.

Thus, one suggestion for further research would include an attempt to investigate in more detail the meaning of needs for independence and relationship of such needs with general adjustment and social conformity. Secondly, it is also recommended that value-discrepancy measures be used to operationalize and investigate the meaning of independence needs. Jessor, Jessor and Finney (1973) found that their independence-achievement value discrepancy measure correlated higher with marijuana use and was a better predictor of the onset of marijuana use than single value measures. The results from the present study suggest exploration of independence-peer affection value discrepancy as another variable that may be associated with drug use. Refining the meaning

of independence needs in the context of a relationship to the goals of recognition-achievement and peer affection, i.e. discrepancy measures, may result in a better understanding of the relation between values for socially learned goals and irreal behaviors such as drug use.

REFERENCES

- Blumberg, H. H. Surveys of drug use among young people. International Journal of Addictions, 10 (4), 1975, pp. 699-719.
- Braucht, G. N., Brakish, D., Follingstad, D., and Berry, K. R. Deviant drug use in adolescence: A review of psychosocial correlates. Psychological Bulletin, 79, 1973, pp. 92-106.
- Burns, C. E. Length of sobriety in relation to shifts in two measures of internal-external control. Unpublished M.A. thesis, University of Wyoming, 1975.
- Carman, R. S. Personality and drinking among college students. Unpublished M.A. thesis, University of Colorado, 1965.
- Carman, R. S. Expectations and socializing experiences related to drinking among U.S. servicemen. Quarterly Journal of Studies on Alcohol, 32, 1971, pp. 1040-1047.
- Carman, R. S. Drug use and personal values of high school students. International Journal of Addictions, 8 (4), 1973, pp. 733-739.
- Carman, R. S. Values, expectations, and drug use among high school students in a rural community. International Journal of Addictions, 9 (1), 1974, pp. 57-80.
- Jessor, R., Carman, R. S., and Grossman, P. Expectations for need satisfaction and patterns of alcohol use in college. Quarterly Journal of Studies on Alcohol, 29, 1968, pp. 101-116.
- Jessor, R., Collins, M. I., and Jessor, S. L. On becoming a drinker: Social-psychological aspects of an adolescent transition. Annals of the New York Academy of Sciences, 1972, pp. 199-213.
- Jessor, R., Graves, T. D., Hanson, R. C., and Jessor, S. L. Society, personality and deviant behavior; a study of tri-ethnic community. New York: Holt, Rinehart and Winston, 1968.
- Jessor, R., Jessor, S. L., and Finney, J. A social psychology of marijuana use: Longitudinal studies of high school and college youth. Journal Personality and Social Psychology, 26 (1), 1973, pp. 1-15.
- Kimmel, D. C. Adulthood and Aging. New York: John Wiley and Sons, Inc., 1974.

- Mulford, H., and Miller, D. Drinking behavior related to definitions of alcohol: A report of research in progress. American Sociological Review, 24, 1959, pp. 385-389.
- Mulford, H., and Miller, D. Drinking in Iowa III. A scale of definitions of alcohol related to drinking behavior. Quarterly Journal of Studies on Alcohol, 21, 1960, pp. 267-278.
- Mulford, H., and Miller, D. Drinking in Iowa IV. Preoccupation with alcohol and definitions of alcohol, heavy drinking and trouble due to drinking. Quarterly Journal of Studies on Alcohol, 21, 1960, pp. 279-291.
- Rotter, J. B. Social Learning Theory and Clinical Psychology. New York: Prentice Hall, 1954.
- Rotter, J. B., Chance, J. E., and Phares, E. J. Applications of a social learning theory of personality. New York: Holt, Rinehart and Winston, Inc., 1972.
- Rotter, J. B., and Hochreich, D. J. Personality. Glenview, Illinois: Scott, Foresman and Co., 1975.

APPENDIX A
QUESTIONNAIRES

We're interested in learning something about the kinds of things people like or consider important. List below the ten things you would like to accomplish or have happen to you in the foreseeable future. We are sincerely interested in your goals and desires. We want to know how you really feel about your future. Try to be realistic and at the same time describe what you really want for yourself.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

What we want to know now is how strongly you like or want the things you listed below. How strongly you like something can be shown by putting a check mark somewhere along a line that runs from NEITHER LIKE NOR DISLIKE, at one end, to LIKE VERY MUCH, at the other end.

0		100
1	1 1 1 1 1 1 1 1 1 1 1	1
NEITHER LIKE	LIKE	LIKE <u>VERY</u>
NOR DISLIKE		MUCH

When you like something very much, you can show this by making a check (✓) in one of the spaces toward the end that says LIKE VERY MUCH. If you don't care about something, one way or the other, you can show that by marking a check in one of the spaces toward the other end. If you feel somewhere in between about something, put your check somewhere toward the middle of the line. Your check can be in any of the spaces along the line, depending on how you really feel.

Let's take an example:

How strongly do I like:

To have other people ask me to help organize a new club?

0		100
1	1 1 1 1 1 1 1 1 1 1 1	1
NEITHER LIKE	LIKE	LIKE <u>VERY</u>
NOR DISLIKE		MUCH

If you think about this for a minute, you can see that some persons would like this very much; some person wouldn't care one way or the other, and some persons would be in between. Think about the way you feel. Now put your check mark in one of the spaces along the line that best shows how strongly you like this.

On this questionnaire we're not asking about what actually does happen to you, or what you expect to happen. We want to know how much you would like these different things to happen.

Each question should be answered by itself. Don't worry about how you have answered the others.

REMEMBER!

There are no right or wrong answers. Fill in each blank with the things you mentioned on page 1 of this questionnaire. Place a check on the corresponding graph to show how strongly you really like each thing.

1. How strongly do I like:

0	100
1 1 1 1 1 1 1 1 1 1 1 1	1
NEITHER LIKE	LIKE
NOR DISLIKE	LIKE <u>VERY</u> MUCH

2. How strongly do I like:

0	100
1 1 1 1 1 1 1 1 1 1 1 1	1
NEITHER LIKE	LIKE
NOR DISLIKE	LIKE <u>VERY</u> MUCH

3. How strongly do I like:

0	100
1 1 1 1 1 1 1 1 1 1 1 1	1
NEITHER LIKE	LIKE
NOR DISLIKE	LIKE <u>VERY</u> MUCH

4. How strongly do I like:

0	100
1 1 1 1 1 1 1 1 1 1 1 1	1
NEITHER LIKE	LIKE
NOR DISLIKE	LIKE <u>VERY</u> MUCH

5. How strongly do I like:

0	100
1 1 1 1 1 1 1 1 1 1 1 1	1
NEITHER LIKE	LIKE
NOR DISLIKE	LIKE <u>VERY</u> MUCH

6. How strongly do I like:

0	100
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
NEITHER LIKE NOR DISLIKE	LIKE LIKE <u>VERY</u> MUCH

7. How strongly do I like:

0	100
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
NEITHER LIKE NOR DISLIKE	LIKE LIKE <u>VERY</u> MUCH

8. How strongly do I like:

0	100
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
NEITHER LIKE NOR DISLIKE	LIKE LIKE <u>VERY</u> MUCH

9. How strongly do I like:

0	100
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
NEITHER LIKE NOR DISLIKE	LIKE LIKE <u>VERY</u> MUCH

10. How strongly do I like:

0	100
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
1	1
NEITHER LIKE NOR DISLIKE	LIKE LIKE <u>VERY</u> MUCH

DRUG USE QUESTIONNAIRE

In this questionnaire, we are interested in learning something about the use of marijuana, amphetamines (speed), barbiturates, hallucinogens (LSD, mescaline, etc.) and other drugs by high school students. Many social researchers are interested in drug use patterns and have been studying drug use in various settings (schools, armed forces, organizations) among diverse groups of people all over the country.

We wish to learn about your own experiences, if any, with drugs. Some of the questions we ask may seem funny to you, but we hope you will answer seriously and carefully. Do not put your names on the questionnaire. This will insure that your identity will remain unknown.

It is important for this study that your answers be accurate and honest. For each question, you will be asked either to circle a letter or number. Everyone should answer every question.

1. Which of the following drugs have you used or do use now?
- A. Hallucinogens:
- _____ a. LSD (d-lysergic acid diethylamide)
- _____ b. Mescaline
- _____ c. Psilocybin
- _____ d. Peyote
- _____ e. Morning Glory Seeds
- _____ f. Other (list)
- B. _____ a. Marijuana
- _____ b. Hashish
- _____ c. THC (tetrahydrocannabinol)
- C. _____ a. Heroin
- _____ b. Morphine
- _____ c. Opium
- D. _____ a. Amphetamines (bennies, pep pills, etc.)
- E. _____ a. Methamphetamines (speed, crystal, meth, etc.)
- F. _____ a. Barbiturates (red birds, yellow jacket, reds, etc.)
- G. _____ a. Codeine
- H. _____ a. Cocaine
- I. _____ a. Alcohol
- J. _____ a. Other (list)
2. I use different drugs for:
- _____ a. different reasons
- _____ b. the same reasons
- _____ c. never use drugs

Drug use is important to people for different reasons. Think about your own reasons for using drugs and circle the number next to all the things listed below which make you feel like using drugs or which are things about drug use that are important to you.

1. Makes get-togethers fun.
2. Feeling lonely.
3. It makes you feel peaceful.
4. Makes you worry less about what others are thinking about you.
5. It's a pleasant way to celebrate.
6. To change your perspective on things.
7. Just to have a good time.
8. Just for the experience.
9. Because it's a pleasant recreation.
10. Just because it's fun.
11. For religious reasons.
12. Helps you forget you're not the kind of person you would like to be.
13. It enhances your senses.
14. Makes you feel less shy.
15. Adds a certain warmth to social occasions.
16. Feeling under pressure.
17. It helps you understand yourself.
18. It's a nice way to celebrate special occasions.
19. Makes you feel more satisfied with yourself.
20. Makes dinner dates out seem more special.
21. Feeling mad.
22. Makes the future seem brighter.

23. It helps you understand others.
24. Because it puts you "in tune" with nature.
25. To get your mind off problems at home or school.
26. Because you would rather feel "high" than "straight".
27. Because it's enjoyable to join with people who are enjoying themselves.
28. It makes you a better person.
29. It's often part of a congenial social activity.
30. Gives you more confidence in yourself.

List below reasons for using drugs that are important to you which have not been listed above.

1. How often do you usually smoke marijuana? (circle one)
 - a. Never
 - b. Less than 1 time a year
 - c. At least 1 time a year
 - d. About 1 or 2 times a month
 - e. About 1 or 2 times a week
 - f. About 3 or 4 times a week
 - g. 1 or 2 times a day

2. When you smoke marijuana, how much do you usually smoke at one time? (circle one)
 - a. Never smoke marijuana
 - b. Part of a joint
 - c. 1 joint
 - d. 2 joints
 - e. 3 or 4 joints
 - f. 5 or more joints

3. How often do you usually take amphetamines (speed)? (circle one)
 - a. Never
 - b. Less than 1 time a year
 - c. At least 1 time a year
 - d. About 1 or 2 times a month
 - e. About 1 or 2 times a week
 - f. About 3 or 4 times a week
 - g. 1 or 2 times a day (or more)

4. When you take amphetamines (speed), how much do you usually take at once? (circle one)
- a. Never take speed
 - b. Part of one hit
 - c. 1 hit
 - d. 2 hits
 - e. 3 or 4 hits
 - f. 5 or more hits
5. How often do you usually take any hallucinogen (LSD, mescaline, etc.)? (circle one)
- a. Never
 - b. Less than 1 time a year
 - c. At least 1 time a year
 - d. About 1 or 2 times a month
 - e. About 1 or 2 times a week
 - f. 3 or 4 times a week
 - g. 1 or 2 times a day (or more)
6. When you take a hallucinogen, how much do you usually take at one time? (circle one)
- a. Never take an hallucinogen
 - b. Part of one hit
 - c. 1 hit
 - d. 2 hits
 - e. 3 or 4 hits
 - f. 5 or more hits

* * * * *

approximate dosage of hit equal to:

LSD = 75 to 150 micrograms
 Peyote = 1 to 5 buttons
 Psylocybin = 1 to 5 mushrooms
 Morning Glory Seeds = 100 to 150 grams

7. How often do you usually take a barbiturate? (circle one)
- a. Never
 - b. Less than 1 time a year
 - c. At least 1 time a year
 - d. About 1 or 2 times a month
 - e. About 1 or 2 times a week
 - f. About 3 or 4 times a week
 - g. 1 or 2 times a day (or more)
8. When you take a barbiturate, how much do you usually take at one time? (circle one)
- a. Never take a barbiturate
 - b. Part of one hit
 - c. 1 hit
 - d. 2 hits
 - e. 3 or 4 hits
 - f. 5 or more hits
9. How many times have you gotten really high in the last year?
(circle one)
- a. Never
 - b. 1 time
 - c. 2 or 3 times
 - d. 4 or 5 times
 - e. 6 or 7 times
 - f. 8 or 9 times
 - g. 10 times
 - h. 100 times a year (or more) (8 or 9 times a month or more)

10. How many times have you felt that your family relationships improved because of your usage of drugs?
 - a. Never
 - b. Once or twice
 - c. Several times
11. How many times have you driven when you've been high on drugs?
 - a. Never
 - b. Once or twice
 - c. Several times
12. How many times have you gone to school high or taken drugs while at school?
 - a. Never
 - b. Once or twice
 - c. Several times
13. How many times have your friends ever criticized you because of your using drugs?
 - a. Never
 - b. Once or twice
 - c. Several times
14. How many times have you been high on other experiences in life other than drugs?
 - a. Never
 - b. Once or twice
 - c. Several times

15. How many times have you had automobile accidents because of your usage of drugs?
 - a. Never
 - b. Once or twice
 - c. Several times
16. How many times have you been called before some authority because of your usage of drugs?
 - a. Never
 - b. Once or twice
 - c. Several times
17. How many times have you felt that your skills as a car driver have been improved by your usage of drugs?
 - a. Never
 - b. Once or twice
 - c. Several times
18. How many times have you left school early or not gone at all because of your usage of drugs?
 - a. Never
 - b. Once or twice
 - c. Several times
19. How many times have you gotten into trouble with your family because of your usage of drugs?
 - a. Never
 - b. Once or twice
 - c. Several times

20. How many times have you failed to get your date home or failed to get home from a date because of your usage of drugs?
- a. Never
 - b. Once or twice
 - c. Several times
21. How many times has your school work been improved because of your usage of drugs?
- a. Never
 - b. Once or twice
 - c. Several times
22. How many times have you damaged property because of your usage of drugs?
- a. Never
 - b. Once or twice
 - c. Several times
23. How many times have you been injured or gotten ill because of your usage of drugs?
- a. Never
 - b. Once or twice
 - c. Several times
24. How many times have you felt that a friendship was damaged or lost because of your usage of drugs?
- a. Never
 - b. Once or twice
 - c. Several times

25. How many times have you missed an appointment because of your usage of drugs?
- a. Never
 - b. Once or twice
 - c. Several times
26. How many times have you ever injured others because of your usage of drugs?
- a. Never
 - b. Once or twice
 - c. Several times
27. How many times have you felt that a friendship was improved because of your usage of drugs?
- a. Never
 - b. Once or twice
 - c. Several times

We would like to conclude this questionnaire by asking you several biographical questions. These questions are not being used to match up each questionnaire with a specific person. We simply need the information to aid us in organizing the data collected in this questionnaire.

1. Sex - Male Female (circle one)
2. Age -
3. I have ____ brothers. Their ages are ____, ____, ____, ____.
4. I have ____ sisters. Their ages are ____, ____, ____, ____.
5. I am living with (circle one)
 - a. both parents
 - b. one parent - mother father (circle one)
 - c. some other guardian
6. Ethnic group -
 - a. White
 - b. Black
 - c. Indian
 - d. Chicano
 - e. Oriental
7. Grade in school -
8. What grade do you most often make? (circle one)
A B C D F
9. Marital status - married single (circle one)

APPENDIX B
VALIDATION OF MEASURES

This appendix presents results of analysis which pertain to the validity of measures used in the present study. The inter-correlations among personality measures (independent variables) and among drug measures (dependent variables) will be examined briefly for both independence of measures and expected inter-relations. Previous investigations (Jessor, Carman and Grossman, 1968; Jessor, Graves, Hanson and Jessor, 1968; Carman, 1965) have dealt thoroughly with both validity and reliability of concepts, scales and individual measures. Therefore, this section will deal only with the findings of variables as measured in this study.

Personality Measures

Inter-correlations among total and average values are presented in Tables B1 and B2. The influence of the number of goals mentioned is obvious. For total values, only one correlation achieves significance and over half the correlations are in the negative direction. For average values, there are three significant correlations and all correlations are in the positive direction. Apparently, the number of goals mentioned per each goal category results in smaller correlations as well as a number of negative interactions.

The correlations among average values appears to more accurately reflect the expected relationships among the goals. It is generally expected that values for one goal should be positively related to values for another goal. All six generalized goals are broad, socially acceptable and generally socially prescribed. Thus, it is surprising that the correlations are not actually higher.

TABLE B1

Inter-correlations Among Total Values
(N=83)

	Peer Aff	Exper	Soc-Ecol	Mat Poss	Indep
Rec-Ach	.16	-.05	-.04	-.24*	-.05
Peer Aff		.01	.16	-.10	-.00
Exper			-.03	-.05	.01
Soc-Ecol				.02	.09
Mat Poss					.15

*p < .05 two-tailed test

TABLE B2

Inter-correlations Among Average Values
(N=83)

	Peer Aff	Exper	Soc-Ecol	Mat Poss	Indep
Rec-Ach	.27*	.16	.07	.14	.11
Peer Aff		.30**	.11	.09	.05
Exper			.03	.20	.11
Soc-Ecol				.00	.08
Mat Poss					.28*

*p < .05 two-tailed test

** p < .01 two-tailed test

The magnitudes of the correlations among total values and average values indicate independence of the six generalized goals. Even when significance is obtained, the correlations account for very little of the variance supporting the measure's independence.

Table B3 presents correlations between total and average values. As expected the correlations between the total and average values for each goal are highly correlated. Only for Recognition-Achievement is there no significant relation between the two measures. Once again the magnitude of the correlations indicates satisfactory independence for these personality measures.

Drug Measures

Inter-correlations among drug use motivations will be considered first. These correlations are presented in Table B4. Total motivations correlates most highly with percent personal effects functions. This strong positive correlation is to be expected. The more motivations an individual has for using drugs the greater the expectancy for actual drug use to occur. Thus, not only does the total motivations relate to personal effect percentage by picking up more of those items (along with other items) but both total motivations and personal effects functions are expected to relate to increased drug use.

The negative correlation between percent positive social and percent personal effect is likewise expected. Individual drug use based upon social convivial, social-facilitating motivations are conceptualized as being opposites of those motivations relating drug use to personal problems or feelings of inadequacy. The correlation

TABLE B3

Correlations Between Total Values
and Average Values (N=83)

Totals						
Averages	Rec-Ach	Peer Aff	Exper	Soc-Ecol	Mat Poss	Indep
Rec-Ach	.17	-.01	.05	.05	.18	.10
Peer Aff	.08	.55**	.06	.06	.03	.03
Exper	-.01	.09	.60**	-.02	.14	.10
Soc-Ecol	-.03	.18	-.00	.99**	.03	.08
Mat Poss	-.08	-.03	.00	-.01	.80**	.26*
Indep	-.06	.02	.01	.08	.16	.99**

*p < .05

**p < .01

TABLE B4

Inter-correlations Among Drug
Use Functions (N=49)

	Tot Motivations	% Pos Social	% Pers Effect
% Pos Social	-.12		
% Pers Effect	.47**	-.40**	
% Experiential	.17	-.67**	-.10

**p < .01

between positive social and experiential motivations was not anticipated. The significant negative relation between positive social and both personal effect and experiential motivations emphasizes the different role positive social motivations play and would suggest strong similarities between the other two motivations. However, experiential motivation's low correlation with personal effect motivation reinforces the independence of the three function measures. Although strong relations exist between the functions, the higher shared variance is only 45% and the patterns of inter-correlations demonstrate satisfactory independence.

The quantity-frequency drug measures are to be presented next. These scores should be positively related but should not be perfectly tied. The relationships among the quantity-frequency measures of drug use can be examined in Table B5.

As can be seen from the correlations, the quantity-frequency measures are in fact strongly related. The measures do show enough independence to support their validity. Q-F hallucinogens and Q-F amphetamines share the largest amount of variance at 49%. It appears that the use of any one drug is strongly related to the use of another. Although certainly not a cause-effect relationship, it is easy to see why the use of one drug, usually marijuana, is considered one step toward the use of many other drugs. Such high correlations for measures of different alcoholic beverages are not typically found.

The other two measures of drug use are times high and social complications measure. These two measures are expected to be highly correlated and this was found to be true ($r=.41$, statistically

TABLE B5

Inter-correlations Among Drug
Use Quantity-Frequency

	Q-F Marijuana	Q-F Amphetamines	Q-F Hallucinogens
Q-F Amphetamines	.62** (N=48)		
Q-F Hallucinogens	.62** (N=48)	.70** (N=48)	
Q-F Barbiturates	.67** (N=49)	.53** (N=47)	.48** (N=47)

**p < .01 two-tailed test

significant at the .01 level), but the correlation is low enough to demonstrate the independence of the two measures.

Finally, inter-correlations among all the different drug measures are presented in Table B6. The significant correlations between total motivations and all drug Q-F measures, times high and social complications illustrate the strong relation that exists between motivations no matter what kind and drug variables. Simultaneously, the total motivations measures shows minimal discriminability in its relation to the other drug variables.

Overall, the relationships between the different drug variables are in the expected directions. Positive social functions tend to relate negatively to other drug variables, although the correlations are extremely low and approach zero. Personal effect functions are positively related to other drug variables but experiential motivations show more consistent positive relations. As expected times high and social complications are highly correlated with Q-F measures.

The pattern of drug inter-correlations tends to support the conceptualization of problematic drug use. Only personal effect functions fails to relate significantly to the other problematic variables (Q-F measures, times high and social complications) but it does maintain a positive relation.

There appears to be sufficient independence of the various drug measures. The magnitude of the correlations are very high in many cases, but this would seem to be more a function of expected relations between variables measuring different aspects of drug use rather than indicating a lack of independence.

TABLE B6
Correlations Between All Drug Measures

Functions and Q-F Measures

	Q-F Marij	Q-F Amphet	Q-F Halluc	Q-F Barb
Tot Motiv	.61** (N=49)	.44** (N=47)	.36** (N=47)	.51** (N=48)
% Pos Social	-.06 (N=49)	.01 (N=47)	-.08 (N=47)	-.10 (N=48)
% Pers Effect	.28 (N=49)	.03 (N=47)	.00 (N=47)	.14 (N=45)
% Exper	.13 (N=49)	.17 (N=47)	.27 (N=47)	.14 (N=48)

**p < .01 two-tailed test

Q-F Measures and Times High, Social Comps

	Q-F Marij	Q-F Amphet	Q-F Halluc	Q-F Barb
Times High	.70** (N=48)	.48** (N=46)	.41** (N=46)	.42** (N=47)
Social Comps	.55** (N=48)	.50** (N=46)	.54** (N=46)	.42** (N=47)

**p < .01 two-tailed test

Functions and Times High, Social Comps
(N=47)

	Total Motivation	% Pos Social	% Pers Effect	% Exper
Times High	.42**	-.02	.16	.16
Social Comps	.44**	.04	.12	.11

**p < .01 two-tailed test

In summary, there appears to be adequate support for the validity of measures used in this study. The correlations indicate relations in the expected directions giving support for the conceptual validity of both personality and drug use concepts. At the same time the correlations were low enough to demonstrate the independence of separate measures.

APPENDIX C
DESCRIPTIVE DATA

The following discussion and tables present descriptive data for the variables in this study. The purpose of this is to allow for an examination of actual data obtained from the sample. Rather than presenting an extensive list of data, the measures are summarized by presenting means and standard deviations. Discussion will focus primarily on interpretation of the descriptive data.

Personality Variables

Of the total goals mentioned, Recognition-Achievement goals accounted for 32%, Peer Affection 23%, Experiential 24%, Social-Ecological Change 5%, Material Possessions 13% and Independence goals 3%. These findings are similar to Carman's (1973) study. The differences that did exist between the present study and Carman's are attributable to different methods of assigning goals to categories. Carman made no attempt to place every goal obtained into a category while all goals in this study were assigned a category according to judged "best fit."

Descriptive data for total and average values are presented in Tables C1 and C2. The percentages for each goal has a double effect on the calculated means. First, the number of goals (reflected in percentages) for total values results in particularly low means for Social-Ecological, Material Possession and Independence goals. Even when numbers of goals are taken into account in the average-value means, the influence of numbers remains present because the number of goals also partially reflect number of subjects mentioning certain goals. Low percentages of goals implies fewer subjects and results in

TABLE C1

Descriptive Data for Personality Measures
Total Values (N=83)

	<u>Mean</u>	<u>S.D.</u>
Rec-Ach	216.20	117.28
Peer Aff	158.98	116.12
Exper	157.05	128.85
Soc-Ecol	23.73	56.27
Mat Poss	90.12	108.29
Indep	24.22	51.30
Totals	669.58	208.86

TABLE C2

Descriptive Data for Personality Measures
Average Values (N=83)

	<u>Mean</u>	<u>S.D.</u>
Rec-Ach	78.48	18.51
Peer Aff	70.94	30.69
Exper	69.40	42.59
Soc-Ecol	16.08	33.63
Mat Poss	52.37	41.32
Indep	17.95	34.89
Totals	79.88	11.12

the above three goals maintaining respective magnitudes when means of average values are computed.

Therefore, these figures do not allow for direct comparison of numerical value ratings of goals. However, the percentages and tables point out that Recognition-Achievement goals are more often mentioned probably by more subjects than other goals. Peer-Affection and Experiential goals are next most often mentioned followed by large drops in the remaining three goals.

Drug Variables

An examination of motivations for use, Table C3, indicates that the average number of motivations selected were six. The proportions of total motivations for each category was as expected. Positive social motivations were the most frequently selected, on the average comprising 52% of all motivations. The fact the individuals chose positive social functions more than other functions emphasizes the importance of social relations among young people. Personal effect functions were the least frequently chosen accounting for an average of 15% of total motivations. It was expected that for all those who use drugs, only a small number would be motivated to use drugs for problems related reasons. Finally the high mean percent of experiential functions relative to personal effect functions seems to illustrate a context of drug use based upon the novelty of its use and as a means of expanding awareness or senses. Such a context appears to fit with popularized notions of drug use such as "getting high" or "blowing one's mind."

TABLE C3

Descriptive Data for Drug Measures
Motivations (N=49)

	<u>Mean</u>	<u>S.D.</u>
Total Motivations	6.18	4.76
% Positive Social	52.00	30.52
% Personal Effect	14.71	18.32
% Experiential	31.18	27.06

The drug quantity-frequency measures, Table C4, indicate the most widely used drug to be marijuana. The mean use (8.80) is approximately smoking one joint two or three times a week. The mean use of amphetamines is approximately one "hit" two to three times a month. The remaining drug use for hallucinogens and barbiturates is very low with a "hit" or part of a "hit" occurring less than one time a year.

The final two drug measures are the times high and social complication variables, as shown in Table C5. The mean number of reported highs within the last year for the sample was three. This figure appears to be low relative to the mean Q-F of drugs just described. Perhaps reported Q-F of drug use was overstated by the sample and therefore the times high measure may be a more accurate indicator of "real" drug use. Another possibility may be that translating a highly subjective experience such as "getting high" into an exact number is impossible. If Q-F drug use reported by this sample is factual, then the times high measure may reflect exceptional or unusual experiences associated with only a few instances of drug use.

The mean number of reported social complications was four. It is difficult to put this finding into an objective context. The circumstances that account for the social complications measure include a wide range of trouble, from being late to being "busted." However, the importance of the measure is not in differentiating circumstances but in focusing on the occurrence of problems with others or trouble directly related to drug use. This sample of users experienced some difficulty or social consequences on the average of four separate

TABLE C4

Descriptive Data for Drug Measures
Quantity-Frequency

	<u>Mean</u>	<u>S.D.</u>	<u># Cases</u>
Q-F Marijuana	8.80	6.52	50
Q-F Amphetamines	6.83	8.08	48
Q-F Hallucinogens	1.86	3.70	49
Q-F Barbiturates	1.60	2.46	48

TABLE C5

Descriptive Data for Drug Measures
Times High & Social Complications (N=48)

	<u>Mean</u>	<u>S.D.</u>
Times High	3.37	2.46
Social Complications	4.23	2.96

occasions. In the context of repeat drug consequences such a finding would seem high.