# DEVELOPMENT OF AN ATTITUDE-BEHAVIOR TOWARD DRUG USERS SCALE EMPLOYING GUTTMAN FACET DESIGN AND ANALYSIS

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This is to certify that the

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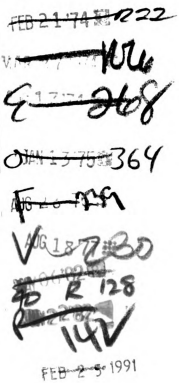

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ABSTRACT

DEVELOPMENT OF AN ATTITUDE-BEHAVIOR TOWARD DRUG USERS SCALE EMPLOYING GUTTMAN FACET DESIGN AND ANALYSIS

By

James M. Kaple

The major purpose of this study was to create an attitude-behavior toward drug users scale[1] (ABS:DU) employing Guttman facet design and analysis and to test that construction. Certain substantive hypotheses were also tested to illustrate that specified predictor variables correlate differentially with different levels of the ABS:DU.

Six categories or populations of individuals with varying amounts of contact with drug users were employed in the study. The categories chosen were: incarcerated drug users, police, a fundamentalist religious sect, high school students, college students, and drug users in treatment. These six categories were chosen because their attitudes were believed to fall along a continuum from

[1]The Attitude Behavior Toward Drug Users Scale is hereafter referred to as the ABS:DU.

unfavorable to favorable toward drug users. Within each category, several groups were chosen from various geographic locations including Michigan, Kansas, Kentucky, and California. The initial scale (240 items) was administered to a total of 17 different groups during the spring quarter of 1971. All scales were group administered according to standardized directions.

The scale was constructed according to facet theory. Attitude was operationally defined as "a delimited totality of behavior with respect to something" (Guttman, 1950). Guttman (1959) originally delimited the totality of behavior with three facets and their corresponding elements, relating them in such a way as to yield four Levels of attitude-behavior. These four Levels of attitude-behavior identified by Guttman as representing a complete attitude paradigm for group interaction were: Stereotype, Norm, Hypothetical Interaction, and Personal Interaction.

Jordan (1968) expanded the original Guttman paradigm to include five facets and hence six Levels. These 6 Levels include the four identified by Guttman, plus: Moral Evaluation and Actual Feeling. Jordan's six Level adaptation was employed in the present study, and a statistical structure was hypothesized to exist between the six Levels (a simplex one: joint struction).

The content for the ABS:DU was also chosen according to facet theory (lateral struction). The five categories or facets of content (causes, characteristics, consequences,

treatment type, and treatment reason) were arranged in a mapping sentence and 40 items were written to deal with the five facets. Each item was then carried across the six Levels identified in the Guttman-Jordan paradigm. A 240 item scale resulted. A personal data questionnaire was also administered in an effort to determine the relationship of specified variables with different Levels of attitude.

The results obtained were subjected to analysis procedures which revealed that the attitude-behavior toward drug users measured did scale as hypothesized (i.e. simplex approximation). Predictive and construct validity were supported and content validity was assumed due to the item selection procedures employed. Internal consistency reliability figures consistantly exceeded .80 and frequently exceeded .90 for the groups and categories identified.

Item to facet, item to Level, and item to item scale correlations were used as criteria to select four items from each content facet. These four items from each of five facets were carried across the six Levels and a final scale of 120 items resulted.

Internal consistancy reliability coefficients and estimates of simplex approximation were obtained by re-analysis of the original data on the basis of the final scale items. The results suggest that the final scale

will possess internal consistancy reliability, and content, predictive, and construct validity, and will scale according to the simplex model.

Certain of the substantive hypotheses did receive some support and it was demonstrated that certain predictor variables do correlate differentially with specified Levels of attitude-behavior, as measured by the initial[1] attitude-behavior toward drug users scale (ABS:DU).

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[1]This study is related to a larger cross-cultural study of attitude-behaviors toward addiction (including alcholism) under the direction of John E. Jordan, College of Education, Michigan State University, East Lansing, Michigan, 48823.

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# PREFACE

This study is one in a series, jointly designed by several investigators, as an example of the "project" approach to graduate research. A common use of instrumentation, theoretical material, as well as technical and analyses procedures were both necessary and desirable.

The authors, therefore, collaborated in many aspects although the data were different in each study (Nicholson, 1971) as well as certain design, procedural, and analyses methods. The interpretations of the data in each study are those of the author.

ACKNOWLEDGMENTS

Due to the nature of this research, many people, from California to Washington, D.C. have been of invaluable assistance not only in collecting, collating, and processing the data, but also in conceptualizing and designing the scale itself. I am especially grateful to Dr. John E. Jordan who chaired my doctoral study. His personal interest, assistance, and encouragement have been greatly appreciated. I wish to thank Dr. Bernard Finifter, Dr. Gregory Miller and Dr. Andrew Porter for their guidance and direction as members of my doctoral committee. I am also grateful to Dr. A. Hughes, Dr. Joseph Paige, Mr. F. Macklin, and Mr. C. Wells for their insight and assistance at all stages of this project.

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I am grateful for my parents constant encouragement and interest. Thanks also to my fellow student Bill Nicholson, for his help and encouragement in various aspects of the

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Most of all, I wish to thank my wife Stella, my son Gareth, and my daughter Siobhàn for their constant love, inspiration, and understanding.

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# CHAPTER I

# INTRODUCTION

Research on drug use and abuse has been inconclusive and on occasion contradictory as to the correlates of drug related attitude-behavior. This research will document the need for a new approach to the measurement of attitude-behavior toward drug users and will employ Guttman facet theory to create such an instrument.

## Nature of the Problem

Drug use is currently considered one of the most crucial social problems[1] faced by American Society (Proceedings, White House Conference on Narcotic and Drug Abuse, 1962). It occupies a large portion of the popular and academic press. Presidential task forces and advisory commissions on Narcotic and Drug Abuse have been created at the Federal level of government (Proceedings, White House Conference on Narcotic and Drug Abuse, 1962; President's Advisory Commission on Narcotics and Drug Abuse 1962; Task Force Report: Narcotics and Drug Abuse, 1967). At the state and local levels numerous agencies have been formed to deal with the problems of drug use (e.g., Michigan Governor's Office of Drug Abuse, Tri-County

[1] On June 17, 1971, President Nixon declared drug abuse a National Emergency.

(Lansing area) Mental Health Drug Program, and Kiwanis Operation Drug Alert). In fact Gov. Milliken has recently identified the drug problem as the priority item in the field of Mental Health for the State of Michigan.

The problem of drug use and abuse is not new, but in the United States it is becoming increasingly widespread. It is present in large cities, small towns, and rural areas. It is not limited to people of any particular area, age group, environment, or level of income. "There is a growing body of evidence that children in elementary school, even as young as seven years old, are finding access to abusive substance" (Michigan Department of Education, 1970).

A recent Gallup Poll (Detroit Free Press, 1970) surveying college students on 61 campuses revealed that 42% said they had tried marijuana (almost double the 1969 figure of 22% and more than eight times the 5% recorded in 1967). D-lysergic acid diethylamide (L.S.D.) was reported to be used by 14% as compared to 4% in 1969 and 1% in 1967. Comparable figures were obtained for barbiturates (14%) and amphitamines (16%) use.

The Federal Bureau of Narcotics reported 55,894 active addicts (opium and its extracts) in the United States as of December 31, 1964 (O'Donnel and Ball, 1966). A recent special publication of the Detroit Free Press (1969) estimated the number of heroin addicts to be 100,000.

According to the 1970 comprehensive law enforcement and criminal justice plan of Michigan, Project Rehab in Grand Rapids estimates that one heroin addict on the street costs the city $10,500 per year (President's Advisory Commission on Narcotics and Drug Abuse, 1963). Should the addict be arrested, an additional estimated cost of $16,800 in jail, legal and court costs are introduced for a total of $27,300 per year, attributed to one heroin addict. Officials of the City of Detroit estimate that approximately $40,000,000 per year is spent on illegal drug purchases. They also report clients with $150. per day, 365 days a year heroin habit.

The President's Commission (1967) states that it takes approximately $150 worth of stolen property for the heroin addict to net $15 in cash. It adds that while the price of heroin is not uniform across the nation and fluctuates according to supply and demand, "it is never low enough to permit the addict to obtain it by lawful means." Although no specific figures are available regarding the cost of supporting use of drugs other than the opiates (e.g., amphetamines, barbiturates, cocaine, hallucinogens, marijuana and solvents) it is generally accepted that these costs are substantial.

In the State of Michigan, arrests for possession of narcotics and dangerous drugs were up 110% in 1969 over 1968. This is particularly alarming when in 1968 the

Federal Bureau of Narcotics and Dangerous Drugs ranked Michigan fifth in the United States for opiate drug arrests. Arrests for selling were up 48%, with a 79 1/2% increase in heroin cases. There was an increase of 98% in arrests of persons under twenty-one years of age, 111% of persons over twenty-one, with an 88% increase in total arrests. Locally the statistics are similarly alarming.

In actual figures, 222 arrests were made in the Lansing, Michigan area for sale of narcotics, 820 arrests for possession, and 66 arrests for use during 1969. With regard to sex, 972 were males and 121 females. Persons arrested in the age bracket of 17-21 totaled 603. Of those arrested for possession, sale or use, 490 were over 21. Further, the Michigan State Police estimate that approximately one-third of all the narcotics arrests in the State of Michigan take place in the Lansing area.

The Ingham County Sheriff's Office count an average of two new cases of heroin per week handled through their office. From September, 1969 to March, 1970 the Ingham County Sheriff's Department handled 148 cases of narcotics and dangerous drugs. Of this number, 107 were arrested in the county as opposed to 41 cases in Lansing and East Lansing. Approximately 65% of these cases were marijuana oriented, 15% heroin, and two arrests for cocaine sale or use, and the remainder for dangerous drugs.

While no complete and adequate studies of the extent of drug addiction in the Tri-County Area are available at this time, there is direct and indirect evidence of a marked increase in drug dependency problems, particularly so since 1968.

All police agencies in the area report a steady increase in narcotic violations. In Ingham County alone nearly 20 to 25% of the cases reported out of Circuit Court each week involve narcotics. In the first few months of 1970, Lansing Police Narcotic Agents made 34 arrests. East Lansing Police reported 68 drug cases pending. The Ingham County Sheriff's Department had 39 cases, while the State Police Intelligence Unit had 34 such cases in its files. Whereas eight years ago the majority of cases of drug dependency had to do with minors in possession of alcohol, now most of the cases have to do with hard drug abuse. Both the Eaton and Clinton County Sheriff Departments report increases in the number of arrests for narcotic violations, however, specific figures were not available at this time.

An additional barometer which indicates the seriousness of the drug problem, in the Lansing Community is the increase in hepatitis. The Ingham County Health Department officials have expressed concern about the rapid rise in instances of hepatitis. Three times as many cases have been reported in 1970 as compared to 1969, with the highest frequency among persons 17 to 23 years of age.

Dr. Dean Tribby, acting public health director for the county stated that "approximately 50% of the hepatitis cases are due to sernal hepatitis, following drug experimentation." A total of 53 cases of hepatitis were reported the first ten weeks of 1970 compared with 18 in 1969 and 7 in 1968.

Several professional persons working particularly in the West End of the City of Lansing have estimated that there are as many as 1,000 hard heroin addicts in that section of town. Although exact numbers of drug dependent persons are not available it has been the experience of the staff of the Tri-County Mental Health Drug Programs that the above listed statistics are realistic and do reflect the magnitude of the epidemic of drug use in the City of Lansing.

Obviously the dollar and cents cost of drug use is extremely high when we include the monies allocated to research, evaluate, rehabilitate, control, apprehend, prosecute, and incarcerate drug users with the cost of the actual habits discussed above. As the President's Commission (1967) suggests: "while crime reduction is one result to be hoped for in eliminating drug abuse, its elimination and the treatment of its victims are humane and worthy social objectives in themselves." It is evident, that the social losses involved, other than money (i.e., in the lost resources implicit in the drug addict) are

also substantial. Cohen's et al. (1970) study comparing drug using vs non-drug using psychiatric patients indicates that heavy drug users were of higher intelligence ($p<.05$) than non-drug users. The implications are awesome.

Numerous and sundrey attempts to rehabilitate drug users have been employed. Included are: incarceration, education, detoxification, methadone treatment, inpatient hospitalization (e.g., Lexington), Synanon, halfway houses, and various individual and group therapy procedures. Unfortunately as Nyswander (1967) states: "Attempts to 'cure' narcotic drug addiction have had little success. . . ." Apparently rehabilitation attempts have had a minimal impact on drug use. As the Michigan Department of Education teacher's resource guide for drug and abuse (1970) states: "The great need in drug abuse is prevention."

The preceding description of the nature and extent of illicit drug use reveals that the curative, legal, and punitive measures employed to date for the prevention of drug abuse have been structurally inefficient and functionally ineffective. Implicit in this realization is the assumption that human behavior is the result of internal, as well as external motivations. Krech, Crutchfield, and Ballacy (1967) state that actions of the individual are governed to a large extent by his attitude. Russo (1968) and O'Donnell (1966) have stated that it is necessary to become more cognizant of the

relationship between "pro- or antidrug attitudes" of individuals and their drug use behavior. Numerous researchers (Blum, 1966; Borgotta, 1966; Nowlis, 1966; Keniston, 1966; Jones, 1969; Brehm and Back, 1968; Middendorf, 1969; Glick, 1968; Pattison, 1968; and Whitehead, 1969) have demonstrated the significance of attitude in predicting an individual's drug use patterns. Similarly the President's Commission on Law Enforcement and Administration of Justice (1967), the President's Advisory Commission on Narcotics and Drug Abuse (1963), the Michigan Department of Education (1970), the Office of Criminal Justice (1970), and the Commission of Inquiry into the Non-Medical Use of Drugs (1970) have all recognized the importance of drug related attitudes and their relationship to drug use.

Social psychologists have employed numerous techniques to measure attitude toward various attitude objects, but the most widely used and most carefully tested and designed technique is the attitude scale.

Selltiz, Jahoda, Deutsch, and Cook (1966) have identified three generic classifications of scaling methods for the measurement of attitude. Specifically the differential scale (equally appearing interval method) generally associated with Thurstone, the summated scale associated with Likert, and the cumulative scale associated with the name of Guttman. Krech et al. (1962) lists these plus the social distance scale and the scale discrimination technique.

Lemaine (1967) compared the major scaling techniques and stated that the Guttman scale, provided it meets criteria for reproducability (scalability), is the best instrument for the measurement of attitudes.

Although this breakdown is not necessarily exhaustive, the methods herein identified have been responsible for a variety of instruments used in attitude research. However, as Shaw and Wright (1967) point out, much of the effort in attitude research has been wasted because of the lack of suitable instruments for the measurement of attitude. Frequently attitude is defined differently from one study to another, further limiting the comparability of attitude scales and the resulting information derived from their administration. Jordan's (1968) review of current attitude research revealed that most attitude studies employ items from the Stereotypic Level only (Levels of the Guttman-Jordan paradigm are described in Chapter III and definitions of specific termonology may be found in the glossary, Appendix 1).

Guttman's definition of attitude, as well as his multidimensional facet methodology for scale construction, is employed in this research. The use of facet theory should permit the identification of variables that correlate with given Levels of attitude-behavior specified in the Guttman-Jordan paradigm, thus avoiding many of the criticisms leveled at the scales reviewed in Chapter II. Guttman

methodology will receive a thorough discussion in Chapter III. Guttman (1950) defines attitude as a "delimited totality of behavior with respect to something." Most other definitions of attitude view it in terms of 'predispositions' rather than as behavior per se. Guttman's definition is used here as it is more easily operationalized and lends itself to facet theory analysis. Guttman (1959) took the four types of interaction with a cognitive object proposed by Bastide and van den Berghe (1957) and elaborated on them to produce four Levels (3 facets) of belief or action which would delimit the totality of behavior with respect to an attitude object. Guttman's four Levels or sub-universes were: (a) Stereotypes, (b) Norms, (c) Hypothetical Interaction, and (d) Personal Interaction.

Jordan (1969) expanded on Guttman's (1959) original three facet (4 Level) paradigm and developed a more inclusive set of five facets (6 Levels) to delimit the totality of behavior (attitude as defined by Guttman, 1950). Three specific attitude scales: ABS-MR (Jordan, 1969); ABS-BW (Hamersma, 1969), and ABS-MI (Whitman, 1970), have since been developed using Jordan's 6 Level adaptation of Guttman facet theory. Several other attitude-behavior scales are currently under development using the same methodology (Jordan, 1970b).

## Statement of the Problem

The need for research in the area of drug use and particularly in the area of attitudes toward drug abuse (O'Donnell, 1966) has been demonstrated. The purpose of this research will be to develop an attitude-behavior scale toward drug users employing the Guttman-Jordan methodology discussed in Chapter III. Review of the instruments currently available dealing with attitude toward drug users (see Chapter II) revealed results similar to those encountered by Hamersma (1969), Jordan (1968), and Whitman (1970). Namely, no studies on attitude toward drug users have employed an attitude scale constructed on the basis of the structural theory proposed by Guttman (1959). As a result it is unclear what attitudinal Levels, or sub-universes in the Guttman model were being measured in most of these studies, although the impression is that most of the scale items probably measured attitudes at the Sterotypic Level in Jordan's paradigm (see Table 6).

As illustrated in Chapter II, the available research on correlates of drug related attitudes are inconsistent and occasionally contradictory. Jordan's (1968) review of the literature on attitude toward the mentally retarded and Hamersma's (1969) review of literature on racial attitudes revealed similar inconsistencies. Both Jordan and Hamersma constructed six Level (see Table 6) attitude

behavior scales toward their respective attitude objects. Their results suggest that many of the variables identified in the literature correlate selectively with the Levels of attitude-behavior identified in the Guttman-Jordan paradigm. However, they correlate differentially at different Levels.

It is hypothesized that a major reason for the inconsistent and contradictory results evidenced in the literature on attitudinal correlates of drug related behavior stem (at least partially) from their failure to operationally define attitude and their neglect to specify Level of attitude-behavior (it is recognized that poor design, different populations, and other confounding variables may also have contributed to the inconsistent results referred to above). It is anticipated that construction of an attitude-behavior scale, according to Guttman facet theory, will facilitate the identification of correlates of attitude-behavior toward drug users at specified Levels of behavior. It is also conceivable that identification of such correlates will suggest differential methods of changing attitude-behavior at a specified Level.

Ancillary purposes, other than the construction of an attitude scale toward drug users will include:

(a) the replication of support for the six Level attitude scale construction of Jordan, employing Guttman facet design and analysis to test that construction (i.e., simplex approximation), and (b) to illustrate that certain variables arbitrarily selected from those identified in Chapter II may correlate differentially with the specified Levels of attitude-behavior.

If support is found for the hypothesized differential relationship of specified variables with different Levels of attitude-behavior, there will be implications for changing behavior at given Levels. Jordan (1970) found that knowledge, contact, and value structure were differentially related to Levels of attitude-behavior toward the mentally retarded. If, for example, amount of contact is found to correlate positively with attitudes toward drug users at Levels four, five, and six but not at Levels one through three, there would be definite implications for changing attitude-behavior at a specified Level. Namely, that attitude-behavior change may require manipulation of different variables to change different Levels of behavior. Similarly, the ABS-DU scale may prove useful as a screening device to identify potential drug users; although this possibility will not be explored in this study.

Hypotheses to be examined will be of both a theoretical and substantive nature. The theoretical hypotheses will deal with the examination of Guttman's facet theory approach to attitude scale construction. The substantive hypotheses to be tested will be exemplary rather than exhaustive in nature. The substantive hypotheses will deal with potential correlates of attitude-behavior toward drug users identified in the literature review. As previously mentioned, past research has presented inconsistent results regarding correlates of drug related attitudes. The substantive hypotheses will deal with the relationships of these variables to specified Levels of behavior. All substantive hypotheses will be tested on the basis of items identified for potential inclusion in the final scale.

This analysis will be done on the same data collected to establish reliability and validity data. It is recognized that the samples are not randomly selected and generalizability is minimal. However, as previously mentioned, the substantive hypotheses are exemplary in nature and are meant to be illustrative of the postulated relationship between predictor variables or correlates and the Levels of attitude-behavior, specified in the Guttman-Jordan paradigm. Examples of both substantive and theoretical hypotheses are presented below and more specifically elaborated in Chapter III.

## Theoretical

There will be a positive relationship (correlational) between the structural (conceptual) theory and the statistical structure (i.e., the size of the correlation coefficient increases with the increase in the number of contiguous facets).

## Substantive

Efficacy will correlate positively with attitude-behaviors toward drug users as measured at Level 6 of the ABS:DU for the groups identified.

# CHAPTER II

## DRUG RELATED ATTITUDES: REVIEW OF MEASUREMENT TECHNIQUES AND RESEARCH FINDINGS

Although attitude research has held a prominent position in the social sciences for many years, studies of attitudes toward drug users, drug use, and drug abuse have only recently gained prominence. This recent interest in drug related attitudes seems to be a direct result of the increasing incidence of drug use and the corresponding concern over its potential dangers (both monetary and human). Experts agree that attitude measurement can play an important role in evaluating preventative methods as well as providing a screening device to identify potential drug users.

Attitude assessment has taken various forms. Traditionally, three types of attitude scale construction have been employed: differential scales, summated scales, and cumulative scales (Selltiz, Jahoda, Deutsch, and Cook, 1966). Since these three types of scales are represented, to some degree, in the literature dealing with drug related attitudes, each will be discussed in some detail.

## Differential Scales

Differential scales are closely associated with L. L. Thurstone. Such scales consist of items whose position on the scale has been determined by judges' ratings. Several rating methods have been employed: the paired comparison method, the equal appearing interval method, and the successive interval method. The equal appearing interval method is most commonly used, and will be presented herein.

Initially, several hundred statements thought to be related to the attitude to be measured are gathered. These statements are then classified (usually into eleven piles) by a large number of judges (usually between 50 and 300). The judges are instructed to place the statements in piles according to their favorableness (from most favorable to most unfavorable) toward the attitude object. The scale value of a specific statement is computed as the median pile (or position) to which it has been assigned by the judges. Those statements which have too broad a scatter are discarded. From the statements so identified items are drawn along the continuum, from favorable to unfavorable, and included in the attitude scale. Usually such a Thurstone scale consists of approximately twenty items.

When a subject takes a Thurstone type attitude scale, he is instructed to check statements with which

he agrees (or disagrees). The median of the scale values of the items checked by a given individual is reported to indicate his position on a scale of favorable-unfavorable attitude toward the object in question.

Differential or Thurstone type scales have recieved widespread criticism on several counts. As Selltiz et al. (1966) indicate, these scales are laborious and cumbersome to construct and score. It is also pointed out that, since an individual's score is the median of the scale values of several items, similar scores may express different attitudinal patterns. In other words, identical scores do not necessarily mean identical patterns of attitude responses.

Although Thurstone asserts that scales constructed by his method yield true interval data, and are subject to appropriate statistical analysis, studies by Gramneberg (1955) and Kelley et al. (1955) cast serious doubts on this assumption. Their studies suggest that Thurstone type scales more closely approximate ordinal data.

A major criticism of the equal appearing interval method is that the attitudes of the judges (employed in the scale construction) may influence their judgements (Krech, Crutchfield, and Ballachey, 1962). Findings of Hovland and Sherif (1952) suggest that the attitude of the judge will bias his judgement of items, although in most cases this effect will be small.

Vincent (1968) constructed a Thurstone type differential scale to investigate the attitudes of 8th, 10th, and 12th grade students toward smoking marijuana. Visual inspection indicates that this twenty item (single form) scale consists exclusively of "Actual Feeling" items as identified in the Guttman-Jordan paradigm (see Table 6). Vincent reports known group validity to be acceptable and a reliability coefficient of .94 was obtained via the Spearman-Brown "prophecy formula."

This was the only differential type scale discovered, by this author, which purported to measure drug related attitudes.

## Summated Scales

Summated scales used to measure attitudes are frequently referred to as Likert-type scales (Likert devised his scaling techniques in the early 1930's). Items (selected by intuition) which are felt to be definitely favorable or definitely unfavorable to the attitude object are employed. Unlike Thurstone scale construction, items that are neutral or slightly favorable or unfavorable are excluded from Likert scales. These items are administered to subjects representative of the population to receive the questionnaire. Rather than checking only the items with which the respondent agrees, he indicates his degree of agreement or disagreement with every statement (i.e.,

1. strongly agree, 2. agree, 3. undecided, 4. disagree, 5. strongly disagree). Usually 5 categories are employed for each item, however some investigators have used both a larger and smaller number of categories. Scoring simply involves the summation of the scores of the individual responses made to each item. This results in a total score which is interpreted as the individual's position on a scale of favorable-unfavorable attitude toward the object in question. Individual responses are then analyzed to determine which items best discriminate between high and low total scores. Frequently the responses of the upper and lower quartile (total score) are used as criterian groups. Items which do not show substantial correlation with the total scores, or those that do not elicit different responses from the criterion groups are eliminated. These procedures insure "internal consistency."

The Likert type (summated) scale is reported to have several advantages over the Thurstone scale. It permits the use of items that are not manifestly related to the attitude scale, since it can be proved diagnostic by virtue of its correlation with the total score. Likert scales are easier to construct and are likely to be more reliable due to the increased number of choices, i.e., length (Selltiz, Jahoda, Deutsch, and Cook, 1966).

If Thurstone's scales provide interval data (a dubious assumption) they are capable of measuring how

much more favorable one respondent is than another while Likert scales provide ordinal data and can provide rank ordering, at best. Another disadvantage of the Likert technique is that the total score of a given individual often has little clear meaning, since many patterns of response to the various items may produce the same score (Jahoda and Warren, 1966).

King (1970) employed a Likert type (7 point) scale (to establish attitudinal correlates) and a survey of behavior to compare users and non-users of marijuana. No reliability or validity data are presented.

King's instrument purported to measure five general attitudes. Attitude toward external control, and behavioral and situational correlates of marijuana usage were evaluated by an individual's "yes" or "no" response to specific items. Attitudes toward external agents for inducing tension relief and relaxation, marijuana usage in relation to the law, and personal knowledge of physiological and psychological effects of marijuana were assessed by a Likert type, seven point scale. These results were dichotomized into favorable and non-favorable attitudes (non-committal responses were omitted from the analysis). Attitude items (Guttman-Jordan paradigm; Table 7) seem to include Hypothetical Action, Personal Feeling, and Personal Action.

King makes no attempt to explicity define attitude, however, his title "Users and Non-Users of Marijuana:

Some Attitudinal and Behavioral Correlates" (1970) suggests that he views attitude as a predisposition to behavior rather than a "delimited totality of behavior."

Brehm and Back (1968) developed a 34 item Likert type questionnaire concerned with "attitudes toward taking medication, typical response to illness and concern with such factors as personal control." Respondents were to check one of six alternatives ranging from "strongly agree to strongly disagree." Usage of specific drugs was evaluated on a 6 point scale ranging from "definitely" to "not at all" for ten agents ranging from aspirin to opiates.

Reliability and validity data are not presented and no attempt is made to define attitude in the Brehm and Back study. Most of the items employed seem to fall at the Stereotypic and Actual Action Level of the Guttman-Jordan paradigm.

It is interesting to note that although Brehm and Back do not identify it as such, they have employed an aspect of facet theory in four of the questionnaire items. Specifically, they have used Stereotypic and Hypothetical Action Levels to measure what they labeled "resistance to drug effects" and "relative curiosity." Resistance to drug effects was measured by the difference between responses to the statement "when under the influence of drugs people will not do anything they would not do normally" (Stereotypic Level) and the statement "under the influence of drugs I

would not do anything I would not normally do," (Hypothetical Action Level). These were the only examples of holding item content constant while changing the Level and referent, that were encountered while reviewing drug related attitude scales.

Robbins et al. (1970) developed a Likert type scale dealing with attitudes toward different facets of drug use. Five alternatives were offered ranging from strongly agree to strongly disagree. Most of their items request respondents opinions and fall at the Personal Feeling Level of the Guttman-Jordan paradigm (i.e., the continued use of drugs will improve academic performance). No reliability or validity data are presented for this questionnaire and no definition of attitude is given.

## Cumulative Scales

Cumulative scales are composed of a series of items to which the respondent indicates agreement or disagreement. Guttman's name is most frequently associated with cumulative scaling techniques. The main purpose of Guttman's scalogram analysis is to ascertain if a set of attitudes is unidimensional. That is to say do they measure only one attitude. An unidimensional scale, as defined by Guttman, has a coefficient of reproducability of at least .90. A perfect Guttman scale, would be one in which knowledge of an individual's total score would permit

reproduction of his responses to each of the items. An example of a perfect Guttman scale would be one concerning height. If the items read: (a) I am more than four feet tall, (b) I am more than five feet tall, (c) I am more than six feet tall, etc. and each yes is assigned a weight of 1 and we know a person's total score is 2 we can reproduce his individual responses and state that he answered "yes" to items 1 and 2 and "no" to item 3.

Guttman's scaling procedures (Guttman and Suchman, 1947) also allows for the establishment of a neutral region of the scale by employing an intensity function. This procedure allows a method of distinguishing favorable from unfavorable attitude.

Guttman's unidimensional scalogram analysis has been criticized for its neglect of the problem of representativeness in selecting the initial set of statements. Since statements selected for such scales are a matter of intuition and experience, it is impossible to estimate their content validity (Krech, Crutchfield and Ballachey, 1962). Jahoda and Warren (1966) state that Guttman's unidimensional scales may not be appropriate for measuring complex attitudes and that such a scale may be unidimensional for one group of respondents but not for another.

No example of Guttman scaling procedures being applied to construction of a questionnaire to measure drug related attitudes was discovered.

Guttman's recent contributions to scale construction and attitude measurement (i.e., facet design and multidimensional scaling) avoid many of the prior criticisms of unidimensional scaling since they provide an *a priori* method of item selection and are multidimensional in nature. To the author's knowledge facet design and nonmetric analysis have not been used to measure attitudes toward drug users.

## Semantic Differential Scales

Doctor and Sieveking (1970) developed a 35 item bipolar questionnaire with a 5 point semantic differential format. No reliability or validity data were presented and no attempt was made to define attitude. Recent correspondence with Doctor (November 1970) revealed that he and Sieveking are "very dissatisfied with the structure" of the questionnaire and current revision is being undertaken.

## Other Scaling Techniques

Two other scaling techniques are identified by Kretch *et al.* (1962). They are the social distance scale (associated with Bogardus) and the scale discrimination method (associated with Edwards). The social distance scale was designed specifically for measuring attitudes toward different nationalities and thus has not been employed in the measurement of attitudes toward drug

use. The scale discrimination technique "attempts to synthesize" (Krech et al. 1962) the methods developed by Thurstone, Likert, and Guttman. However, its strengths and weaknesses have not been sufficiently evaluated and as a result it is seldom employed.

Review of current studies that measure (or purport to measure) attitudes toward drug use (drug use is broadly defined here with respect to referant and specific attitude object--i.e., drug user, marijuana, heroin, etc.) reveals very few attitude scales that have been developed and scored, according to one of the specific scaling techniques previously outlined. It also becomes apparent that reliability and validity data usually are absent. Definitions of the concept of attitude were seldom presented and as a result no attempt was made to relate an operational definition of attitude to a specific measurement technique.

## Special Scales Constructed for Particular Studies

Drug related attitudes are most frequently assessed by instruments that are specially designed and tailored for a specific study. This is a type of scale most often found in the literature. In fact, with the exception of Vincent's (1970) scale to measure attitude toward smoking marijuana most of the scales reviewed to date seem to fall in this "special" category having been designed for a "one-shot" study. The other scales previously reviewed were, however,

included under a specific methodological heading, since they were identifiable as either Thurstone or Likert scales.

Instruments specially created for a given study (rather than general use) usually do not rely on familiar techniques of scale construction and item selection. However, there are occasions when a modification of a particular scaling method is used. Generally, validity and reliability data are lacking on these instruments. Frequently articles which purport to discuss drug related attitudes are based solely on the author's subjective opinions. When a "questionnaire" has been used, they usually do not meet the stringent requirements of the "scales" previously discussed. Seldom are the "questionnaires" reproduced in the article, and replication is virtually impossible in most instances due to meager methodological descriptions.

Bennet's (1968) discussion of public attitudes toward LSD use, Solnit et al. (1969) statement regarding motivation for drug use, Davis and Munoz (1968) article on Patterns and Meanings of Drug Use Among Hippies, and Feldman's (1968) paper on Ideological Supports to Becoming and Remaining a Heroin Addict are all examples of apparently subjective opinions regarding drug related attitudes. None of these individuals presented evidence of employing attitude questionnaires or scales and conclusions suggested by such reports must be validated by objective research. Examples

of instruments constructed for a specific study or purpose and apparently not stringently adhering to any specific scaling technique may be found in Murphy, Leventhal and Balter (1969), Rand (1968) Gioscia (1969), Pearlmen (1968), Klein and Phillips (1968), Suchman (1968), Rosenberg (1968), Pattison, Bishop and Linsky (1968), Jones (1969), and Bogg (1969). Apparently these instruments have had restricted applications and have seldom (if ever) been replicated. Generalizing about correlates of drug related attitude-behavior from the results of special made instruments or subjective opinions such as these is precarious at best.

## Summary of the Scales Used in the Measurement of Drug Related Attitudes

Review of scales used to measure drug related attitudes reveals various methods and quality of scale construction procedures. An extremely limited number of scales exist to measure drug related attitudes which have been developed according to the scaling techniques reviewed. Most of the instruments appear to have been constructed for a "one-shot" study, not adhering to any particular scaling procedure. Validity and reliability data are missing in almost every instance. Generally, there is little prior consideration given to the complexity of attitudes and appropriate analysis of data obtained. Attitude is usually not defined and as a result few attempts are made to relate the concept of attitude to its measurement.

Of special interest to this study is the fact that no research has been found that employed a facetized design (Guttman, 1959) to measure and analyze attitudes toward drug users. As a result, it is unclear which attitude Levels (or sub-universes) of the Jordan-Guttman paradigm (see Table 6, Chapter III) were being measured. However, perusal of the scales employed to measure drug related attitudes suggests that some scales are measuring a single Level (e.g., Stereotypic) while others are measuring a mixture of Jordan and Guttman's Levels. Visual inspection of the scales revealed that some were measuring Levels not included in the Jordan-Guttman paradigm while certain items were not measuring attitude at all, but were similar to achievement tests in that they were assessing factual knowledge. Absence of knowledge of and control over Levels being measured, coupled with the absence of definition of attitude seem to have contributed to results which are seldom comparable and occasionally contradictory, as evidenced in the review of substantive findings.

## Review of Substantive Findings

Jordan's (1968) comprehensive review of the literature dealing with attitude research revealed four classes of variables (or factors) that appeared to be important determinants, correlates and/or predictors of attitude. Specifically these include: (a) demographic factors (age, sex, geographic location, education, etc.)

(b) socio-psychological factors (values, change orientation, etc.), (c) contact factors (amount, nature, enjoyment, etc.), and (d) the knowledge factor (amount of factual knowledge or information possessed about the attitude object). Other attitude research employing the Guttman-Jordan methodology (Hamersma, 1969; Whitman, 1970; Dell Orto, 1970; Harrelson, 1970; Frechette, 1970; Williams, 1970) found support for these four determinants and/or correlates of attitude. Review of the research results on attitudes toward drug users will be organized around this classification and will include other factors discovered specifically in the drug literature.

The review of substantive findings are presented alphabetically, by author, in Table 1. This table is followed by a description of these findings by "class" of variable examined. Finally, a discussion of some of the consistencies and inconsistencies discovered in the research reviewed is presented at the conclusion of each category of variables (e.g. demographic).

## Demographic Factors

Rossenberg (1968) reports that the addicts he interviewed in Rozelle, New South Wales were "usually" reared in a "poor" economic environment, and were usually of above average intelligence. Similarly, Rose (1969) found that LSD users tended to be (although no significant differences

TABLE 1.--Substantive Findings[a]--Correlates of Drug Related Attitudes.

| Author | Sample | Drug Related Behavior | Correlates or Findings |
|---|---|---|---|
| Bogg et al., '69 | High School Students | Drug Use | Males > Females<br>Socio-economic class does not predict<br>G.P.A. results conflicting<br>Self Concept didn't differentiate<br>Users more "politically active" |
| Brehm and Back, '68 | College Students | Drug Use | Self Concept<br>Change orientation |
| Brunswick, '69 | New York adolescents | Drug Use | Ethnicity not related to self reported use<br>Ethnicity related to perceived use<br>Negro > White or Spanish |
| Doctor and Sieveking, '70 | College Students<br>Police<br>Addicts | Attitudes toward drug users | Social-Psychological etiology<br>Increased contact increases positive attitudes |
| Edison, '70 | Users and Non-users | Attitudes towards drugs and drug use | Social and political situations |
| Elles, '70 | College Students | Drug Use<br>Attitudes toward drugs | Undergraduates >Graduates<br>Graduate students more negative than undergraduates |
| Jones, '69 | "mostly" undergraduate males | LSD Users | "Value-goals"<br>Time perspective<br>Self Concept<br>Users politically apathetic |
| King, '70 | College Students | Attitudes toward drug usage | Frequency of use and contact<br>Perceived knowledge |
| Klein and Phillips, '68 | Lower and Middle Class males age 16-29 | Hard vs Soft drugs | Peer Pressure<br>Socio economic class |
| Levitt et al., '63 | Hospital Employees | Attitudes toward drug users | Contact (amount) |
| Pearlman, '68 | Graduating College Students | Drug Use | Sex does not predict<br>GPA does not predict<br>College major<br>Males >Females |
| Robbins et al., '70 | College Students | Attitudes toward drug use | Sex does not differentiate<br>Self Concept |
| Rossenberg, '68 | 50 addicts from New South Wales | Addiction | "poor environment"<br>Above average IQ<br>Attempted suicide |
| Suchman, '68 | University Students (west coast) | Frequency of drug use | Males >Females<br>High GPA < low GPA<br>Opposition to draft and Viet Nam war<br>"Hang loose ethic" |
| | | Attitudes toward drug use | Contact<br>"hang loose ethic"<br>Sex<br>Attitudes toward war |

[a]This table presents only those findings believed to be pertinent to the present study. Original documents should be consulted for results not presented here.

were presented) more intelligent by both self report and others judgement. Suchman (1968) indicates that when cumulative grade point average is considered as an index of academic behavior, drug use is more likely to occur among the poorer students. Fifteen per cent of those with a G.P.A. of 3.0 or higher reported using drugs, while 31% of those with less than a 2.5 G.P.A. reported drug use.

Suchman (1968) also indicated that, for his sample, males were more likely than females to smoke marijuana. He found that family income was not related to attitudes toward marijuana use, and that sex was significantly related to attitudes toward marijuana use, with males reporting significantly more favorable attitudes.

Klein and Phillips (1968) suggest that hard drug users (opium and opium derivatives) exist most frequently in deprived areas of the city, while soft drug users are typically middle class.

Pearlman (1968) offers some conflicting evidence on the use of certain demographic data (e.g. sex) as a predictor of drug use or drug related attitude. Data gathered on the Brooklyn College Campus revealed that "age, sex distribution, marital status, and home living" did in no way differentiate drug users from the main "senior group." Similarly, no difference was notable between users and the total senior population on the basis of scholastic performance.

Rand (1968) surveyed drug use patterns at Ithaca College and concluded that although drug use varied greatly among different majors, "within majors" the use of drugs did not vary significantly according to academic year. Rand indicated that male students used drugs significantly more often than females.

Brunswick (1969) studied adolescent attitudes in the Washington Height Health District in New York. No variance between ethnic groups was reported with respect to cannabus use, however, one-third of the Negro group said "some or most young people around here use heroin" while less than 8% of the "white or Spanish" groups responded that way. No ethnic distinctions were evident on the basis of self reported use.

Elles (1970) studied use and attitudes toward drugs and legal controls on the Caltech campus. Results suggest that undergraduates are more likely than graduate students, to use marijuana and LSD. Similarly, graduate students, more frequently than undergraduates, favor prohibiting the use and possession of marijuana.

Robbins et al. (1970) indicate that attitudinal positions within a drug use subgroup are essentially the same for males and females.

A Study of Attitudes and Actions of the Young People in Michigan (Bogg, Smith, and Russell, 1969) suggests that users and non-users of marijuana do not appear to differ

significantly in their plans for college (high school seniors were surveyed). In the schools analyzed, males were more likely to smoke marijuana than were females. Conflicting results were obtained regarding the relationship of grades and smoking, with marijuana smokers reporting higher grades in one of the schools and vice-versa in the other four. Marijuana smokers were more likely to report that their fathers had college degrees than were non-smokers. Socio-economic class and family size did not reveal any significant differences between marijuana users and non-users.

Dating patterns revealed that marijuana users were more likely to have dated prior to their fourteenth birthday, while non-smokers were more likely to report attaining the age of 15 at the time of their first date. Frequency of steady dating did not prove to be a statistically significant indicator of marijuana smoking. Marijuana users surveyed on the Michigan Study (1969) were less likely to report participation in school sponsored extra-curricular activities, than were non-suers. Similarly, marijuana smokers reported consistently less participation in religious activities.

Suchman, Rand, and Pearlman looked at frequency of drug use on college campuses. Suchman and Rand agree that males use drugs more frequently than females, while Pearlman suggests that sex does not differentiate. Suchman indicates

that sex does correlate with attitudes toward drug use while Robbins states that it does not. Rossenberg and Klein and Phillips agreed that socio-economic class was predictive of addiction patterns among college and inner city residents respectively. However, Bogg et al. state that socio-economic class was not predictive of drug use among high school students. Suchman and Pearlman also disagree on the relationship of G.P.A. and drug use among college students with Suchman stating that G.P.A. does correlate with drug use, while Pearlman says it does not.

In summary there are conflicting results presented in the literature regarding the relationship of demographic variables to drug related attitudes and behavior. Although it is probable that differential sampling proceedures and design have contributed to these inconsistancies it is postulated that failure to identify and specify Levels of attitude-behavior are a contributing factor to the seemingly confused results available.

## Socio-Psychological Factors

Doctor and Sieveking (1970) after employing a semantic differential scale to survey attitudes toward drug addiction, concluded that their respondents (police-men, non-users, narcotic addicts,and marijuana users) expressed the view that the crucial determinants of addiction were "socio-psychological (rather than medical,

physical, or hereditary)." In general, Doctor and Sieveking's subjects viewed the drug addict as "socially distant and interpersonally adversive, potentially harmful, frightening, untrustworthy, unpredictable, and somewhat repulsive." Users of marijuana, non-users and policemen agreed that long term psychiatric assistance was needed while addicts indicated that such assistance should be short term (rather than long term).

King (1970) found that users of marijuana tend to be more opposed to external control (i.e., university imposed regulations) and view marijuana as a specific agent for inducing tension relief and relaxation more frequently than do non-users.

Brehm and Back (1968) conclude that drug users more frequently demonstrate a dissatisfaction with self (as shown by discrepancy scores on their semantic differential scale and expressed insecurity) and consequently desire self modification more often than non-users.

Rossenberg (1968) indicates that 42% of the addicts he interviewed in New South Wales, Australia had made at least one attempt at suicide.

Suchman (1968) identifies a group of values and personality variable he calls the "Hang Loose Ethic," After surveying 600 "west coast" university students he suggests that "the more ones' behaviors, attitudes and personality conforms to the Hand Loose Ethic the more

likely one will be to approve of smoking marijuana." He indicates that drug users more frequently believe that "human lives are too important to be sacrificed for any form of government" than do non-users.

Davis and Munoz (1968) like Suchman (1968) feel that a specific group of values exist among drug users. Similar to Brehm and Back (1968) they suggest that a general willingness to experiment with and change ones self exists among the drug using "hippies" they identified.

Jones (1969) found significant differences between users and non-users of LSD in terms of value-goals, clarity of future plans, level of aspiration, and time perspective. Users tended to be less committed to "normal" goals and to live in the present. Although both users and non-users expressed similar levels of religious feeling, they differed dramatically in the degree of commitment to a formal or organized religion. Jones' findings of lesser self understanding among users are congruent with the results presented by Brehm and Back (1968). Similarly non-users, more frequently than users see themselves as more "in control of life."

Robbins et al. (1970) found that students who used illicit drugs tended to view themselves as more likely to feel "worthless, useless, and insecure than non-drug using students."

Bogg et al. (1969) in their study of Michigan youth discovered that feelings of "powerlessness" and "social-estrangement" did not significantly differentiate marijuana users from non-users.

With the exception of the Bogg et al. (1969) study, the research tends to agree that socio psychological characteristics such as Efficacy do correlate with drug related attitudes. Perhaps the fact that Bogg et al. employed a younger population (i.e. high school students) than did the other researchers, accounts for his conflicting results. It is also conceivable that specification of Level of attitude-behavior measured may provide more consistent results on specified socio-psychological variables such as Efficacy.

## Contact Factors

Doctor and Sieveking (1970) suggest that nonpunitive and tolerant attitudes toward addicts may correlate highly with amount of contact with drug users. They indicate that individuals who expressed the most lenient nonpunitive attitudes, probably had the greatest direct contact with addicted individuals. No effort was made to ascertain the quality of that contact (i.e., enjoyable or not enjoyable, forced or voluntary), but one might assume (Jordan, 1970) that such factors may be important correlates of attitude.

Levitt, Baganz,and Balachy (1963) concurred, noting that direct contact with addicts resulted in a greater lessening of cynical, rejecting, and punitive views than did indirect contact.

King (1970) indicated that contact with marijuana and marijuana users correlated highly and positively with attitudes toward marijuana usage.

## Knowledge Factors

King (1970) found that attitudes toward marijuana usage and users correlated positively with perceived knowledge of both physiological and psychological effects of the drug. This relationship held "somewhat more" strongly for the psychological than for the physiological effects.

## Other Factors

Doctor and Sieveking (1970) indicate that addicts and non-users were more inclined to feel that addicts should be protected rather than punished for mistakes (nonpunitive reaction) while policemen took a more punitive position. Marijuana users ascribed to a very lenient, (more so than either the addict or non-user) nonpunitive position. Edison (1970) suggests that most users (83%) feel that universities should take no position on drug usage while the majority of non-users (68%) believed that the university should take a "punitive position" on drugs. King (1970) and Bogg (1969) found similar results.

Political and social aspects of drug use were also examined by Edison (1970). He surveyed 135 drug users and 302 non-users and stated that "users" were strongly anti-war and held "dovish" views of what should be done in Viet Nam, while "non-users" were "more divided" on this issue. He concludes that social and political situations exert a "powerful influence" on drug use in young people. This conclusion does not appear warranted in light of the sampling proceedures and experimental design presented.

Suchman (1968) states that "On the political scene, drug use is much more likely to occur if the student is opposed to the Viet Nam war." Similarly drug users more frequently opposed military service (352) than did non-users (152).

Jones (1969) found that LSD users were politically allienated and fell near the apathetic end of the political involvement scale while non-users were highly committed to current societal values.

Conversely, Bogg et al. (1969) study of Michigan youth revealed that marijuana smokers were more likely to participate in political activities such as "underground newspapers" and "activist groups such as young Americans for Freedom and Catholic Peace Fellowships."

As might be expected Doctor and Sieveking (1970), King (1970), Suchman (1968), Rand (1967), and Robbins et al.

(1970) found that drug users were more permissive toward the legalization of marijuana than were non-users.

Many of the authors reviewed seem to agree that political and social factors do correlate with drug use and drug related attitudes. However, there are inconsistencies in the direction of these correlations. Jones suggests that the male college LSD users he sampled were "politically apathetic"when compared with non-users. Bogg et al. (Michigan youth), Edison ("users" and "non-users"), and Suchman (college students) indicate that drug users tend to be more "politically active" (Bogg, 1969) and more "anti-war" (Edison, 1970 and Suchman, 1968).

## Summary of Substantive Findings

When interpreting the apparent consistencies and inconsistencies in the drug related literature reviewed, it is necessary to realize that the comparability of the studies is seriously limited by the different populations, sampling techniques, instrumentation, and methodologies employed. However, review of the substantive findings reveals criticism closely paralleling that leveled at the scales used in the measurement of drug related attitudes. Specifically: little, if any, of the research employed Guttman's (1959) facetized design, thus being unable to differentially relate the predictor variables to different Levels of attitude-behavior. As a result, it is difficult

(if not impossible) to determine what Levels or sub-universes in the Guttman-Jordan paradigm were being measured. Conflicts, and in some instances contradictions, regarding determinants and/or correlates of drug related attitudes are readily evident in the literature. It is postulated that these contradictory findings result from unclear specification of the Level of attitude being measured as well as varying quality of design, different populations, and various sampling techniques.

Few of the research studies present an operational definition of attitude and most neglect a theoretical paradigm for relating determinants and/or predictors of attitudes toward drug users. Past studies of attitudes toward drug users have not (to this author's knowledge) been replicated, and most of the scales used and results presented, are based on a "one-shot" study. As a consequence, most of the data presented are not directly comparable. Often the conclusions drawn by researchers might be accounted for in several different ways due to failure to control for confounding variables such as sample bias. Frequently statements regarding external validity and generalizability exceed what is warrented by the sampling proceedures and experimental design employed.

Two variables identified in the review of literature indicating conflicting relationships with drug related attitudes and behavior, have been chosen to demonstrate the

differential relationship of given variables with specified Levels of attitude-behavior. These two variables are Efficacy and political activism. Political activism will be assessed by reported voting behavior during the 1968 presidential election and reported participation in political rallies. Efficacy will be assessed by employing an adaptation of Wolf's (1967) Life Situations scale. The specific substantive hypothesis to be tested are presented in Chapter III.

# CHAPTER III

## METHODOLOGY AND PROCEDURES

Although some substantive hypotheses are tested in this study, the primary emphasis is methodological. As a result, the primary emphasis of this chapter deals with methodology, specifically Guttman facet theory and techniques of scaling, and Jordan's adaptation of these techniques.

### Guttman Theory and Techniques of Attitude Scaling

The Attitude Behavior Scale: Drug Users (ABS:DU)[1] employes Guttman's recent contributions to attitude scaling and measurements, namely, facet design and nonmetric analysis and Jordan's adaptation and elaboration thereof. Excellent reviews of Guttman's earlier techniques (scalogram analysis or unidimensional scaling and multiple unidimensional scaling) are found in Guttman (1959), Stouffer (1950), Edwards (1957), Waisanen (1960), Jahoda and Warren (1966), Hamersma (1969), and Jordan (1970b). As a result, the current study will review only the

[1]Hereafter referred to as the ABS:DU.

multidimensional scaling (facet design and nonmetric analysis) employed in this study.

## Multidimensional Scaling

Guttman's multidimensional scaling, (facet design and nonmetric analysis) provides a systematic a priori method of item construction rather than relying on intuition or judges opinions. In Jordan's (1970b; 1971a) words:

> Facet theory (Guttman, 1959, 1961, 1970) specifies that the attitude universe represented by the item content can be substructured into semantic profiles which are systematically related according to the number of identical conceptual elements they hold in common. The substructuring of an attitude universe into profiles facilitates a sampling of items within each of the derived profiles, and also enables the prediction of relationships between various profiles of the attitude universe. This should provide a set of clearly defined profiles for cross-national, cross-cultural, and sub-cultural comparison.

Hamersma (1969) succinctly states that:

> What Guttman wants to achieve by facet design and analysis is to be able to construct a scale by a semantic, logical a priori technique and to be able to predict the statistical order structure which would result from empirical observation. What would happen then would be the reverse of what, in reality, factor analysis accomplishes. Factor analysis tries to make sense out of what already has been observed by a mathematical process of forming correlational clusters and then naming them, i.e., calling them factors. These factors are thus inferred a posteriori. As opposed to this approach, facet design, in essence, names the facets before one begins. This procedure is thus an a priori one.

A facet[1] is a factor or semantic unit. If these facets are viewed in terms of set theory (Guttman, 1965),

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[1] Definitions of this and other terms relative to facet analysis are presented in the Glossary (Appendix 1).

each facet is a set, containing elements or subsets. The elements are then ordered sub-units of a facet. In diagraming, facets are represented by capital letters, elements of a facet by corresponding small letters with numerical subscripts showing the position of the given element in order of elements.

Foa (1958) states that: "The determination of facets that are relevant to a given class of phenomena involves of necessity a process of selection that is largely intuitive in nature." Nevertheless, certain principles are available to guide the researcher in his selection of relevant facets. The principle of logical independence of the facets (Foa, 1958) suggests that every combination of the elements of selected facets describe a logically possible phenomenological category.

Guttman (1965) states that the facets identified for a particular project can be arranged in a "facet definition." This "facet definition" contains and arranges the facets (and their elements) so they read like a sentence. Guttman (1965) provides the following "facet definition" of intelligence:

> An act of a subject is intelligent to the (extent) to which it is classified by a (teacher) as (demonstrating) a correct perception of an unexhibited logical (aspect) of a (relation) intended by the tester, on the basis of another (exhibited) logical (aspect) of the relation that is correctly perceived by the subject (p. 168).

The concepts in parenthesis above are the relevant facets.

A more elaborate and refined process for arranging the various facets and their elements is the mapping sentence employed in this study. Figure 1 is an example of a mapping sentence.

Foa (1958) states that conceptual contiguity is a necessary condition for statistical dependence. Guttman and Schlesinger (1966) state that:

> . . . the relationship between items within the framework of facet design should be expected to have its counterpart in the empirically obtained correlation matrix, where the size of the correlation is related to similarity of facet profiles (p. 6).

Elsewhere Guttman (1959) states that:

> One cannot presume to predict the exact size of each correlation coefficient from knowledge only of the semantics of universe ABC but we do propose to predict a pattern or structure for the relative sizes of the statistical coefficients from purely semantic considerations (p. 324).

In other words, the contiguity principle states that the correlation between two variables is higher the more similar their facet structure and the intercorrelations should reveal a simplex ordering so that the maximum predictability of each level is attainable from its immediate neighbors. This predicted relationship has been obtained by Jordan (1970b), Williams (1970), Erb (1969), and Frechette (1970) on various attitude objects.

Guttman (1954-55) attacks the problem of order among variables with his radex theory. A radex, according to Guttman, is a set of variables that have a law of

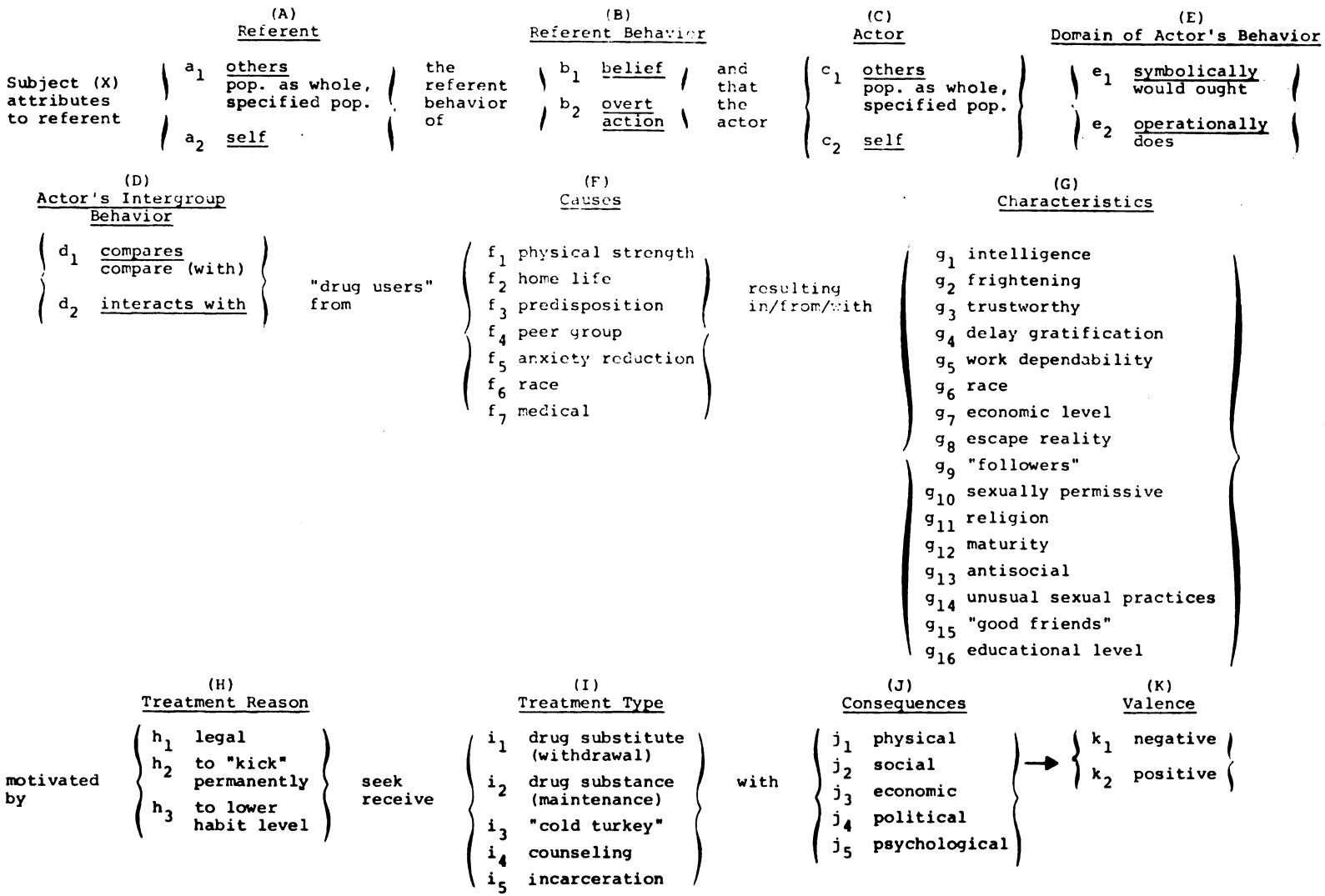


Figure 1.--A Mapping Sentence for the Facet Analysis of Joint[a] and Lateral[b] Struction of Attitudes Toward Drug Users.

[a]Facets A through E denote joint struction.

[b]Facets F through J denote lateral struction.

formation among their intercorrelations due simultaneously to differences in degree and differences in kind. The radex is a general law depicting that "some" formation should result. Guttman is concerned with two specific types of formations: (a) the circumplex, which is a circular order among variables representing a difference in kind instead of in degree of complexity, and (b) the simplex which represents sets of scores that have an implicit order among themselves from "least complex" to "most complex." A simplex was hypothesized to appear in the ABS:DU used in the present study. If such a simplex is obtained in the empirical results, the researcher can then be reasonably certain that his items are operating correctly and that the facets utilized were structured such that stable statistical relationships could be predicted.

## Instrumentation

Facet design has been employed to construct intelligence tests (Guttman, 1954), dyadic interaction scales (Foa, 1962), and social attitude scales (Hamersma, 1969; Jordan, 1968; and Guttman, 1959). The present study deals with social attitudes: specifically attitudes toward drug users. Guttman's four Level paradigm and Jordan's six Level expansion of this approach will be presented since they will be directly employed in the development of the ABS:DU.

## Guttman Four Level Theory

Guttman defines attitude as a "delimited totality of behavior with respect to something." In 1959, Guttman reanalyzed Bastide and van den Berghe's (1957) research on stereotypes, norms, and interracial behavior in Brazil. Guttman's re-analysis identified three necessary facets that might be combined according to definite procedures to determine the element composition of eight profiles of an attitude universe which would delimit the totality of behavior with respect to intergroup behavior. These three facts and their corresponding elements are shown in Table 2.

TABLE 2.--Guttman's Facets Used to Determine Component Structure[a] of an Attitude Universe.

| A | B | C |
|---|---|---|
| Subject; Behavior | Referent | Referent's Intergroup Behavior |
| $a_1$ belief | $b_1$ subject's group | $c_1$ comparative |
| $a_2$ overt action | $b_2$ subject himself | $c_2$ interactive |

[a]Joint struction is the term used and operationally defined as ordered sets of the 3 facets from low to high across all three facets simultaneously.

One element (small letters with numerical subscripts) from each and every facet (capital letters) must be represented in any given statement. These statements can be grouped into profiles of the attitude universe by multiplication

of the facets A x B x C, yielding a 2 x 2 x 2 combination of elements, or eight semantic profiles in all (i.e., [1] $a_1\ b_1\ c_1$, [2] $a_1\ b_1\ c_2$. . . [8] $a_2\ b_2\ c_2$.

Guttman (1959) labeled the first of the two elements of each facet shown in Table 2 (i.e., $a_1$, $b_1$, and $c_1$) as the "weaker." A particular attitude item, then, would be as strong as the number of "strong" (subscript 2) elements which appeared. Accordingly, an item can be distinguished semantically in terms of these three facets and an individual item could have none, one, two, or three strong elements (subscript 2). Thus four combinations are possible. Guttman stated that logically only four permutations of weak-strong elements exist because elements correctly ordered within facets, and facets correctly ordered with respect to one another reveal a semantic analysis of attitude items, according to n-dichotomous facets revealing N + 1 types of attitude items (Levels). Guttman called these types Levels (see Table 3).

TABLE 3.--Guttman Facet Profiles of Attitude Levels.

| Level | Subuniverse | Profile |
|---|---|---|
| 1 | Stereotype | $a_1\ b_1\ c_1$ |
| 2 | Norm | $a_1\ b_1\ c_2$ |
| 3 | Hypothetical Interaction | $a_1\ b_2\ c_2$ |
| 4 | Personal Interaction | $a_2\ b_2\ c_2$ |

An inherent order (a simplex one) exists among the Levels, with each Level having one more strong element than the preceding Level and one less strong element than the immediately following Level (contiguity hypothesis). Table 3 presents attitude-behaviors ranging from the Stereotypic Level to the Personal Action Level.

Although Guttman's rationale for forming permutations limits the number of permutations to four (n + 1 = 4, where n = number of facets) it is apparent that there are eight ways to arrive at four permutations. The four profiles or Levels presented in Table 3 were chosen because they make the "best" logical sense (i.e., some permutations are not logically consistent; Maierle, 1969).

The following definitions are adapted from Guttman's (1959) definitions of the four Levels employed in his analysis of racial attitudes.

1. Stereotypic: Belief of (subject) that his own group (excels--does not excel) in comparison with (attitude object) on (desirable traits).

2. Norm: Belief of (subject) that his own group (ought--ought not) interact with (attitude object) in (specified ways).

3. Hypothetical Interaction: Belief of (subject) that he himself (will--will not) interact with (attitude object) in (specified ways).

4. Personal Interaction: Overt action of (subject) himself (to--not to) interact with (attitude object) in (specified ways).

Hamersma (1970) illustrates this type of attitude item construction with the following examples from his racial attitude scale:

> The item: 'Would you marry a Negro?' belongs to Level 3--Hypothetical Interaction. Here the behavior of the subject is a belief ($a_1$) about how he ($b_2$) would interact ($c_2$) with a Negro. On the other hand the statement: 'I have dated a Negro' is a Level 4 type item--Personal Interaction. This depicts an overt action ($a_2$) of a white subject himself ($b_2$) to interact ($c_2$) with a Negro in this specific manner.

As previously mentioned, Guttman and Schlesinger's (1966) "principle of contiguity" requires that if items are written to correspond to the four Levels (see Table 3), the Levels closest to each other should be more similar and thus correlate more highly with one another than more distant Levels. In other words, items which are semantically close should also be statistically close (i.e., correlation between Levels should decrease in relation to the number of "steps" the two Levels are removed from one another).

Guttman (1954-55) calls this hypothesized relationship of Levels a "simplex" (i.e. each successive Level changes on only one facet so the profiles have a simplex ordering). Guttman defines a simplex as "sets of scores, that have an implicit order from least 'complex' to 'most complex.'" Table 4 presents a hypothetical correlation matrix of Level by Level correlations with a simplex structure.

TABLE 4.--Hypothetical Matrix of Level by Level Correlations Illustrating the Simplex Structure.

| Level | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1 | - | - | | |
| 2 | .60 | - | | |
| 3 | .51 | .62 | - | |
| 4 | .39 | .51 | .58 | - |

Note that one does not attempt to predict the magnitudes of each correlation coefficient. The simplex requirement does not necessitate identical mathematical differences among various correlations nor identical correlations between sets of adjacent Levels. In fact, slight reversals in the ascending or descending order are not considered a contradiction to the contiguity hypothesis, since sampling bias or other idiosyncracies in selection or administration might be the cause of such reversals. Although Guttman does not specify when "slight reversals" in the order become so great that the simplex requirement is no longer met, Jordan (1968) employed Kaiser's (1962) procedure to sort and rearrange all possible arrangements of adjacent pairs of correlation coefficients so as to generate the best empirically possible simplex approximation and assign a descriptive statistic, $Q^2$, to the original and rearranged matrices. $Q^2$ is a descriptive statistic with a range of 0.00 to

1.00. Hamersma (1969) states a value of at least .70 should optimally be used to accept a matrix of attitude Level correlations as having approximated a simplex and a $Q^2$ of .60 to be considered a minimal criteria. These figures were obtained by applying practices followed by Guttman and Jordan for ascertaining the "goodness of fit" of an obtained simplex (Hamersma, 1969). Jordan generated numerous hypothetical matrices with various simplex approximations and subjected them to Kaiser's procedures. He concluded that a $Q^2$ value of .60 provided a liberal test of the 6 reversal criteria established by the analysis, while a $Q^2$ value of .70 or greater provided a conservative basis for simplex approximation. Preliminary indications of recent work on the $Q^2$ distribution indicates that a $Q^2$ of .70 will conservatively meet the 6 reversal criteria established by Jordan.[2]

If facet theory has been employed to develop an attitude scale and the resulting correlation matrix of attitude Levels does not meet the criterion for a simplex, what accounts for such reversals? Guttman (1959) postulates two possible answers: (a) the statistical structure deduced from the semantic structure was not appropriate and/or (b) the semantic structure was faulty or incomplete

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[2]Personal discussion of Dr. Jordan with Dr. Grant at the University of Witswatersrand, Johannesburg, South Africa, May 11, 1971.

(i.e., the items were incorrectly or ambiguously assigned to Levels).

## Jordan's Six-Level Adaptation

Jordan (1968) proposed that the three facet, four Level paradigm developed by Guttman should be expanded. Accepting the facets that Guttman identified, Jordan expanded facet analysis (for attitude items dealing with intergroup situations) to include five facets, hence six Levels. Table 5 represents Jordan's more inclusive set of facets and their elements while Table 6 depicts the relationship between the Guttman four Level (3 facets) and the Jordan six Level (5 facets) approach.

### Joint Struction

Examination of Table 5 reveals that the product of Jordan's five (two element) facets results in 32 permutations[3] or possible profiles. Jordan (1968) states that not all permutations are logical due to semantic considerations. However, the selection of a "best" set of components (profiles) from the 32 possible was made partly as a matter of judgment. The six profiles were chosen as psychologically relevant, potentially capable of instrumentation, and possessing a specific relationship between themselves (a simplex one). They are presented in Table 7.

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[3]Permutations as employed here was first used by Guttman, 1959 and should not be confused with the statistical definition of permutations.

TABLE 5.--Jordan's Facets Used to Determine Joint[a] Struction of an Attitude Universe.

| A<br>Referent | B<br>Referent Behavior | C<br>Actor | D<br>Actor's Intergroup Behavior | E<br>Domain of Actors Behavior |
|---|---|---|---|---|
| $a_1$ others | $b_1$ belief | $c_1$ others | $d_1$ comparison | $e_1$ symbolic |
| $a_2$ self | $b_2$ overt action | $c_2$ self | $d_2$ interaction | $e_2$ operational |

[a]Joint struction is operationally defined as the ordered sets of the five facets from low to high (subscripts 1's are low) across all five facets simultaneously.

TABLE 6.--Comparison of Guttman and Jordan Facet Designations.

| | Facets in Jordan Adaptation | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | e |
| Jordan | Referent | Referent behavior | Actor | Actor's intergroup behavior | Domain of actor's behavior |
| | $a_1$ others | $b_1$ belief | $c_1$ others | $d_1$ comparison | $e_1$ symbolic |
| | $a_2$ self | $b_2$ overt action | $c_2$ self | $d_2$ interaction | $e_2$ operational |
| Guttman | --- | Subject's behavior | Referent | Referent's intergroup behavior | --- |
| | --- | $b_1$ belief | $c_1$ subject's group | $d_1$ comparative | --- |
| | --- | $b_2$ overt action | $c_2$ subject himself | $d_2$ interactive | --- |

TABLE 7.--Joint Level, Profile Composition,[a] and Labels for the Six Types of Attitude Struction Identified by Jordan.

| Subscale Type-level | Struction Profile | Descriptive Joint Term |
|---|---|---|
| 1 | $a_1\ b_1\ c_1\ d_1\ e_1$ | Societal Stereotype |
| 2 | $a_1\ b_1\ c_1\ d_2\ e_1$ | Societal Norm |
| 3 | $a_2\ b_1\ c_1\ d_2\ e_1$ | Personal Moral Evaluation |
| 4 | $a_2\ b_1\ c_2\ d_2\ e_1$ | Personal Hypothetical Action |
| 5 | $a_2\ b_2\ c_2\ d_2\ e_1$ | Personal Feeling |
| 6 | $a_2\ b_2\ c_2\ d_2\ e_2$ | Personal Action |

[a]See Table 8 and 9 for rationale by which these 6 profiles were chosen.

Maierle found that only 12 of these profiles (Table 8) were logically and semantically consistent. Table 9 shows Maierle's basis for elimination of the other 20 profiles and Table 10 presents the definitional statements of the 12 possible profiles. Note: Table 9 replaces the subscripts "1" and "2" shown in Table 8 with letters representing the elements names (e.g., 0 = others, b = believe, i = interact, p = operational). This permits the definitional statements shown in Table 10.

Maierle identified six sets of permutations which fit the restrictions on "semantic paths." Table 11 depicts the set of permutations corresponding to Jordan's (1968) paradigm, to be employed in this study. This semantic path (Table 11) corresponds to the underlined facet profiles in Table 10. The definitional statements facilitate the writing of appropriate attitude items for each Level member while the listing of profiles by facet change (Table 11) makes possible a clearer graphic representation of the successive changes from weak to strong elements (simplex).

Maierle (1969) also randomly varied the order of Level presentation of a Guttman facet type attitude scale and found that a better simplex approximation was obtained when the correlations were plotted according to theoretical relationships rather than order of administration; thus

TABLE 8.--Permutations of Five Two-element Facets.[a]

| Permutations | Facets and Subscripts | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | E |
| 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 1 | 1 | 1 | 2 | 1 |
| 3 | 2 | 1 | 1 | 1 | 1 |
| 4 | 2 | 1 | 1 | 2 | 1 |
| 5 | 1 | 1 | 2 | 1 | 1 |
| 6 | 1 | 1 | 2 | 2 | 1 |
| 7 | 2 | 1 | 2 | 1 | 1 |
| 8 | 2 | 1 | 2 | 2 | 1 |
| 9 | 1 | 2 | 1 | 1 | 1 |
| 10 | 1 | 2 | 1 | 2 | 1 |
| 11 | 2 | 2 | 1 | 1 | 1 |
| 12 | 2 | 2 | 1 | 2 | 1 |
| 13 | 1 | 2 | 2 | 1 | 1 |
| 14 | 1 | 2 | 2 | 2 | 1 |
| 15 | 2 | 2 | 2 | 1 | 1 |
| 16 | 2 | 2 | 2 | 2 | 1 |
| 17 | 1 | 1 | 1 | 1 | 2 |
| 18 | 1 | 1 | 1 | 2 | 2 |
| 19 | 2 | 1 | 1 | 1 | 2 |
| 20 | 2 | 1 | 1 | 2 | 2 |
| 21 | 1 | 1 | 2 | 1 | 2 |
| 22 | 1 | 1 | 2 | 2 | 2 |
| 23 | 2 | 1 | 2 | 1 | 2 |
| 24 | 2 | 1 | 2 | 2 | 2 |
| 25 | 1 | 2 | 1 | 1 | 2 |
| 26 | 1 | 2 | 1 | 2 | 2 |
| 27 | 2 | 2 | 1 | 1 | 2 |
| 28 | 2 | 2 | 1 | 2 | 2 |
| 29 | 1 | 2 | 2 | 1 | 2 |
| 30 | 1 | 2 | 2 | 2 | 2 |
| 31 | 2 | 2 | 2 | 1 | 2 |
| 32 | 2 | 2 | 2 | 2 | 2 |

[a]Subscript "1" indicates weak element; "2" indicates strong element.

TABLE 9.--Permutations of Five Two-element Facets[a] and Basis of Elimination.

| Permutations | | | Facets and Subscripts | | | | | Basis of Elimination[c] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No.[b] | In Table 10 | In Table 7 | A | B | C | D | E | | | | | |
| 1 | 1 | Level 1 | o | b | o | c | s | | | | | |
| 2 | 2 | Level 2 | o | b | o | i | s | | | | | |
| 3 | 3 | -- | i | b | o | c | s | | | | | |
| 4 | 4 | Level 3 | i | b | o | i | s | | | | | |
| 5 | 5 | -- | o | b | i | c | s | | | | | |
| 6 | 6 | -- | o | b | i | i | s | | | | | |
| 7 | 7 | -- | i | b | i | c | s | | | | | |
| 8 | 8 | Level 4 | i | b | i | i | s | | | | | |
| 9 | -- | -- | o | a | o | c | s | | 2 | | | |
| 10 | 9 | -- | o | a | o | i | s | | | | | |
| 11 | -- | -- | i | a | o | c | s | 1 | 2 | | | |
| 12 | -- | -- | i | a | o | i | s | 1 | | | | |
| 13 | -- | -- | o | a | i | c | s | 1 | 2 | | | |
| 14 | -- | -- | o | a | i | i | s | 1 | | | | |
| 15 | -- | -- | i | a | i | c | s | | 2 | | | |
| 16 | 10 | Level 5 | i | a | i | i | s | | | | | |
| 17 | -- | -- | o | b | o | c | p | | | 3 | 4 | |
| 18 | -- | -- | o | b | o | i | p | | | | 4 | |
| 19 | -- | -- | i | b | o | c | p | | | 3 | 4 | |
| 20 | -- | -- | i | b | o | i | p | | | | 4 | |
| 21 | -- | -- | o | b | i | c | p | | | 3 | 4 | |
| 22 | -- | -- | o | b | i | i | p | | | | 4 | |
| 23 | -- | -- | i | b | i | c | p | | | 3 | 4 | |
| 24 | -- | -- | i | b | i | i | p | | | | 4 | |
| 25 | -- | -- | o | a | o | c | p | | 2 | 3 | | |
| 26 | 11 | -- | o | a | o | i | p | | | | | |
| 27 | -- | -- | i | a | o | c | p | 1 | 2 | 3 | | |
| 28 | -- | -- | i | a | o | i | p | 1 | | | | |
| 29 | -- | -- | o | a | i | c | p | 1 | 2 | 3 | | |
| 30 | -- | -- | o | a | i | i | p | 1 | | | | |
| 31 | -- | -- | i | a | i | c | p | | 2 | 3 | | |
| 32 | 12 | Level 6 | i | a | i | i | p | | | | | |

[a]See Table 3 for facets.

[b]Numbering arbitrary, for identification only.

[c]Logical semantic analysis as follows: Basis 1: an "a" in facet B must be preceded and followed by identical elements, both "o" or both "i." Basis 2: a "c" in facet D cannot be preceded by an "a" in facet B. Basis 3: a "c" in facet D cannot be followed by a "p" in facet E. Basis 4: a "p" in facet E cannot be preceded by a "b" in facet B. See text for explanation.

TABLE 10.--Five-Facet Six Level System of Attitude-Behavior Verbalizations:[a] Levels, Facet Profiles, and Definitional Statements for Twelve Permutations.

| Level | Facet Profile[a] | No[b] | Definitional Statements[c] | Descriptive Name[d] |
|---|---|---|---|---|
| 1 | o b o c s<br>$a_1 b_1 c_1 d_1 e_1$ | 0 | Others believe others compare symbolically[e] | Societal Stereotype (group assigned group status)[e] |
| | i b o c s | | I believe others compare symbolically | Personally-assigned group status |
| 2 | o b o i s<br>$a_1 b_1 c_1 d_2 e_1$ | 1 | Others believe others interact symbolically[e] | Societal Norm[e] |
| | o b i c s | | Others believe I compare symbolically | Group-assigned personal status |
| | i b o i s<br>$a_2 b_1 c_1 d_2 e_1$ | | I believe others interact symbolically[e] | Personal Moral Evaluation[e] (perceived values) |
| | i b i c s | | I believe I compare symbolically | Self-concept (personally-assigned personal status) |
| 3 | | 2 | | |
| | o b i i s | | Others believe I interact symbolically | Proclaimed Laws (group expectations) |
| | o a o i s | | (Others act) others interact symbolically | Group identity (actual group feelings) |
| | i b i i s<br>$a_2 b_1 c_2 d_2 e_1$ | | I believe I interact symbolically[e] | Personal Hypothetical Action[e] |
| 4 | | 3 | | |
| | o a o i p | | (Others act) others interact operationally | Actual group behavior |
| 5 | i a i i s<br>$a_2 b_2 c_2 d_2 e_1$ | 4 | (I act) I interact symbolically[e] | Personal Feeling[e] |
| 6 | i a i i p<br>$a_2 b_2 c_2 d_2 e_2$ | 5 | (I act) I interact operationally[e] | Personal Action[e] |

[a] Cf. Tables 8 and 9.

[b] No.--number of strong elements.

[c] Words in parentheses are part of redundant but consistent statements.

[d] Alternate names in parentheses indicate relationships of various level members.

[e] Permutations used in the ABS-MR.

TABLE 11.--Semantic Path "C" for a Five-Facet Attitude Universe.[a]

| Level | Profile by Def. State. | Profile by Facet Change | Descriptive Names |
|---|---|---|---|
| | A B C D E | E B C A D | |
| 1 | o b o c s | s b o o c | Societal stereotype |
| 2 | o b o i s | s b o o i | Societal norm |
| 3 | i b o i s | s b o i i | Personal moral evaluation |
| 4 | i b i i s | s b i i i | Personal hypothetical action |
| 5 | i a i i p | p a i i i | Personal action |

[a]The set of permutations comprised in this semantic path are those according to which the ABS-DU scale was constructed. Table 7 presents the same set of permutations, with each facet assigned a subscript 1 (weak element) or 2 (strong element).

lending further support to the theoretical assumptions underlying Jordan's five facet paradigm.

In relation to the present study of attitudes toward drug users (ABS:DU) the following definitions of Jordan's six Level paradigm (Table 7) were employed:

1. Societal stereotype--what others believe about drug users as compared to what they believe about non-drug users;
2. Societal Norm--others generally believe the following about interacting with drug users;
3. Personal Moral Evaluation--in respect to drug users do you yourself believe that others believe it is usually right or usually wrong that the following occur;
4. Personal Hypothetical Action--in respect to drug users would you yourself;
5. Personal Feeling--how do you actually feel toward drug users; and
6. Personal Action--actual experiences or contacts with drug users.

Lateral Struction

Thus far only joint struction (subject-object relationship) has been discussed, defined as "the ordered sets of the five facets (of Table 5) from low to high (on personal involvement) across all five facets

simultaneously" (Jordan, 1968). Lateral struction deals with the content of the item and is dependent upon a specific situation and attitude object.

Hamersma (1969) and Jordan (1969) were one of the first to create an instrument based on Guttman facet theory, in which the content of each attitude item was repeated across all six Levels or profiles. The only difference from Level to Level then being the alternation of the specified item content to fit the structure (joint struction) of the different Levels. This method affords easier assessment of the item content. Item content will be held constant across Levels for the construction of the ABS:DU.

Figure 1 presents the mapping sentence employed in this study and clearly identifies the joint (facets A through E) and lateral (facets F through J) struction facets (see page 48).

## Lateral Struction Employed in ABS:DU

The lateral struction or content of the items used in the ABS:DU scale were gathered from the research available on drug users, as well as personal interviews with drug users, therapists, and law enforcement agencies. The five content facets specified in Figure 1 (i.e., facets F, G, H, I, and J) were repeatedly identified as pertinent components (facets) of attitude toward drug users. These five facets include: causes, characteristics, treatment reason, treatment type, and consequences.

The specific content for items used in each of the five attitude content areas were taken from various sources, including previous research, personal interviews with addicts and other specific interest groups, books on attitudes, clinical judgments of individuals who have experience with drug users, and past attitude scales. Five to ten items were constructed for each content area (25 to 50 items per Level). When these items were carried across the six Levels, 240 questions resulted (see Table 12).

Table 12 provides an example of potential item content and illustrates the six Level structure (joint struction) employed.

The 240 item attitude-behavior scale (plus items tapping potential predictor variables and/or correlates of attitude-behavior toward drug users) was administered to specific interest groups (deliniated later in Chapter III) and inter-item analysis was undertaken. The MDSTAT computer program (Ruble and Rafter, 1966) at Michigan State University was used to produce inter-item and item-to-total correlation matrices. Optimally high item-to-total correlations (with Levels) are desired (Anastasi, 1968) while Level to Level correlations should scale as hypothesized (i.e. form a simplex). Items chosen for inclusion in the final scale were thus selected.

TABLE 12.--Potential Item for Inclusion in the ABS:DU, Illustrating the Six Level Structure Including Directions and Foils.

| | | |
|---|---|---|
| Level 1 | Directions: | Others believe the following things about illegal drug users as compared to non-drug users. |
| | Item: | Others believe drug users can be trusted (1) less than others, (2) same as others, (3) more than others. |
| Level 2 | Directions: | Most people generally believe the following about interacting with illegal drug users. |
| | Item: | People generally believe that others would find that drug users can be trusted: (1) less than others; (2) same as others, (3) more than others. |
| Level 3 | Directions: | In respect to illegal drug users, what do you, yourself believe others think is right or wrong. |
| | Item: | For others to expect drug users to be trustworthy is: (1) usually wrong, (2) undecided, (3) usually right. |
| Level 4 | Directions: | In respect to illegal drug users would you, yourself. |
| | Item: | I believe I would trust drug users: (1) disagree, (2) uncertain, (3) agree. |
| Level 5 | Directions: | How do you feel toward illegal drug users: |
| | Item: | I feel I can trust drug users: (1) disagree, (2) uncertain, (3) agree. |
| Level 6 | Directions: | Experiences or contacts with drug users: |
| | Item: | I have trusted drug users: (1) No, (2) Uncertain, (3) Yes. |

## Intensity Function

Previous scales constructed, according to Jordan's six Level adaption of Guttman facet theory (Jordan, ABS:MR, 1970b, 1971a; Hamersma, ABS:BW/WN, 1969; and Jordan, ABS:ABE, 1970b) employed an intensity function to determine how strongly the respondent felt about each answer. As Suchman (1950) has suggested the intensity of attitude was ascertained by asking the question "How sure are you of this answer?", with the foils "not sure," "Fairly sure" and "sure" being offered at Level 1 through 5. At Level 6 a variation of the procedure was employed to determine whether a reported experienced with the "specified persons" was "unpleasant," "in between," or "pleasant."

The intensity function was employed for two reasons: (a) to increase reliability, and (b) to provide a fixed point of reference, or a zero point to dichotomize favorable from non-favorable responses (Suchman, 1950; Guttman and Foa, 1951). Past research with the Attitude Behavior Scales have suggested that the location of a cutting point (i.e., favorable and non-favorable) has been of little practical value since most comparisons are between groups and relative differences are considered most frequently. It is also questionable if the intensity function can be successfully employed with multidimensional scales to provide a fixed point of reference.

Also recent work by Jordan (1970b) indicates that employment of the intensity function provides a minimal increase in reliability. This conclusion was reached after comparing Hoyt (1967) reliability estimates for content only, and content and intensity functions on the Attitude Behavior Scale: Mental Retardation (ABS:MR) data obtained in seven nations (Jordan, 1970b). Since use of the intensity function after each content item doubles the length of the scale, with a minimal increase in reliability, and since group comparisons (which do not require a cut off score) are most frequently made, coupled with the fact that the intensity function was designed for use with unidimensional rather than multidimensional scales, this particular study did not employ items designed to measure intensity. Instead more content items were employed in the scale, increasing both validity and reliability (Anastasi, 1968) and decreasing the length of time required for administration.

## Major Variables of the Study

Jordan (1968) identified four classes of variables that seem to be important determinants, correlates, and/or predictors of attitudes: (a) demographic (e.g., age, sex, and education), (b) sociopsychological (e.g., value orientation), (c) contact (e.g., amount and type), and (d) knowledge about the attitude object. The present review of the literature regarding drug related attitudes

revealed three of the four categories of variables to be relevant (knowledge was not well documented and is difficult to instrument). In addition, political activism seems to recur throughout the literature as another potential predictor and/or correlate of drug related attitudes. However, the conclusions drawn about the relationship of this variable are not always consistent (see Chapter II). A "Personal Data Questionnaire" was designed to operationalize the variables suggested by the literature review. This questionnaire was administered at the same time as the ABS:DU, although hypotheses to test the relationship of all of these variables were not generated.

## Demographic Variables

The following demographic items were included as possible correlates and/or predictors of attitudes toward drug users in each of the five content areas: (a) age, (b) sex, (c) amount of education, (d) marital status, (3) religious preference, and (f) political affiliation.

## Contact with the Attitude Object (Drug Users)

The contact variable included items to determine: (a) the kinds of experiences the respondent has had with drugs and with drug users, (b) the amount of contact with

drug users, (c) ease of avoidance of contact, (d) material gain from contact and, (e) enjoyment of contact.

Socio Psychological Variables

The change proneness of the person was assessed by items dealing with: (a) self change, (b) child rearing methods, (c) birth control, (d) automation, and (e) rule adherance. Religious preferences as well as degree of conformity to religious rules and regulations and importance of religion to the respondent were ascertained. A Life Situations or Efficacy (adopted from Wolf, 1967) scale was included to determine the respondent's view of the relationship between man and his environment. Questions designed to measure these variables were adopted from those employed by Jordan (1968) and Hamersma (1969).

Political Activism

Political activism was measured by self reported participation in political rallies, subscription to "underground"newspapers, and participation in political and social demonstrations.

## Research Population

Interest categories that have a specified relationship with drug users and which were suspected of possessing various attitudes toward drug users were used in this study.

The ABS:DU was administered to the following categories: hard drug users (included here were those incarcerated in prison and those on methadone maintenance), police officers (included because of their close contact and personal experience with addicts), college students, high school students, and members of the congregation of a large Kansas fundamentalist parish. The research design specified sampling at least 50 individuals in each of these five categories. These samples were drawn from groups in Michigan, Kansas, Kentucky, and California.

Since this was primarily a methodological study, emphasis was on the measurement and methodological aspects of the scaling procedures used rather than on the representativeness of the sample and resulting generalizability from substantive hypothesis. For this reason, sample selection procedures will be as inclusive as possible.

Data collection was by group administration whenever possible. A standardized set of procedures was developed for the administration of all instruments (ABS:DU and Personal Data Questionnaire). All interviewers were instructed beforehand with the procedures to be followed. In all instances the ABS:DU was administered before the Personal Data Questionnaire.

## Validity

Content validity will be assumed since facet theory was employed (insuring that facets of the attitude universe were sampled) and since the content was evolved through consultation with drug users, drug therapists, and law enforcement agencies, as well as a comprehensive review of the literature.

Construct validity was ascertained by evaluation of the postulated simplex, i.e., there will be a positive (correlational) relationship between the conceptual theory (facet design) and the statistical structure; the size of the correlation coefficient will increase with the increase in number of related contiguous facets in the variables.

Concurrent and predictive validity was tested by the "known group" method. It is proposed that certain of the five categories identified do possess "known" attitude-behaviors toward drug users at the Actual Action-Level 6, identified in the Guttman-Jordan paradigm. It is suggested that these attitudes fall along a continuum from unfavorable to favorable toward drug users. The validity of this assumption (i.e., Level 6 attitude-behavior) can be ascertained via the self reported behavior obtained in the personal data questionnaire. Also external criteria apply to those categories where known drug use is evident. If the externally observed and self reported action of these categories is predictable from the Level 6

attitude-behavior measured by the ABS:DU predictive validity will be supported. Since the attitude-behavior of the categories identified is not really known at the other five Levels (and no criterion measure other than the ABS:DU is employed at this time) no predictive validity checks can be made at the other five Levels.

The five known categories chosen are: drug users, police, high school students, college students, and members of a fundamentalist Kansas parish. These categories were chosen because of their "known attitude-behavior" toward drug users at Level 6 of the Guttman-Jordan paradigm. The specified fundamentalist religious sect to which the Kansas parish belongs has published, and their ministers present, obviously unfavorable statements toward drug use and drug users. This is "known" Level 6 behavior.

Police officers, by nature of their employment (arresting and incarcerating drug users) present Level 6 behaviors that are unfavorable toward drug users. Drug users themselves (incarcerated or on methadone maintenance) have exhibited relatively favorable Level 6 behavior toward drug users since they form their peer group, have been trusted as buyer and sellers, and generally form the subculture to which they subscribe. The Level 6 behavior of college students and high school students provides more of an empirical question than a known quantity. However, both the popular and academic press suggest that college and

high school students fall more toward the favorable end of the continuum than either police or fundamentalist middle class religious sects. The "known" position of these five categories (at Level 6) is shown in Table 13. The relative position of these five categories at Levels 1 through 5 is not known and their positions in Table 13 are subject to empirical study beyond the scope of this research. However, a possible theoretical framework for the rank order of the five categories at Levels 1 through 5 is presented herein (Table 13).

Drug users feel pursecuted and are most likely to see others (Levels 1 and 2) as exhibiting unfavorable attitude-behaviors toward drug users. College and high school students are likely to feel others are unfavorable toward drug users (Levels 1 and 2), but not as unfavorable as the drug user himself. The Kansas parish, due to their avowed negative attitudes toward drug users, are less likely to see others as being as negative as the other four groups. Police, by nature of their work are postulated to be opposed to drug users (i.e. to say it is wrong). Similarily, the Kansas parish (by nature of religion) are postulated to be unfavorable at the moral Level (i.e. 3) toward drug users. It is proposed however that occupation (in the case of police) is a more potent force than religion, and therefore police will rank order as most unfavorable at Level 3, followed by the fundamentalist

TABLE 13.--Hypothesized Rank Order of Specified Categories on the Unfavorable to Favorable Continuum of Attitude-Behavior Toward Drug Users at Each Level of the ABS:DU.

| Subscale Type-Level | Attitude-Behavior Toward Drug Users as Identified by ABS:DU: Unfavorable | Favorable |
|---|---|---|
| Level 1 Stereotypic | D P C H K | |
| Level 2 Normative | D P C H K | |
| Level 3 Moral | P | K D H C |
| Level 4 Hypothetical | K | P H C D |
| Level 5 Actual Feeling | K | P C H D |
| Level 6 Actual Action | K | P CH D |

Letters within the table refer to "known" categories:
D-drug users
P-police
C-college students
H-high school students
K-Kansas parishoners

religion and drug users themselves. Drug users are expected to fall as shown in Table 13. Due to personal involvement they are not as morally opposed to drug use as are the police or a fundamentalist parish members. Nevertheless they are attuned to the moral position avowed by other factions of society.

High school and college students have been described by both the popular and academic press as holding liberal moral views towards recent social changes such as increased drug use.

At the Hypothetical Action and Actual Feeling Levels (4 and 5) it is postulated that the fundamentalist Kansas parish[1] will express the most unfavorable attitude-behavior toward drug users (of the groups sampled) feeling they personally are unlikely to act positively toward drug users. Police, high school, and college students are expected to rank order as shown in Table 13 on the unfavorable to favorable continuum toward drug users. Police are believed to personally feel they would be less likely to behave positively than the more liberal high school and college students.

At Levels 4 and 5 drug users are expected to be the most favorable (of the groups sampled) toward drug

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[1]It is postulated that these types of fundamentalist groups strive to reduce cognative dissonance by making their hypothetical action and actual feelings correspond.

users due to the personal experiences and feelings involved in the subculture of drug users.

## Reliability

Reliability estimates for the 6 Levels were obtained by the Hoyt (1941, p. 153-160) method described by Winer (1962). This method employs analysis of variance to produce a reliability coefficient equivalent to the Kuder-Richardson measure of internal consistency at each of the six Levels of attitude measured.

## Major Hypothesis of the Study

Since the major emphasis of this study is methodological, most of the analysis deal with measurement properties and the use of facet design and analysis. However, both substantive and theoretical hypotheses are examined. The substantive hypotheses are illustrative, and deal with certain of the independent variables identified in Chapter II.

Illustrative substantive hypotheses also test the proposed rank order (at Level 6) of the identified categories using the ABS:DU scores as dependent variables. These postulated positions along the unfavorable-favorable attitude toward drug users continuum are presented by Levels in Table 13. The postulated rank order (of Levels 1 through 5) is based on the authors clinical judgment and consultation with therapists and psychologists.

The other substantive hypotheses to be tested deal with the relationship of certain variables identified in the literature review of Chapter II and scores obtained on the ABS:DU. Specifically, the hypotheses deal with the relationship of Efficacy and political activism to specified Levels of the ABS:DU scale shown in Table 14. Jordan (1970a) has demonstrated that Levels of attitude-behavior toward mental retardation do correlate differentially with Efficacy (as measured by the adapted scale created by Wolf, 1967). Similarly Hamersma (1969) has demonstrated that Levels of attitude-behavior toward the opposite race correlate differentially with Efficacy. If such a relationship is also found to exist on the ABS:DU, support will be given to the possibility that Efficacy may have a specific relationship with the Levels identified in the Guttman-Jordan paradigm, when applied to personal attitude objects. Although examination of this particular question is beyond the scope of this study, it is hypothesized that attitude-behavior toward drug users at specified Levels will also correlate differentially with Efficacy as measured by the adapted Wolf scale. The specific rationale for the hypothesized relationship (i.e. positive or negative) will be presented with each hypothesis.

The rationale for the hypothesized relationship between political activism and attitude-behavior toward

TABLE 14.--Hypothesized Direction of Correlations Between Efficacy and Political Activism and the Six Levels of the ABS:DU.

| Subscale Type-Level | Hypothesized Correlation with Specified Variables[a] | |
|---|---|---|
| | Efficacy | Political Activism |
| Level 1 | N | N |
| Level 2 | N | N |
| Level 3 | P | P |
| Level 4 | P | P |
| Level 5 | P | P |
| Level 6 | P | P |

[a]N=negative correlation
P=positive correlation

drug users is also presented with each hypothesis. The political activism variable was arbitrarily chosen for inclusion as an illustrative substantive hypothesis from those variables with an apparently confused relationship with drug related attitudes. Again, the hypothesized relationships are based on the authors clinical judgment, review of the literature, and consultation with a psychologist. No attempt will be made to exhaustively study political activism. For this study, the political activism variable will be measured by self reported voting behavior in the 1968 presidential election and by self reported participation in political demonstrations.

Theoretical Hypotheses

H-1: The six Levels of the ABS:DU will form a simplex for each of the criterion groups. The obtained $Q^2$ values for each group shall equal or exceed .70.

H-2: The criterion categories will rank order at Level 6, as hypothesized in Table 13.

Substantive Hypotheses

H-3: Efficacy will correlate positively with attitude-behavior toward drug users as measured at Level 6 of the ABS:DU for the samples identified.

Rationale

Individuals who feel in control of their environment will feel less threatened by drug users and will be more likely to have progressed educationally, occupationally,

and emotionally to positions where experiences with drug users have been favorable.

H-4: Efficacy will correlate positively with attitude-behavior toward drug users as measured at Level 5 of the ABS:DU for the samples identified.

Rationale

Individuals who feel in control of their environment will be more likely to feel favorable towards groups dissimilar from themselves since they are less likely to be threatened by them.

H-5: Efficacy will correlate positively with attitude-behavior toward drug users as measured by Level 4 of the ABS:DU for the samples identified.

Rationale

Those who score high on Efficacy will feel capable of handling new situations and will be more likely to feel they would be able to engage in behavior with others who are different (e.g. drug users).

H-6: Efficacy will correlate positively with attitude-behavior toward drug users as measured by Level 3 of the ABS:DU for the samples identified.

Rationale

Those who feel high control over their environment will be more self confident and feel less need to be morally devaluating of others who are different.

H-7: Efficacy will correlate negatively with attitude-behavior toward drug users as measured at Level 2 of the ABS:DU for the samples identified.

Rationale

Those who score high on Efficacy will be more open and receptive to others views and will have observed that others would find interaction with drug users undesirable.

H-8: Efficacy will correlate negatively with attitude-behavior toward drug users as measured at Level 2 of the ABS:DU for the samples identified.

Rationale

Those who score high on Efficacy will have observed that others are threatened by drug users, and that the stereotypic views of society are unfavorable.

H-9: Political activism will correlate negatively with attitudes-behavior toward drug users as measured at Level 1 of the ABS:DU for the samples identified.

Rationale

The politically active individual is likely to see others as politically inactive and threatened by people like drug users who engage in socially unacceptable behavior.

H-10: Political activism will correlate negatively with attitude-behavior toward drug users as measured at Level 2 of the ABS:DU for the samples identified.

Rationale

The politically active person is more likely to be well read and informed about matters of current concern. As a result the politically active will be more likely to have seen the normative way of dealing with drug users as unfavorable.

H-11: Political activism will correlate positively with attitude-behavior toward drug users as measured at Level 3 of the ABS:DU for the samples identified.

Rationale

The politically active person is likely to believe that his vote counts and thus, that he is able to govern his destiny. As a result he will feel less need to devalue others on a moral basis because of his positive self concept.

H-12: Political activism will correlate positively with attitude-behavior toward drug users as measured at Level 4 of the ABS:DU for the samples identified.

Rationale

The politically active person is likely to believe that his vote counts and thus, that he is able to have a bearing on his destiny and be capable of handling new situations. As a result he would likely believe that hypothetical interaction with others such as drug users would be positive.

H-13: Political activism will correlate positively with attitude-behavior toward drug users as measured at Level 5 of the ABS:DU for the samples identified.

Rationale

The politically active person is more likely to feel that his voting affects his destiny and that of others. Consequently he is also likely to feel positive about unknown quantities such as drug users.

H-14: Political activism will correlate positively with attitude-behavior toward drug users as measured at Level 6 of the ABS:DU for the samples identified.

Rationale

The politically active person is more likely to feel that his vote and his behavior affects his life. The politically active is also likely to have sought out new experiences and acquantances to enlighten his voting decisions. Due to his positive self concept he is likely to have perceived his experiences with the attitude object (drug users) as favorable.

# CHAPTER IV

# ANALYSIS OF THE DATA

The basic intent of this research was the establishment of an attitude-behavior toward drug users scale, employing facet theory. As a result, the primary emphasis in this chapter is on item analysis, simplex approximation, validity, and reliability. Originally, 40 content items were constructed and carried across the six Levels (i.e. Stereotypic through Actual Action) resulting in 240 items. Through item analysis 20 of these items were selected for the final[1] composite scale which can be employed in further research. Certain illustrative substantive hypotheses were also tested and their analysis is also described.

## Research Population

The entire 240 item scale (ABS:DU) plus a 40 item personal data questionnaire was administered to all of the groups described below (depicted graphically in Table 15). In order to insure the anonymity of subjects and institutions participating all groups are described in geographic terms. The actual participants are described in more detail. For analysis purposes the respondents, are divided into five

[1] The authors of the scale will continue further work on the scale and users of the ABS:DU should consult them regarding developments.

TABLE 15.--Research Populations Employed.

| Category | Group Designation | Group No. | N[a] | Males | Female | Type of Response |
|---|---|---|---|---|---|---|
| A Incarcerated Inmates | Prison in Detroit Area | 1 | 36 | 28 | 8 | On Q'aire |
| | Prison in South Central Mich. | 2 | 28 | 28 | 0 | On Q'aire |
| | Prison in South Central Mich. | 3 | 42 | 42 | 0 | On Q'aire |
| B Police | Urban Michigan Police | 1 | 27 | 25 | 2 | IBM |
| | Urban California Narcotics Officers | 2 | 33 | 23 | 8 | IBM |
| | Urban California Patrol Officers | 3 | 33 | 31 | 2 | IBM |
| C Fundamentalist Religious Group | Kansas Parish | 1 | 87 | 40 | 47 | On Q'aire |
| D High School Students | Detroit Area High School | 1 | 48 | 17 | 29 | IBM |
| | Lansing Area High School | 2 | 65 | 21 | 41 | IBM |
| | Rural Southern Michigan High School | 3 | 44 | 15 | 29 | IBM |
| | Kansas High School | 4 | 52 | 18 | 34 | IBM |
| E College Students | Michigan State University | 1 | 16 | 5 | 11 | IBM |
| | A Southern Michigan College | 2 | 23 | 10 | 12 | IBM |
| | An Urban Community College | 3 | 45 | 27 | 18 | IBM |
| F Treatment Addicts | Lexington Addicts | 1 | 40 | 26 | 11 | IBM |
| | California Cold Turkey Addicts | 2 | 21 | 10 | 11 | On Q'aire |
| | Detroit Area Methadone Patients | 3 | 26 | 20 | 5 | On Q'aire |

[a]Note that male and female sums do not always equal total N due to failure of some subjects to respond to sex variable.

main categories, A through E,shown in Table 15. Each category is then divided into responding groups (i.e., 1, 2 etc.). This termonology is depicted in Table 15 and will be employed throughout Chapter IV and V.

Category A consists of inmates from three Michigan prisons. Group 1 inmates (28 males and 8 females) were arrested on drug related charges (e.g. possession, use, sale, as well as criminal offences such as breaking and entering) and were identified upon screening intake (by medical doctors) as "addicts." Approximately one-third of this group had been sentenced and the other two-thirds (approximate) were incarcerated while awaiting trial. All of the females and 24 of the males were Blacks. The 28 males in group 2 were arrested on drug or drug related charges and were identified as addicts in the same manner as group 1. Here again, approximately two-thirds were awaiting sentence while one-third were serving time. Approximately 50 per cent of this group were Blacks. Participants in both groups 1 and 2 of category A constituted a comprehensive sample (i.e., all incarcerated drug users in jail on the day of administration) however, all participation was on a voluntary basis. Only four of those inmates identified in groups 1 and 2 failed to complete the scales. Category A,group 3,subjects consists of 45 males incarcerated in a Federal Prison N.A.R.A., II (Narcotic Addiction Rehabilitation Act, 1964) rehabilitation program. All these subjects are confirmed "addicts" and

had been in the program from 2 weeks to 9 months at the time of administration (approximately 70 per cent of this group were Blacks). Again a comprehensive sample was employed and all inmates in the specified NARA program were asked to take the scale. None of this group refused to do so.

Category B consists of police officers from both Michigan and California. The group 1, category B, officers were stationed in an urban Michigan penitentiary where "drug addicts" were frequently incarcerated. A total of 60 scales were handed out at morning role call, however, only 27 of these scales were returned. Due to the anonimity of respondents, no follow-up procedures (with the exception of the moral persuasion wielded by their inspector) were employed to increase the sample size. It was also impossible to determine the racial balance in this group.

Group 2, category B, consists of 23 males and 8 females making up a "special narcotics bureau" in a large California city. These subjects were directed to take the scale by their commanding officer. Similarly, group 3, category B, was made up of regular "patrol officers" from the same California Police Department. Here co-operation was voluntary and 33 of the approximately 50 officers contacted, returned completed questionnaires (31 males and 2 females). The racial balance of this

group is unknown since the author did not administer the scale to this group.

Category C consisted of the members of a fundamentalist religious sect located in an urban Kansas setting. Eighty-seven members of this congregation (40 males, 47 females) returned usable questionnaires, at the request of their pastor (approximately 100 were distributed). The church dogma of this group includes clearly anti-drug statements (ethnicity of this group is unknown).

Category D is made-up of 4 high school groups. Group 1 consists of 48 juniors (17 males, 29 females) attending two basic Biology courses in a suburban Detroit district. This type "A" (2200-2400) district is typically middle class and no Black students were present in this group. All students in both classes agreed to participate.

Group 2, category D, included 65 seniors (21 males, 41 females) from an urban, central Michigan High School (class "A"). These students were enrolled in a driver education class and approximately 5 of those present at the time of administration did not complete the questionnaire (4 due to stated preference not to take such an instrument and 1 because of time scheduling problems). Again the district is typically white middle class.

Two rural southern Michigan high school classes (junior level economics) constitute group 3. All of the 15 males and 29 females present agreed to take the

instrument. These students are in a "class B" (550 to 1,100) school which draws heavily on a white rural population. No Blacks were included in this sample.

Group 4, category D, is made-up of 52 seniors from an urban Kansas high school enrolling approximately 1,500 students. These students were enrolled in two senior English classes and all students present participated. The racial balance of this group is unknown.

Group 1, category E, (college students) includes 16, Masters level, graduate students from Michigan State University. These students were enrolled in a graduate counseling seminar, and all those present agreed to complete the questionnaire. No Blacks were represented in this group.

Group 2, category E, contains 10 males and 12 females (1 respondent did not indicate sex) enrolled in a private, southern Michigan Liberal Arts College. A sophmore sociology class of approximately 60 was asked to take the questionnaire and 23 turned in usable results. The time allotted for the questionnaire administration was insufficient and those who did complete it did so on their own time and turned in their answers at a later date.

Group 3, category E, consisted of 45 students enrolled in two summer school freshman English classes at an urban community college in eastern Michigan. All 27 males and 18 females present completed the questionnaire.

Group 1, category F,includes 40 patients at the National Research Center in Lexington, Kentucky. All patients at this center are NARA I or NARA III clients. All are admitted drug users. Those who agreed to take the scale, did so on a voluntary basis. Approximately 50 per cent of those who took the scale (26 men and 11 women) were Blacks.

Group 2, category F,includes 21 "cold turkey" addicts from a self help, in residence program in an urban California setting. Para professional guidance is provided by two "ex-addicts."

Group 3, category F,consists of 26 outpatient methadone maintenance clients from a Detroit area hospital. All respondents in this category volunteered to their counselors request. This group consists of 20 males and 5 females.

All scales were group administered according to the instructions given in Appendix 2. The author administered all groups except the California police, (category B, group 2), the Kansas parish (category C), Kansas high school (category D, group 4), and the Lexington patients (category F, group 1). The other groups were administered by professional contacts in the distant geographic locations (i.e. California and Kansas). In all cases the scales were group administered according to the directions in Appendix 2.

In most cases respondents used IBM answer sheets. However, in instances where respondents were unlikely to have had experience with IBM type answer sheets, the instructions were to circle their answers or the questionnaire booklet (Appendix 2). All data were coded and punched according to the code book shown in Appendix 3.

In summary, there are 6 categories and 17 groups (Kansas Parish is counted as both a category and a group) to which various statistical procedures were applied to obtain:

1. Level to Level correlations and $Q^2$ evaluations for each group, each category, and total,
2. Hoyt reliability coefficients were obtained on each group and each category,
3. Inter-item, item to facet, and item to Level correlations for each category and each group,
4. Analysis of variance between categories.

These analyses will now be described in detail.

## Level to Level Correlations and $Q^2$ Evaluation to Test Simplex Approximation of Initial Scale

The STATROUT computer program at the Michigan State University computer center was used to produce Level to Level correlations for all groups and all categories. This facilitates analysis of the simplex approximation postulated

in Hypothesis 1. Interpretation of simplexes obtained do not lend themselves to any direct test of significance. However, Kaiser (1962) has created a method whereby the obtained simplex is submitted to a procedure that "evaluates" the obtained correlation matrix (resulting in a $Q^2$). The program also rearranges adjacent pairs of coefficients into the best possible simplex order and computes a "best approximation" $Q^2$. Tables 16 to 22 present the correlation matrices and $Q^2$ values for both the original matrix and for the "best approximation" for every group and for the total subjects to which the initial scale was administered. Negative correlations are not accounted for in the simplex structures and relatively few have occurred in this study. Where they have occurred they have been reflected as positive as Kaiser (1962) suggests (e.g., -.01 is interpreted as .01). No negative correlations are noted in the "Total" simplex and it is suggested that sampling errors may account for the negative correlations evidenced in some groups.

As stated in Chapter III a $Q^2$ value of .70 is accepted as reflecting a satisfactory simplex approximation according to the Jordan-Hamersma 6 reversal criteria (Hamersma, 1969). Perusal of Tables 16-22 indicates that only one correlation matrix failed to exceed this criteria (category B, group 1). No concrete reason can be offered for the failure of this group to achieve the $Q^2$ value of

TABLE 16.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category A, Initial Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY A GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.8390 | 0.5580 | 0.0620 | 0.1820 | 0.1340 |
| 0.8390 | 1.0000 | 0.6390 | 0.0370 | 0.0390 | 0.0050 |
| 0.5580 | 0.6390 | 1.0000 | 0.2570 | 0.2550 | 0.1760 |
| 0.0620 | 0.0370 | 0.2570 | 1.0000 | 0.9010 | 0.7870 |
| 0.1820 | 0.0390 | 0.2550 | 0.9010 | 1.0000 | 0.7960 |
| 0.1340 | 0.0050 | 0.1760 | 0.7870 | 0.7960 | 1.0000 |

Q**2= 0.9087435252

BEST SIMPLEX MATRIX CATEGORY A GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.8390 | 0.6390 | 0.0390 | 0.0370 | 0.0050 |
| 0.8390 | 1.0000 | 0.5580 | 0.1820 | 0.0620 | 0.1340 |
| 0.6390 | 0.5580 | 1.0000 | 0.2550 | 0.2570 | 0.1760 |
| 0.0390 | 0.1820 | 0.2550 | 1.0000 | 0.9010 | 0.7960 |
| 0.0370 | 0.0620 | 0.2570 | 0.9010 | 1.0000 | 0.7870 |
| 0.0050 | 0.1340 | 0.1760 | 0.7960 | 0.7870 | 1.0000 |

Q**2= 0.9183410501

ORIGINAL SIMPLEX MATRIX CATEGORY A GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.5890 | 0.3810 | 0.3230 | 0.3050 | 0.1880 |
| 0.5890 | 1.0000 | 0.4730 | 0.4340 | 0.4060 | 0.3420 |
| 0.3810 | 0.4730 | 1.0000 | 0.4200 | 0.4510 | 0.4380 |
| 0.3230 | 0.4340 | 0.4200 | 1.0000 | 0.8560 | 0.7280 |
| 0.3050 | 0.4060 | 0.4510 | 0.8560 | 1.0000 | 0.8280 |
| 0.1880 | 0.3420 | 0.4380 | 0.7280 | 0.8280 | 1.0000 |

Q**2= 0.9629715813

BEST SIMPLEX MATRIX CATAGORY A GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.5890 | 0.3810 | 0.3230 | 0.3050 | 0.1880 |
| 0.5890 | 1.0000 | 0.4730 | 0.4340 | 0.4060 | 0.3420 |
| 0.3810 | 0.4730 | 1.0000 | 0.4200 | 0.4510 | 0.4380 |
| 0.3230 | 0.4340 | 0.4200 | 1.0000 | 0.8560 | 0.7280 |
| 0.3050 | 0.4060 | 0.4510 | 0.8560 | 1.0000 | 0.8280 |
| 0.1880 | 0.3420 | 0.4380 | 0.7280 | 0.8280 | 1.0000 |

Q**2= 0.9629715813

ORIGINAL SIMPLEX MATRIX CATEGORY A GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.3900 | 0.4440 | 0.2370 | 0.2020 | 0.1440 |
| 0.3900 | 1.0000 | 0.1980 | 0.0690 | 0.0110 | 0.0030 |
| 0.4440 | 0.1980 | 1.0000 | 0.7060 | 0.6590 | 0.2380 |
| 0.2370 | 0.0690 | 0.7060 | 1.0000 | 0.7040 | 0.3310 |
| 0.2020 | 0.0110 | 0.6590 | 0.7040 | 1.0000 | 0.3610 |
| 0.1440 | 0.0030 | 0.2380 | 0.3310 | 0.3610 | 1.0000 |

Q**2= 0.8562528830

BEST SIMPLEX MATRIX CATEGORY A GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.3900 | 0.1980 | 0.0690 | 0.0110 | 0.0030 |
| 0.3900 | 1.0000 | 0.4440 | 0.2370 | 0.2020 | 0.1440 |
| 0.1980 | 0.4440 | 1.0000 | 0.7060 | 0.6590 | 0.2380 |
| 0.0690 | 0.2370 | 0.7060 | 1.0000 | 0.7040 | 0.3310 |
| 0.0110 | 0.2020 | 0.6590 | 0.7040 | 1.0000 | 0.3610 |
| 0.0030 | 0.1440 | 0.2380 | 0.3310 | 0.3610 | 1.0000 |

Q**2= 0.9267829434

TABLE 17.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category B, Initial Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY B GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.7260 | 0.3880 | 0.1950 | 0.4010 | 0.5470 |
| 0.7260 | 1.0000 | 0.7030 | 0.4380 | 0.6000 | 0.6430 |
| 0.3880 | 0.7030 | 1.0000 | 0.7980 | 0.2620 | 0.4510 |
| 0.1950 | 0.4380 | 0.7980 | 1.0000 | 0.1400 | 0.1730 |
| 0.4010 | 0.6000 | 0.2620 | 0.1400 | 1.0000 | 0.9700 |
| 0.5470 | 0.6430 | 0.4510 | 0.1730 | 0.9700 | 1.0000 |

Q**2= 0.6453950351

BEST SIMPLEX MATRIX CATEGORY B GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.7980 | 0.4380 | 0.1950 | 0.1730 | 0.1400 |
| 0.7980 | 1.0000 | 0.7030 | 0.3880 | 0.4510 | 0.2620 |
| 0.4380 | 0.7030 | 1.0000 | 0.7260 | 0.6430 | 0.6000 |
| 0.1950 | 0.3880 | 0.7260 | 1.0000 | 0.5470 | 0.4010 |
| 0.1730 | 0.4510 | 0.6430 | 0.5470 | 1.0000 | 0.9700 |
| 0.1400 | 0.2620 | 0.6000 | 0.4010 | 0.9700 | 1.0000 |

Q**2= 0.9497372505

BEST SIMPLEX MATRIX CATEGORY B GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.7440 | 0.7650 | 0.7370 | 0.5720 | 0.4710 |
| 0.7440 | 1.0000 | 0.8500 | 0.9170 | 0.7210 | 0.6380 |
| 0.7650 | 0.8500 | 1.0000 | 0.9110 | 0.8000 | 0.6550 |
| 0.7370 | 0.9170 | 0.9110 | 1.0000 | 0.8450 | 0.7600 |
| 0.5720 | 0.7210 | 0.8000 | 0.8450 | 1.0000 | 0.8760 |
| 0.4710 | 0.6380 | 0.6550 | 0.7600 | 0.8760 | 1.0000 |

Q**2= 0.9843153287

ORIGINAL SIMPLEX MATRIX CATEGORY B GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.7440 | 0.7650 | 0.7370 | 0.5720 | 0.4710 |
| 0.7440 | 1.0000 | 0.8500 | 0.9170 | 0.7210 | 0.6380 |
| 0.7650 | 0.8500 | 1.0000 | 0.9110 | 0.8000 | 0.6550 |
| 0.7370 | 0.9170 | 0.9110 | 1.0000 | 0.8450 | 0.7600 |
| 0.5720 | 0.7210 | 0.8000 | 0.8450 | 1.0000 | 0.8760 |
| 0.4710 | 0.6380 | 0.6550 | 0.7600 | 0.8760 | 1.0000 |

Q**2= 0.9843153287

ORIGINAL SIMPLEX MATRIX CATEGORY B GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.8220 | 0.4140 | 0.4820 | 0.5360 | 0.4790 |
| 0.8220 | 1.0000 | 0.4040 | 0.6060 | 0.4640 | 0.4130 |
| 0.4140 | 0.4040 | 1.0000 | 0.6060 | 0.4640 | 0.4130 |
| 0.4820 | 0.6060 | 0.6020 | 1.0000 | 0.8300 | 0.8230 |
| 0.5360 | 0.4640 | 0.5110 | 0.8300 | 1.0000 | 0.8540 |
| 0.4790 | 0.4130 | 0.5590 | 0.8230 | 0.8540 | 1.0000 |

Q**2= 0.8571698477

BEST SIMPLEX MATRIX CATEGORY B GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.8220 | 0.4040 | 0.6060 | 0.4640 | 0.4130 |
| 0.8220 | 1.0000 | 0.4140 | 0.4820 | 0.5360 | 0.4790 |
| 0.4040 | 0.4140 | 1.0000 | 0.6060 | 0.4640 | 0.4130 |
| 0.6060 | 0.4820 | 0.6020 | 1.0000 | 0.8300 | 0.8230 |
| 0.4640 | 0.5360 | 0.5110 | 0.8300 | 1.0000 | 0.8540 |
| 0.4130 | 0.4790 | 0.5590 | 0.8230 | 0.8540 | 1.0000 |

Q**2= 0.8589548865

TABLE 18.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category C, Initial Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY C

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.6050 | 0.3670 | 0.3460 | 0.3790 | 0.1770 |
| 0.6050 | 1.0000 | 0.3340 | 0.2830 | 0.2430 | 0.0490 |
| 0.3670 | 0.3340 | 1.0000 | 0.6160 | 0.6370 | 0.5700 |
| 0.3460 | 0.2830 | 0.6160 | 1.0000 | 0.8630 | 0.8360 |
| 0.3790 | 0.2430 | 0.6370 | 0.8630 | 1.0000 | 0.8690 |
| 0.1770 | 0.0490 | 0.5700 | 0.8360 | 0.8690 | 1.0000 |

Q**2= 0.8994426391

BEST SIMPLEX MATRIX CATEGORY C

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.6050 | 0.3340 | 0.2830 | 0.2430 | 0.0490 |
| 0.6050 | 1.0000 | 0.3670 | 0.3460 | 0.3790 | 0.1770 |
| 0.3340 | 0.3670 | 1.0000 | 0.6160 | 0.6370 | 0.5700 |
| 0.2830 | 0.3460 | 0.6160 | 1.0000 | 0.8630 | 0.8360 |
| 0.2430 | 0.3790 | 0.6370 | 0.8630 | 1.0000 | 0.8690 |
| 0.0490 | 0.1770 | 0.5700 | 0.8360 | 0.8690 | 1.0000 |

Q**2= 0.9316642267

TABLE 19.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category D, Initial Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY D GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.4610 | 0.3070 | 0.1310 | 0.2710 | 0.2010 |
| 0.4610 | 1.0000 | 0.2260 | 0.0830 | 0.1940 | 0.2320 |
| 0.3070 | 0.2260 | 1.0000 | 0.5690 | 0.9630 | 0.6320 |
| 0.1310 | 0.0830 | 0.5690 | 1.0000 | 0.8860 | 0.8070 |
| 0.2710 | 0.1940 | 0.9630 | 0.8860 | 1.0000 | 0.8410 |
| 0.2810 | 0.2320 | 0.6320 | 0.8070 | 0.8410 | 1.0000 |

Q**2= 0.9379540855

BEST SIMPLEX MATRIX CATEGORY D GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.4610 | 0.2260 | 0.2320 | 0.1940 | 0.0830 |
| 0.4610 | 1.0000 | 0.3070 | 0.2810 | 0.2710 | 0.1310 |
| 0.2260 | 0.3070 | 1.0000 | 0.6320 | 0.5630 | 0.5690 |
| 0.2320 | 0.2010 | 0.6320 | 1.0000 | 0.8410 | 0.8070 |
| 0.1940 | 0.2710 | 0.5630 | 0.8410 | 1.0000 | 0.8860 |
| 0.0830 | 0.1310 | 0.5690 | 0.8070 | 0.8860 | 1.0000 |

Q**2= 0.9720764880

ORIGINAL SIMPLEX MATRIX CATEGORY D GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.2930 | 0.2940 | 0.2900 | 0.3620 | 0.3900 |
| 0.2930 | 1.0000 | 0.1600 | 0.0280 | 0.0020 | 0.0210 |
| 0.2940 | 0.1600 | 1.0000 | 0.6900 | 0.7530 | 0.7540 |
| 0.2900 | 0.0280 | 0.6900 | 1.0000 | 0.8680 | 0.8520 |
| 0.3620 | 0.0020 | 0.7530 | 0.8680 | 1.0000 | 0.8850 |
| 0.3900 | 0.0210 | 0.7540 | 0.8520 | 0.8850 | 1.0000 |

Q**2= 0.7577604549

BEST SIMPLEX MATRIX CATEGORY D GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.2930 | 0.1600 | 0.0210 | 0.0280 | 0.0020 |
| 0.2930 | 1.0000 | 0.2940 | 0.3900 | 0.2900 | 0.3620 |
| 0.1600 | 0.2940 | 1.0000 | 0.7940 | 0.6900 | 0.7530 |
| 0.0210 | 0.3900 | 0.7540 | 1.0000 | 0.8520 | 0.8850 |
| 0.0280 | 0.2900 | 0.6900 | 0.8520 | 1.0000 | 0.8680 |
| 0.0020 | 0.3620 | 0.7530 | 0.8850 | 0.8680 | 1.0000 |

Q**2= 0.8881515083

ORIGINAL SIMPLEX MATRIX CATEGORY D GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.1880 | 0.1750 | 0.0390 | 0.0480 | 0.0920 |
| 0.1880 | 1.0000 | 0.2930 | 0.4190 | 0.1800 | 0.3910 |
| 0.1750 | 0.2930 | 1.0000 | 0.7310 | 0.6190 | 0.5150 |
| 0.0390 | 0.4190 | 0.7310 | 1.0000 | 0.8290 | 0.8040 |
| 0.0480 | 0.1800 | 0.6190 | 0.8290 | 1.0000 | 0.7540 |
| 0.0920 | 0.3910 | 0.5150 | 0.8040 | 0.7590 | 1.0000 |

Q**2= 0.9580751673

BEST SIMPLEX MATRIX CATEGORY D GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.1880 | 0.1750 | 0.0920 | 0.0390 | 0.0480 |
| 0.1880 | 1.0000 | 0.2930 | 0.3910 | 0.4190 | 0.1800 |
| 0.1750 | 0.2930 | 1.0000 | 0.5150 | 0.7310 | 0.6190 |
| 0.0920 | 0.3910 | 0.5150 | 1.0000 | 0.8040 | 0.7590 |
| 0.0390 | 0.4190 | 0.7310 | 0.8040 | 1.0000 | 0.8290 |
| 0.0480 | 0.1800 | 0.6190 | 0.7540 | 0.8290 | 1.0000 |

Q**2= 0.9650116004

ORIGINAL SIMPLEX MATRIX CATEGORY D GROUP 4

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.7080 | 0.2150 | 0.1280 | 0.0980 | 0.1020 |
| 0.7080 | 1.0000 | 0.3670 | 0.2360 | 0.1510 | 0.2640 |
| 0.2150 | 0.3670 | 1.0000 | 0.5270 | 0.4960 | 0.5110 |
| 0.1280 | 0.2360 | 0.5270 | 1.0000 | 0.9600 | 0.8590 |
| 0.0980 | 0.1910 | 0.4960 | 0.9600 | 1.0000 | 0.8860 |
| 0.1020 | 0.2640 | 0.5110 | 0.8590 | 0.8860 | 1.0000 |

Q**2= 0.9906832596

BEST SIMPLEX MATRIX CATEGORY D GROUP 4

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.7080 | 0.2150 | 0.1280 | 0.1020 | 0.0980 |
| 0.7080 | 1.0000 | 0.3670 | 0.2360 | 0.2640 | 0.1510 |
| 0.2150 | 0.3670 | 1.0000 | 0.5270 | 0.5110 | 0.4960 |
| 0.1280 | 0.2360 | 0.5270 | 1.0000 | 0.8590 | 0.9600 |
| 0.1020 | 0.2640 | 0.5110 | 0.8590 | 1.0000 | 0.8860 |
| 0.0980 | 0.1910 | 0.4960 | 0.9600 | 0.8860 | 1.0000 |

Q**2= 0.9922210804

TABLE 20.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category E, Initial Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY E GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.4150 | 0.5540 | 0.6120 | 0.5530 | 0.0310 |
| 0.4150 | 1.0000 | 0.3030 | 0.1410 | 0.0250 | 0.2830 |
| 0.5540 | 0.3030 | 1.0000 | 0.7420 | 0.7450 | 0.2910 |
| 0.6120 | 0.1410 | 0.7420 | 1.0000 | 0.9840 | 0.7070 |
| 0.5530 | 0.0250 | 0.7450 | 0.9840 | 1.0000 | 0.6540 |
| 0.0130 | 0.2830 | 0.2190 | 0.7040 | 0.6540 | 1.0000 |

Q**2= 0.7220743910

BEST SIMPLEX MATRIX CATEGORY E GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.4150 | 0.3030 | 0.1410 | 0.0250 | 0.2830 |
| 0.4150 | 1.0000 | 0.5540 | 0.6120 | 0.5530 | 0.0310 |
| 0.3030 | 0.5540 | 1.0000 | 0.7420 | 0.7450 | 0.2910 |
| 0.1410 | 0.6120 | 0.7420 | 1.0000 | 0.9840 | 0.7070 |
| 0.0250 | 0.5530 | 0.7450 | 0.9840 | 1.0000 | 0.6540 |
| 0.2830 | 0.0130 | 0.2190 | 0.7040 | 0.6540 | 1.0000 |

Q**2= 0.7698973448

ORIGINAL SIMPLEX MATRIX CATEGORY E GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.0700 | 0.1220 | 0.1970 | 0.1610 | 0.2710 |
| 0.0700 | 1.0000 | 0.0970 | 0.2280 | 0.2160 | 0.2350 |
| 0.1220 | 0.0970 | 1.0000 | 0.6280 | 0.6400 | 0.5580 |
| 0.1970 | 0.2280 | 0.6280 | 1.0000 | 0.9450 | 0.8900 |
| 0.1610 | 0.2160 | 0.6400 | 0.9450 | 1.0000 | 0.9250 |
| 0.2710 | 0.2350 | 0.5580 | 0.8900 | 0.9250 | 1.0000 |

Q**2= 0.8048301507

BEST SIMPLEX MATRIX CATEGORY E GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.0700 | 0.2710 | 0.1970 | 0.1610 | 0.1220 |
| 0.0700 | 1.0000 | 0.2350 | 0.2280 | 0.2160 | 0.0970 |
| 0.2710 | 0.2350 | 1.0000 | 0.8900 | 0.9250 | 0.5580 |
| 0.1970 | 0.2280 | 0.8900 | 1.0000 | 0.9450 | 0.6280 |
| 0.1610 | 0.2160 | 0.9250 | 0.9450 | 1.0000 | 0.6400 |
| 0.1220 | 0.0970 | 0.5580 | 0.6280 | 0.6400 | 1.0000 |

Q**2= 0.8499996645

ORIGINAL SIMPLEX MATRIX CATEGORY E GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.4730 | 0.2790 | 0.1700 | 0.1080 | 0.1300 |
| 0.4730 | 1.0000 | 0.3140 | 0.2480 | 0.2290 | 0.2080 |
| 0.2790 | 0.3140 | 1.0000 | 0.6950 | 0.6630 | 0.6600 |
| 0.1700 | 0.2480 | 0.6950 | 1.0000 | 0.9310 | 0.0100 |
| 0.1080 | 0.2290 | 0.6630 | 0.9310 | 1.0000 | 0.9310 |
| 0.1300 | 0.2080 | 0.6600 | 0.0100 | 0.9310 | 1.0000 |

Q**2= 0.6960454063

BEST SIMPLEX MATRIX CATEGORY E GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.4730 | 0.1700 | 0.2790 | 0.1080 | 0.1300 |
| 0.4730 | 1.0000 | 0.2480 | 0.3140 | 0.2290 | 0.2080 |
| 0.1700 | 0.2480 | 1.0000 | 0.6950 | 0.9310 | 0.0100 |
| 0.2790 | 0.3140 | 0.6950 | 1.0000 | 0.6630 | 0.6600 |
| 0.1080 | 0.2290 | 0.9310 | 0.6630 | 1.0000 | 0.9310 |
| 0.1300 | 0.2080 | 0.0100 | 0.6600 | 0.9310 | 1.0000 |

Q**2= 0.7132144884

TABLE 21.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category F, Initial Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY F GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.6610 | 0.1910 | 0.0430 | 0.1420 | 0.1940 |
| 0.6610 | 1.0000 | 0.3240 | 0.1920 | 0.1330 | 0.3040 |
| 0.1910 | 0.3240 | 1.0000 | 0.3830 | 0.3110 | 0.2400 |
| 0.0430 | 0.1920 | 0.3830 | 1.0000 | 0.6490 | 0.5530 |
| 0.1420 | 0.1330 | 0.3110 | 0.6490 | 1.0000 | 0.7290 |
| 0.1940 | 0.3040 | 0.2400 | 0.5530 | 0.7290 | 1.0000 |

Q**2= 0.9197309529

BEST SIMPLEX MATRIX CATEGORY F GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.6610 | 0.1910 | 0.1940 | 0.1420 | 0.0430 |
| 0.6610 | 1.0000 | 0.3240 | 0.3040 | 0.1330 | 0.1920 |
| 0.1910 | 0.3240 | 1.0000 | 0.2400 | 0.3110 | 0.3830 |
| 0.1940 | 0.3040 | 0.2400 | 1.0000 | 0.7290 | 0.5530 |
| 0.1420 | 0.1330 | 0.3110 | 0.7290 | 1.0000 | 0.6490 |
| 0.0430 | 0.1920 | 0.3830 | 0.5530 | 0.6490 | 1.0000 |

Q**2= 0.9519858299

ORIGINAL SIMPLEX MATRIX CATEGORY F GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.8970 | 0.6030 | 0.2120 | 0.2090 | 0.1070 |
| 0.8970 | 1.0000 | 0.7280 | 0.4350 | 0.4350 | 0.3480 |
| 0.6030 | 0.7280 | 1.0000 | 0.4620 | 0.4150 | 0.2630 |
| 0.2120 | 0.4350 | 0.4620 | 1.0000 | 0.8860 | 0.7970 |
| 0.2090 | 0.4350 | 0.4150 | 0.8860 | 1.0000 | 0.8170 |
| 0.1070 | 0.3480 | 0.2630 | 0.7970 | 0.8170 | 1.0000 |

Q**2= 0.9670242434

BEST SIMPLEX MATRIX CATEGORY F GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.8970 | 0.6030 | 0.2120 | 0.2090 | 0.1070 |
| 0.8970 | 1.0000 | 0.7280 | 0.4350 | 0.4350 | 0.3480 |
| 0.6030 | 0.7280 | 1.0000 | 0.4620 | 0.4150 | 0.2630 |
| 0.2120 | 0.4350 | 0.4620 | 1.0000 | 0.8860 | 0.7970 |
| 0.2090 | 0.4350 | 0.4150 | 0.8860 | 1.0000 | 0.8170 |
| 0.1070 | 0.3480 | 0.2630 | 0.7970 | 0.8170 | 1.0000 |

Q**2= 0.9670242434

ORIGINAL SIMPLEX MATRIX CATEGORY F GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.7290 | 0.5640 | 0.6710 | 0.6670 | 0.6730 |
| 0.7290 | 1.0000 | 0.5680 | 0.5260 | 0.5500 | 0.6170 |
| 0.5640 | 0.5680 | 1.0000 | 0.7510 | 0.5500 | 0.6670 |
| 0.6710 | 0.5260 | 0.7510 | 1.0000 | 0.7530 | 0.8290 |
| 0.6670 | 0.5520 | 0.5500 | 0.7530 | 1.0000 | 0.8590 |
| 0.6730 | 0.6170 | 0.6670 | 0.8290 | 0.8590 | 1.0000 |

Q**2= 0.8210396413

BEST SIMPLEX MATRIX CATEGORY F GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.7290 | 0.5680 | 0.5260 | 0.6170 | 0.5500 |
| 0.7290 | 1.0000 | 0.5640 | 0.6710 | 0.6730 | 0.6670 |
| 0.5680 | 0.5640 | 1.0000 | 0.7510 | 0.6670 | 0.5500 |
| 0.5260 | 0.6710 | 0.7510 | 1.0000 | 0.8290 | 0.7530 |
| 0.6170 | 0.6730 | 0.6670 | 0.8290 | 1.0000 | 0.8590 |
| 0.5520 | 0.6670 | 0.5500 | 0.7530 | 0.8590 | 1.0000 |

Q**2= 0.8716910487

TABLE 22.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, All Categories, Initial Scale.

ORIGINAL SIMPLEX MATRIX TOTAL ALL CATEGORIES ALL GROUPS

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.5510 | 0.3860 | 0.2700 | 0.2420 | 0.2080 |
| 0.5510 | 1.0000 | 0.3670 | 0.2540 | 0.2380 | 0.2390 |
| 0.3860 | 0.3670 | 1.0000 | 0.6980 | 0.6220 | 0.5870 |
| 0.2700 | 0.2540 | 0.6980 | 1.0000 | 0.8640 | 0.8160 |
| 0.2420 | 0.2380 | 0.6220 | 0.8640 | 1.0000 | 0.8820 |
| 0.2080 | 0.2390 | 0.5870 | 0.8160 | 0.8820 | 1.0000 |

Q**2= 0.9833567426

BEST SIMPLEX MATRIX TOTAL ALL CATEGORIES ALL GROUPS

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.5510 | 0.3860 | 0.2700 | 0.2420 | 0.2080 |
| 0.5510 | 1.0000 | 0.3670 | 0.2540 | 0.2380 | 0.2390 |
| 0.3860 | 0.3670 | 1.0000 | 0.6980 | 0.6220 | 0.5870 |
| 0.2700 | 0.2540 | 0.6980 | 1.0000 | 0.8640 | 0.8160 |
| 0.2420 | 0.2380 | 0.6220 | 0.8640 | 1.0000 | 0.8820 |
| 0.2080 | 0.2390 | 0.5870 | 0.8160 | 0.8820 | 1.0000 |

Q**2= 0.9833567426

.70 or greater. However it is pointed out that this group was relatively small (N=27), had a relatively low return rate, and completed at least a portion of the scale without supervision. Also their finished questionnaires were returned at their own volition. It is possible that sampling error was responsible for the relatively low $Q^2$ values obtained on this correlation matrix.

As Table 22 indicates, the $Q^2$ value obtained when the total sample was evaluated (i.e. all groups in all categories) was .98; clearly within the .70 or greater criterion discussed in Chapter III.

Both the total $Q^2$ value of .98 and the individual group $Q^2$ values presented in Tables 16 to 22 support the hypothesis that the ABS:DU does form a simplex as hypothesized (Theoretical hypothesis H-1). The simplex structure hypothesized and obtained here is also viewed as a measure of construct validity.

## Reliability Coefficients

Reliability estimates for the 17 groups and for the categories were obtained at each Level of the ABS:DU by the Hoyt (1941) method. This method uses analysis of variance to produce a reliability coefficient equivalent to the Kuder Richardson formula 20 (Mehrens and Ebel, 1967), measure of internal consistency. These results are contained in Table 23. As can readily be seen, the ABS:DU initial scale appears to be reliable in terms of internal consistency

TABLE 23.--Group and Category[a] Reliability Coefficients for Initial Scale, by Level.

| Category | Group | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 |
|---|---|---|---|---|---|---|---|
| A | 1 | .89 | .83 | .76 | .89 | .89 | .86 |
| (Incarcerated | 2 | .81 | .82 | .72 | .89 | .88 | .83 |
| Inmates) | 3 | .93 | .91 | .91 | .95 | .95 | .93 |
| Category A | Total | .95 | .94 | .93 | .96 | .99 | .95 |
| B | 1 | .86 | .84 | .87 | .90 | .88 | .85 |
| (Police) | 2 | .92 | .93 | .91 | .94 | .92 | .94 |
| | 3 | .94 | .93 | .93 | .94 | .94 | .94 |
| Category B | Total | .97 | .97 | .96 | .97 | .96 | .97 |
| C | | | | | | | |
| (Kansas Parish) | 1 | .98 | .98 | .98 | .98 | .98 | .93 |
| Category C | Total | .98 | .98 | .98 | .98 | .98 | .93 |
| D | 1 | .91 | .90 | .87 | .92 | .91 | .83 |
| (High School | 2 | .94 | .94 | .92 | .95 | .95 | .92 |
| Students) | 3 | .92 | .92 | .90 | .93 | .95 | .88 |
| | 4 | .96 | .96 | .95 | .97 | .97 | .95 |
| Category D | Total | .98 | .99 | .97 | .98 | .98 | .97 |
| E | 1 | .87 | .83 | .84 | .85 | .89 | .81 |
| (College | 2 | .90 | .87 | .88 | .91 | .89 | .83 |
| Students) | 3 | .94 | .95 | .93 | .96 | .95 | .91 |
| Category E | Total | .97 | .97 | .96 | .97 | .97 | .95 |
| F | 1 | .91 | .91 | .93 | .94 | .94 | .88 |
| (Treatment | 2 | .84 | .87 | .87 | .83 | .91 | .93 |
| Addicts) | 3 | .82 | .81 | .85 | .91 | .91 | .89 |
| Category F | Total | .95 | .95 | .95 | .97 | .95 | .95 |

[a]See Table 15 for groups and categories.

on the basis of both group and category data obtained. No total reliability coefficients are available on the initial DBS:DU since the requirements of the program exceeded the computer capacity.

## Inter-Item, Item to Facet (Within Levels), and Item to Level Correlations on Initial Scale

The purpose of this research was to establish an attitude-behavior toward drug users scale according to facet theory. Although the initial scale seems to have sufficiently high reliability coefficients, is scalable and does differentiate groups, it is relatively long (over 1 hour) and tedious to take. As a result a shortened scale was evolved. As stated in Chapter III, a mapping sentence (Figure 1) was evolved to depict the relationship of content facets (lateral struction) chosen for inclusion in the ABS:DU. Five major facets were identified. Namely: causes, characteristics, consequences, treatment type, and treatment reason. The initial ABS:DU scale is contained in Appendix 4. The item by content facets distribute as follows:

1. Causes (Facet 1) items 1-7
2. Characteristics (Facet 2) items 8-22
3. Consequences (Facet 3) items 23-25, 37, 40
4. Treatment types (Facet 4) items 26-33
5. Treatment reason (Facet 5) items 34-36, 38, 39

Past scales constructed according to facet theory (Hamersma, 1969, Jordan 1968, & 1970b) have employed item to Level analysis only, to establish which items are contributing most to an individuals Level score. These "best items" (those with the highest correlations) were then chosen for inclusion in the "final scale." Although previous scales identified facets, no item to content facet analysis was done in the past. This failure to employ "content" item to facet analysis seems inconsistent with the facet approach to attitude measurements: that there are facets or areas of behavior on which attitude is measured (e.g. characteristics).

In an effort to improve and refine scale construction both item to facet and item to Level correlations (by Level) were employed for all categories. The results of these calculations are presented in Tables 25-29. Optimally high item to content facet by Level, high item to Level correlations, and low content inter-item correlations are desirable (Anastasi, 1968). Item to content facet correlations were obtained at each Level by correlating each item within a facet (see Figure 1 and page 105 for items by facets) to the total for that facet. Tables 24 to 29 present these item to facet and item to Level correlations by Level, for each item included in the initial scale. It was decided that since all of the facets employed did scale according to facet theory (i.e. the simplex was obtained), all 5 content facets would be retained and four items would be selected from each content facet for the final scale.

Items chosen for inclusion in the "final" scale were selected on the basis of item to facet, item to item and item to Level correlations. The criterion was established that items included should have an item to facet and item to Level correlation of .50 or over on at least one Level, and an item to item correlation of less than .50 for most Levels. These criteria were applied to the "category" item analysis data. The total number of correlations above .50 were tabulated for each item across all 6 categories. The four items with the highest number of (item to facet and item to Level) .50 or greater correlations were then chosen for inclusion in the final scale (Table 30). These items were then checked to determine that their item to item correlations were less than .50 (most were much less, falling between .00 and .25). The final scale then, consists of 4 items from each of the 5 content facets, carried across the 6 Levels (120 items).

## Reliability and Validity of the Final Scale

The items identified for inclusion in the final scale are contained in Appendix 5. The group and total responses to the final scale items were subjected to item analysis procedures to obtain reliability coefficients for the new scale as well as determining the $Q^2$ values on the new scale. The author is aware that "picking" certain items from a total scale and subjecting them to tests of reliability and

TABLE 24.--Item to Facet and Item to Level Correlation by Level--Incarcerated Inmates. (Category A).

| | Level 1 | | Level 2 | | Level 3 | | Level 4 | | Level 5 | | Level 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level |
| 1 | .31 | .23 | .34 | .40 | .50 | .20 | .45 | .32 | .53 | .39 | .57 | .27 |
| 2 | .38 | .08 | .26 | .03 | .28 | .06 | .42 | -.09 | .37 | -.05 | .25 | .08 |
| 3 | .05 | -.32 | .09 | -.30 | .21 | .02 | .21 | -.02 | .18 | -.20 | .23 | -.24 |
| 4 | .61 | .52 | .46 | .32 | .50 | .25 | .55 | .39 | .62 | .44 | .53 | .26 |
| 5 | .63 | .60 | .52 | .56 | .37 | .10 | .57 | .20 | .45 | .26 | .45 | .28 |
| 6 | .48 | .41 | .58 | .57 | .43 | .27 | .35 | .22 | .52 | .28 | .39 | .16 |
| 7 | .43 | .03 | .45 | .18 | .26 | .22 | .37 | .17 | .37 | .21 | .36 | .22 |
| 8 | .55 | .40 | .50 | .40 | .53 | .43 | .53 | .43 | .46 | .38 | .34 | .18 |
| 9 | .56 | .55 | .55 | .52 | .32 | .26 | .33 | .32 | .28 | .28 | .26 | .19 |
| 10 | .40 | .30 | .51 | .41 | .08 | -.07 | .54 | .43 | .45 | .38 | .39 | .26 |
| 11 | .57 | .38 | .60 | .52 | .46 | .39 | .48 | .47 | .34 | .35 | .44 | .41 |
| 12 | .41 | .40 | .63 | .59 | .27 | .17 | .62 | .47 | .59 | .53 | .55 | .40 |
| 13 | .24 | .17 | .55 | .45 | .41 | .21 | .42 | .25 | .56 | .43 | .58 | .46 |
| 14 | .49 | .46 | .60 | .54 | .50 | .41 | .50 | .42 | .43 | .45 | .47 | .37 |
| 15 | .23 | .21 | .43 | .45 | .41 | .38 | .30 | .27 | .35 | .29 | .20 | .17 |
| 16 | .40 | .31 | .48 | .44 | .47 | .36 | .38 | .29 | .50 | .37 | .37 | .29 |
| 17 | .62 | .44 | .57 | .44 | .55 | .47 | .62 | .50 | .57 | .53 | .60 | .42 |
| 18 | .42 | .37 | .59 | .55 | .50 | .47 | .52 | .49 | .52 | .43 | .52 | .47 |
| 19 | .52 | .39 | .66 | .53 | .39 | .31 | .55 | .47 | .57 | .38 | .58 | .43 |
| 20 | .36 | .31 | .42 | .28 | .40 | .36 | .18 | .14 | .32 | .32 | .22 | .23 |
| 21 | .35 | .24 | .35 | .36 | .30 | .20 | .24 | .23 | .35 | .26 | .19 | .17 |
| 22 | .50 | .45 | .43 | .38 | .31 | .22 | .63 | .54 | .51 | .50 | .40 | .43 |
| 23 | .73 | .60 | .70 | .37 | .73 | .56 | .78 | .68 | .71 | .54 | .78 | .58 |
| 24 | .71 | .58 | .65 | .38 | .72 | .56 | .77 | .67 | .77 | .59 | .79 | .56 |
| 25 | .64 | .39 | .57 | .40 | .47 | .38 | .55 | .52 | .63 | .47 | .38 | .37 |
| 37 | .53 | .38 | .69 | .50 | .56 | .41 | .60 | .41 | .57 | .38 | .57 | .24 |
| 40 | .56 | .27 | .63 | .32 | .62 | .39 | .56 | .44 | .55 | .46 | .44 | .34 |
| 26 | .69 | .56 | .70 | .58 | .72 | .54 | .49 | .16 | .58 | .24 | .56 | .31 |
| 27 | .61 | .43 | .58 | .53 | .68 | .57 | .61 | .20 | .63 | .19 | .68 | .18 |
| 28 | .09 | .10 | .19 | .17 | .24 | .34 | .39 | .31 | .25 | .27 | .34 | .28 |
| 29 | .57 | .27 | .52 | .40 | .65 | .38 | .50 | .07 | .62 | .16 | .61 | .17 |
| 30 | .66 | .43 | .51 | .28 | .67 | .41 | .50 | .26 | .57 | .24 | .59 | .20 |
| 31 | .53 | .34 | .48 | .23 | .45 | .21 | .34 | .09 | .47 | .08 | .42 | .04 |
| 32 | .55 | .28 | .49 | .33 | .51 | .30 | .52 | .07 | .57 | .15 | .12 | .08 |
| 33 | .35 | .03 | .47 | .26 | .47 | .32 | .59 | .06 | .56 | .15 | .62 | .04 |
| 34 | .56 | .57 | .52 | .54 | .42 | .19 | .32 | .32 | .54 | .46 | .57 | .35 |
| 35 | .69 | .40 | .76 | .36 | .64 | .34 | .65 | .23 | .74 | .31 | .69 | .34 |
| 36 | .55 | .18 | .59 | .30 | .63 | .32 | .59 | .13 | .59 | .16 | .48 | .03 |
| 38 | .68 | .46 | .72 | .53 | .67 | .40 | .60 | .36 | .65 | .36 | .68 | .45 |
| 39 | .61 | .42 | .58 | .41 | .57 | .30 | .46 | .22 | .47 | .23 | .40 | .11 |

TABLE 25.--Item to Facet and Item to Level Correlation by Level--Police.
(Category B)

| | Level 1 | | Level 2 | | Level 3 | | Level 4 | | Level 5 | | Level 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level |
| 1 | .13 | .15 | .19 | .19 | .25 | .16 | .53 | .33 | .38 | .16 | .44 | .29 |
| 2 | .55 | .44 | .38 | .27 | .33 | .22 | .27 | -.06 | .19 | .16 | .29 | -.01 |
| 3 | .44 | .26 | .46 | .20 | .36 | .25 | .45 | .09 | .41 | .13 | .37 | .14 |
| 4 | .39 | .12 | .10 | .01 | .49 | .49 | .61 | .56 | .23 | .25 | .32 | .12 |
| 5 | .54 | .22 | .58 | .16 | .56 | .36 | .48 | .34 | .38 | .29 | .45 | .48 |
| 6 | .51 | .13 | .31 | .08 | .44 | .33 | .57 | .50 | .40 | .31 | .52 | .39 |
| 7 | .47 | .43 | .45 | .12 | .44 | .28 | .61 | .55 | .48 | .32 | .32 | .15 |
| 8 | .49 | .37 | .40 | .05 | .47 | .36 | .32 | .27 | .64 | .53 | .13 | .01 |
| 9 | .55 | .40 | .41 | .37 | .42 | .35 | .34 | .36 | .62 | .54 | .39 | .32 |
| 10 | .59 | .57 | .72 | .68 | .13 | .21 | .59 | .55 | .42 | .31 | .37 | .37 |
| 11 | .49 | .32 | .54 | .40 | .49 | .28 | .45 | .40 | .31 | .29 | .31 | .22 |
| 12 | .64 | .53 | .72 | .48 | .64 | .53 | .51 | .45 | .76 | .66 | .41 | .38 |
| 13 | .61 | .42 | .69 | .52 | .54 | .40 | .63 | .62 | .70 | .57 | .32 | .31 |
| 14 | .50 | .40 | .47 | .30 | .59 | .48 | .65 | .52 | .49 | .40 | .35 | .21 |
| 15 | .41 | .26 | .48 | .37 | .52 | .46 | .55 | .45 | .62 | .51 | .33 | .25 |
| 16 | .52 | .39 | .67 | .39 | .70 | .60 | .76 | .70 | .58 | .51 | .36 | .35 |
| 17 | .45 | .33 | .47 | .30 | .25 | .12 | .46 | .35 | .58 | .45 | .44 | .31 |
| 18 | .26 | .06 | .52 | .33 | .20 | .13 | .56 | .45 | .44 | .40 | .51 | .40 |
| 19 | .52 | .40 | .42 | .22 | .64 | .51 | .59 | .58 | .50 | .39 | .33 | .29 |
| 20 | .33 | .19 | .45 | .43 | .48 | .33 | .52 | .48 | .33 | .27 | .41 | .35 |
| 21 | .32 | .21 | .30 | .17 | .42 | .36 | .58 | .52 | .52 | .40 | .44 | .34 |
| 22 | .62 | .44 | .34 | .19 | .52 | .46 | .71 | .62 | .61 | .50 | .55 | .44 |
| 23 | .51 | .23 | .53 | .24 | .59 | .26 | .59 | .31 | .81 | .52 | .54 | .18 |
| 24 | .51 | .33 | .78 | .56 | .66 | .40 | .54 | .26 | .53 | .28 | .51 | .17 |
| 25 | .51 | .28 | .70 | .49 | .49 | .35 | .76 | .67 | .59 | .34 | .54 | .36 |
| 37 | .60 | .37 | .60 | .45 | .31 | .14 | .76 | .60 | .67 | .43 | .56 | .35 |
| 40 | .43 | .36 | .40 | .19 | .58 | .24 | .34 | .13 | .69 | .47 | .61 | .28 |
| 26 | .64 | .31 | .67 | .43 | .77 | .51 | .78 | .62 | .66 | .53 | .73 | .60 |
| 27 | .56 | .38 | .72 | .50 | .75 | .50 | .68 | .38 | .68 | .43 | .66 | .42 |
| 28 | .16 | .07 | .17 | .11 | .05 | .03 | .12 | .00 | .19 | .11 | .20 | .11 |
| 29 | .58 | .29 | .58 | .31 | .55 | .29 | .60 | .31 | .56 | .35 | .50 | .36 |
| 30 | .60 | .35 | .73 | .51 | .75 | .57 | .76 | .61 | .69 | .50 | .73 | .59 |
| 31 | .35 | .12 | .37 | .38 | .27 | .16 | .41 | .35 | .42 | .34 | .49 | .16 |
| 32 | .34 | .27 | .43 | .50 | .31 | .31 | .41 | .40 | .38 | .28 | .37 | .10 |
| 33 | .55 | .33 | .53 | .32 | .72 | .44 | .69 | .54 | .42 | .51 | .63 | .46 |
| 34 | .39 | .23 | .50 | .37 | .50 | .41 | .46 | .40 | .52 | .59 | .52 | .50 |
| 35 | .76 | .47 | .67 | .29 | .75 | .44 | .78 | .59 | .72 | .62 | .72 | .56 |
| 36 | .63 | .37 | .46 | .32 | .53 | .28 | .55 | .38 | .50 | .08 | .50 | .22 |
| 38 | .58 | .32 | .60 | .50 | .57 | .39 | .71 | .43 | .73 | .53 | .66 | .46 |
| 39 | .64 | .28 | .60 | .12 | .65 | .43 | .75 | .46 | .69 | .41 | .74 | .51 |

TABLE 26.--Item to Facet and Item to Level Correlation by Level--Kansas Parish. (Category C)

| | Level 1 | | Level 2 | | Level 3 | | Level 4 | | Level 5 | | Level 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level |
| 1 | .53 | -.23 | .46 | -.42 | .41 | .11 | .05 | -.30 | .56 | .09 | .29 | -.40 |
| 2 | .41 | -.45 | .25 | -.28 | .33 | -.27 | .38 | -.33 | .13 | -.37 | .38 | -.46 |
| 3 | .35 | -.07 | .41 | .21 | .22 | -.12 | .48 | .17 | .32 | -.06 | .20 | -.07 |
| 4 | .28 | .17 | .53 | .35 | .42 | .27 | .44 | .26 | .60 | .46 | .29 | .64 |
| 5 | .35 | .50 | .45 | .38 | .24 | .39 | .30 | .42 | .44 | .33 | .38 | .30 |
| 6 | .65 | -.13 | .36 | -.06 | .41 | .20 | .29 | -.10 | .37 | .35 | .65 | .07 |
| 7 | .29 | .08 | .28 | .16 | .31 | .05 | .44 | .08 | .28 | .08 | .33 | .38 |
| 8 | .52 | -.008 | .61 | -.07 | .49 | .26 | .47 | -.06 | .61 | .39 | .45 | -.20 |
| 9 | .47 | .45 | .19 | .58 | .57 | .56 | .21 | .54 | .39 | .45 | .15 | .51 |
| 10 | .36 | .22 | .64 | .14 | .37 | .32 | .52 | .42 | .59 | .55 | .63 | .60 |
| 11 | .55 | .20 | .63 | -.28 | .53 | .24 | .61 | .17 | .64 | .46 | .55 | .28 |
| 12 | .56 | .08 | .58 | -.44 | .46 | .23 | .58 | -.19 | .64 | .26 | .56 | -.21 |
| 13 | .49 | -.02 | .66 | -.25 | .43 | .10 | .55 | -.16 | .66 | .37 | .61 | -.02 |
| 14 | .52 | .20 | .67 | .09 | .40 | .34 | .56 | .08 | .60 | .35 | .43 | .10 |
| 15 | .34 | -.12 | .68 | -.32 | .66 | .35 | .68 | -.06 | .66 | .35 | .66 | -.10 |
| 16 | .45 | .01 | .56 | -.42 | .40 | .20 | .44 | -.33 | .38 | .09 | .48 | -.31 |
| 17 | .66 | .30 | .53 | -.27 | .49 | .26 | .56 | -.01 | .66 | .43 | .65 | -.12 |
| 18 | .51 | .34 | .61 | -.02 | .66 | .41 | .55 | .10 | .59 | .36 | .63 | .21 |
| 19 | .60 | .25 | .69 | .07 | .36 | .20 | .63 | .36 | .70 | .55 | .71 | .26 |
| 20 | .59 | .51 | .51 | .44 | .59 | .49 | .74 | .73 | .55 | .30 | .55 | .55 |
| 21 | .48 | .39 | .47 | .45 | .23 | .27 | .27 | .24 | .31 | .26 | .48 | .39 |
| 22 | .45 | .39 | .67 | .61 | .34 | .35 | .71 | .49 | .53 | .43 | .73 | .71 |
| 23 | .60 | .33 | .62 | .42 | .57 | .30 | .78 | .51 | .81 | .47 | .86 | .75 |
| 24 | .63 | .24 | .59 | .47 | .59 | .40 | .68 | .49 | .63 | .52 | .73 | .64 |
| 25 | .63 | .29 | .78 | .34 | .67 | .46 | .68 | .43 | .72 | .54 | .75 | .56 |
| 37 | .56 | .20 | .46 | .13 | .66 | .23 | .53 | .25 | .61 | .36 | .62 | .49 |
| 40 | .51 | .35 | .64 | .41 | .65 | .34 | .49 | .20 | .75 | .50 | .54 | .38 |
| 26 | .54 | .19 | .65 | .47 | .59 | .40 | .56 | .40 | .62 | .34 | .67 | .50 |
| 27 | .68 | .54 | .62 | .50 | .63 | .35 | .55 | .42 | .58 | .32 | .63 | .53 |
| 28 | .59 | .58 | .64 | .48 | .46 | .39 | .52 | .44 | .54 | .50 | .19 | .48 |
| 29 | .41 | -.02 | .56 | .32 | .41 | .13 | .46 | .04 | .48 | -.00 | .35 | -.02 |
| 30 | .36 | .21 | .61 | .40 | .51 | .33 | .43 | .14 | .36 | .03 | .47 | .33 |
| 31 | .22 | .09 | .04 | -.03 | .16 | .13 | .03 | -.09 | .25 | .10 | .19 | -.05 |
| 32 | .25 | .07 | .43 | .14 | .45 | .25 | .-5 | .10 | .48 | -.10 | .58 | .04 |
| 33 | .35 | .08 | .25 | -.10 | .38 | .09 | .37 | .00 | .51 | -.05 | .31 | -.11 |
| 34 | .41 | .44 | .22 | .37 | .17 | .26 | .19 | .30 | .30 | .43 | .50 | .61 |
| 35 | .71 | .21 | .76 | .46 | .68 | .30 | .79 | .38 | .77 | .31 | .78 | .25 |
| 36 | .46 | .25 | .51 | .26 | .64 | .19 | .71 | .21 | .58 | .25 | .47 | .33 |
| 38 | .64 | .50 | .62 | .47 | .72 | .38 | .80 | .41 | .76 | .30 | .71 | .32 |
| 39 | .73 | .31 | .70 | .32 | .64 | .32 | .74 | .36 | .72 | .18 | .74 | .34 |

TABLE 27.--Item to Facet and Item to Level Correlation by Level--High School. (Category D)

| | Level 1 | | Level 2 | | Level 3 | | Level 4 | | Level 5 | | Level 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level |
| 1 | .36 | .29 | .46 | .40 | .56 | .51 | .57 | .37 | .54 | .44 | .52 | .38 |
| 2 | .22 | -.01 | .26 | .02 | .20 | -.06 | .16 | -.03 | .34 | -.01 | .26 | -.12 |
| 3 | .20 | -.12 | .18 | -.20 | .24 | -.21 | .33 | -.14 | .40 | -.08 | .25 | .01 |
| 4 | .51 | .21 | .54 | .17 | .46 | .27 | .45 | .38 | .47 | .39 | .53 | .31 |
| 5 | .45 | .39 | .50 | .40 | .47 | .39 | .36 | .38 | .22 | .29 | .26 | .23 |
| 6 | .33 | .33 | .42 | .46 | .48 | .45 | .51 | .43 | .56 | .41 | .50 | .14 |
| 7 | .42 | .16 | .44 | .31 | .28 | .01 | .22 | -.05 | .30 | -.05 | .32 | -.04 |
| 8 | .39 | .32 | .53 | .47 | .41 | .32 | .40 | .34 | .38 | .32 | .24 | .11 |
| 9 | .45 | .42 | .61 | .57 | .50 | .43 | .50 | .44 | .54 | .48 | .45 | .43 |
| 10 | .39 | .35 | .63 | .58 | .25 | -.28 | .70 | .65 | .74 | .68 | .55 | .50 |
| 11 | .47 | .45 | .54 | .48 | .60 | .62 | .51 | .53 | .55 | .52 | .45 | .33 |
| 12 | .42 | .31 | .56 | .45 | .49 | .43 | .62 | .53 | .54 | .51 | .55 | .42 |
| 13 | .52 | .44 | .64 | .59 | .61 | .54 | .59 | .51 | .67 | .62 | .66 | .52 |
| 14 | .49 | .36 | .43 | .36 | .53 | .44 | .54 | .48 | .50 | .44 | .53 | .40 |
| 15 | .34 | .28 | .57 | .49 | .46 | .39 | .33 | .25 | .34 | .26 | .40 | .23 |
| 16 | .49 | .44 | .55 | .45 | .41 | .36 | .39 | .29 | .42 | .35 | .27 | .14 |
| 17 | .51 | .51 | .66 | .61 | .57 | .51 | .65 | .60 | .60 | .59 | .53 | .46 |
| 18 | .52 | .39 | .53 | .50 | .49 | .43 | .52 | .50 | .61 | .55 | .40 | .35 |
| 19 | .49 | .41 | .53 | .47 | .56 | .53 | .69 | .61 | .70 | .67 | .60 | .43 |
| 20 | .49 | .48 | .59 | .55 | .50 | .50 | .45 | .43 | .46 | .45 | .46 | .36 |
| 21 | .28 | .15 | .23 | .14 | .27 | .19 | .36 | .34 | .28 | .23 | .27 | .27 |
| 22 | .40 | .33 | .49 | .44 | .51 | .50 | .61 | .57 | .60 | .56 | .50 | .41 |
| 23 | .57 | .48 | .65 | .59 | .78 | .55 | .78 | .63 | .75 | .59 | .69 | .61 |
| 24 | .64 | .43 | .68 | .52 | .82 | .63 | .82 | .67 | .81 | .70 | .80 | .75 |
| 25 | .55 | .40 | .49 | .31 | .65 | .53 | .72 | .62 | .70 | .62 | .64 | .58 |
| 37 | .68 | .39 | .69 | .51 | .60 | .42 | .68 | .52 | .68 | .46 | .60 | .39 |
| 40 | .62 | .34 | .65 | .42 | .53 | .30 | .58 | .38 | .56 | .33 | .59 | .39 |
| 26 | .59 | .41 | .63 | .49 | .61 | .45 | .62 | .37 | .58 | .24 | .50 | .33 |
| 27 | .61 | .52 | .68 | .59 | .65 | .50 | .63 | .39 | .59 | .33 | .54 | .37 |
| 28 | .54 | .41 | .55 | .49 | .48 | .50 | .53 | .40 | .52 | .41 | .58 | .52 |
| 29 | .45 | .24 | .45 | .26 | .51 | .24 | .50 | .21 | .45 | .07 | .48 | .20 |
| 30 | .54 | .34 | .67 | .41 | .65 | .52 | .63 | .38 | .62 | .30 | .53 | .41 |
| 31 | .37 | .26 | .34 | .23 | .24 | .12 | .26 | .21 | .25 | .15 | .35 | .26 |
| 32 | .40 | .28 | .52 | .33 | .55 | .46 | .50 | .29 | .43 | .22 | .03 | -.02 |
| 33 | .48 | .27 | .41 | .23 | .49 | .16 | .45 | .24 | .53 | .30 | .45 | .22 |
| 34 | .51 | .42 | .40 | .47 | .43 | .32 | .49 | .62 | .54 | .61 | .55 | .59 |
| 35 | .62 | .18 | .70 | .33 | .69 | .46 | .71 | .34 | .70 | .28 | .75 | .38 |
| 36 | .63 | .25 | .58 | .29 | .61 | .35 | .64 | .26 | .60 | .24 | .70 | .30 |
| 38 | .60 | .36 | .57 | .31 | .65 | .42 | .65 | .41 | .70 | .33 | .64 | .38 |
| 39 | .60 | .35 | .58 | .27 | .60 | .23 | .59 | .33 | .61 | .31 | .57 | .35 |

TABLE 28.--Item to Facet and Item to Level Correlation by Level--College Students. (Category E)

| | Level 1 | | Level 2 | | Level 3 | | Level 4 | | Level 5 | | Level 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level |
| 1 | .41 | .33 | .59 | .38 | .45 | .28 | .61 | .39 | .61 | .51 | .63 | .49 |
| 2 | .17 | .16 | .32 | .18 | .06 | -.20 | .15 | -.14 | .16 | -.09 | .04 | -.12 |
| 3 | .38 | .08 | .27 | -.04 | .27 | .01 | .32 | -.03 | .44 | .08 | .33 | .11 |
| 4 | .34 | .21 | .47 | .22 | .60 | .47 | .56 | .44 | .49 | .43 | .61 | .45 |
| 5 | .55 | .46 | .42 | .40 | .47 | .44 | .28 | .42 | .49 | .28 | .40 | .33 |
| 6 | .45 | .29 | .44 | .50 | .57 | .43 | .50 | .51 | .46 | .41 | .47 | .43 |
| 7 | .37 | .19 | .09 | .11 | .26 | .06 | .31 | -.06 | .04 | -.06 | .30 | .01 |
| 8 | .25 | .26 | .58 | .43 | .54 | .49 | .31 | .24 | .53 | .43 | .11 | .07 |
| 9 | .43 | .36 | .29 | .33 | .44 | .39 | .42 | .39 | .44 | .44 | .43 | .38 |
| 10 | .51 | .43 | .66 | .49 | .30 | -.26 | .67 | .65 | .61 | .56 | .67 | .69 |
| 11 | .53 | .49 | .66 | .52 | .59 | .52 | .59 | .51 | .54 | .46 | .46 | .36 |
| 12 | .35 | .19 | .59 | .46 | .51 | .49 | .56 | .55 | .41 | .35 | .53 | .53 |
| 13 | .31 | .14 | .62 | .48 | .61 | .60 | .52 | .45 | .69 | .63 | .69 | .60 |
| 14 | .46 | .32 | .51 | .35 | .61 | .46 | .56 | .53 | .51 | .45 | .50 | .40 |
| 15 | .39 | .35 | .70 | .65 | .58 | .47 | .45 | .36 | .43 | .36 | .32 | .23 |
| 16 | .49 | .38 | .50 | .33 | .49 | .42 | .41 | .30 | .40 | .37 | .33 | .25 |
| 17 | .52 | .44 | .67 | .50 | .53 | .49 | .73 | .66 | .54 | .55 | .61 | .50 |
| 18 | .49 | .41 | .50 | .50 | .59 | .58 | .60 | .59 | .65 | .64 | .59 | .58 |
| 19 | .59 | .50 | .52 | .41 | .52 | .38 | .62 | .64 | .67 | .62 | .65 | .67 |
| 20 | .43 | .40 | .47 | .39 | .55 | .48 | .39 | .36 | .41 | .39 | .46 | .40 |
| 21 | .33 | .17 | .20 | .20 | .30 | .14 | .42 | .31 | .54 | .45 | .44 | .33 |
| 22 | .52 | .37 | .64 | .52 | .52 | .45 | .62 | .57 | .59 | .54 | .68 | .65 |
| 23 | .59 | .42 | .60 | .48 | .78 | .61 | .69 | .60 | .74 | .62 | .61 | .58 |
| 24 | .57 | .58 | .55 | .45 | .78 | .64 | .81 | .69 | .79 | .63 | .81 | .69 |
| 25 | .45 | .22 | .61 | .32 | .69 | .50 | .60 | .55 | .71 | .56 | .63 | .57 |
| 37 | .68 | .58 | .51 | .43 | .50 | .31 | .56 | .44 | .73 | .47 | .67 | .43 |
| 40 | .49 | .22 | .59 | .32 | .35 | .10 | .48 | .26 | .56 | .40 | .36 | .22 |
| 26 | .57 | .34 | .68 | .42 | .55 | .48 | .52 | .38 | .65 | .36 | .64 | .40 |
| 27 | .17 | .40 | .62 | .51 | .65 | .52 | .65 | .42 | .74 | .48 | .59 | .48 |
| 28 | .19 | .35 | .30 | .18 | .50 | .47 | .42 | .40 | .55 | .51 | .43 | .43 |
| 29 | .39 | .12 | .46 | .15 | .49 | .33 | .51 | .25 | .54 | .28 | .35 | -.01 |
| 30 | .53 | .36 | .54 | .24 | .63 | .38 | .63 | .35 | .60 | .28 | .51 | .28 |
| 31 | .33 | .11 | .27 | .22 | .36 | .-3 | .48 | .32 | .32 | .29 | .28 | .28 |
| 32 | .50 | .32 | .54 | .43 | .57 | .42 | .45 | .33 | .61 | .42 | .11 | .06 |
| 33 | .28 | .16 | .62 | .36 | .48 | .32 | .49 | .24 | .51 | .32 | .62 | .14 |
| 34 | .47 | .45 | .41 | .48 | .48 | .30 | .48 | .61 | .59 | .63 | .62 | .62 |
| 35 | .56 | .11 | .65 | .30 | .73 | .44 | .68 | .47 | .69 | .48 | .61 | .42 |
| 36 | .56 | .34 | .67 | .28 | .62 | .23 | .67 | .21 | .53 | .07 | .52 | .11 |
| 38 | .56 | .55 | .59 | .35 | .65 | .38 | .64 | .36 | .61 | .38 | .53 | .24 |
| 39 | .42 | .03 | .70 | .32 | .65 | .38 | .77 | .43 | .73 | .52 | .73 | .34 |

TABLE 29.--Item to Facet and Item to Level Correlation by Level--Treatment Addicts. (Category F)

| | Level 1 | | Level 2 | | Level 3 | | Level 4 | | Level 5 | | Level 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level | Facet | Level |
| 1 | .44 | .46 | .46 | .54 | .38 | .23 | .45 | .36 | .56 | .49 | .60 | .20 |
| 2 | .30 | -.00 | .51 | .13 | .35 | .09 | .33 | .18 | .29 | .14 | .43 | .30 |
| 3 | .28 | -.23 | .31 | -.21 | .43 | -.04 | .50 | -.08 | .40 | -.04 | .37 | -.11 |
| 4 | .61 | .25 | .47 | .39 | .38 | .28 | .50 | .21 | .57 | .53 | .50 | .43 |
| 5 | .56 | .50 | .55 | .59 | .48 | .39 | .31 | .36 | .36 | .34 | .25 | .27 |
| 6 | .41 | .22 | .50 | .33 | .46 | .27 | .46 | .29 | .58 | .32 | .54 | .34 |
| 7 | .65 | .26 | .55 | .31 | .24 | .09 | .35 | .08 | .41 | .17 | .50 | .13 |
| 8 | .61 | .62 | .55 | .45 | .46 | .34 | .56 | .43 | .57 | .49 | .59 | .51 |
| 9 | .56 | .69 | .52 | .52 | .40 | .44 | .49 | .52 | .36 | .37 | .33 | .39 |
| 10 | .22 | .27 | .48 | .39 | -.15 | -.11 | .43 | .35 | .53 | .43 | .36 | .29 |
| 11 | .65 | .47 | .56 | .39 | .48 | .40 | .26 | .16 | .33 | .22 | .30 | .28 |
| 12 | .54 | .40 | .56 | .41 | .55 | .45 | .54 | .40 | .60 | .53 | .65 | .61 |
| 13 | .60 | .44 | .58 | .43 | .49 | .42 | .56 | .39 | .67 | .55 | .62 | .45 |
| 14 | .63 | .58 | .65 | .56 | .61 | .54 | .58 | .56 | .64 | .61 | .61 | .64 |
| 15 | .56 | .40 | .43 | .42 | .64 | .53 | .41 | .34 | .51 | .29 | .42 | .23 |
| 16 | .50 | .44 | .61 | .40 | .55 | .45 | .43 | .30 | .50 | .32 | .45 | .36 |
| 17 | .57 | .52 | .67 | .51 | .67 | .56 | .69 | .60 | .62 | .53 | .66 | .52 |
| 18 | .53 | .54 | .59 | .59 | .48 | .43 | .55 | .49 | .48 | .50 | .56 | .49 |
| 19 | .65 | .55 | .62 | .48 | .53 | .49 | .65 | .53 | .57 | .56 | .65 | .56 |
| 20 | .61 | .48 | .58 | .44 | .46 | .41 | .34 | .35 | .35 | .28 | .29 | .24 |
| 21 | .23 | .18 | .24 | .21 | .48 | .43 | .52 | .37 | .47 | .34 | .44 | .34 |
| 22 | .62 | .53 | .65 | .55 | .58 | .45 | .40 | .33 | .54 | .44 | .54 | .41 |
| 23 | .65 | .56 | .55 | .45 | .69 | .47 | .66 | .29 | .66 | .52 | .62 | .40 |
| 24 | .62 | .55 | .54 | .34 | .75 | .57 | .59 | .40 | .70 | .45 | .59 | .22 |
| 25 | .61 | .39 | .76 | .47 | .49 | .36 | .53 | .42 | .51 | .34 | .51 | .48 |
| 37 | .67 | .44 | .61 | .40 | .63 | .30 | .61 | .36 | .60 | .32 | .59 | .27 |
| 40 | .50 | .29 | .63 | .42 | .48 | .22 | .49 | .26 | .40 | .38 | .56 | .30 |
| 26 | .71 | .56 | .74 | .48 | .61 | .24 | .60 | .31 | .57 | .06 | .48 | .07 |
| 27 | .67 | .61 | .75 | .63 | .70 | .44 | .61 | .27 | .61 | .22 | .53 | .20 |
| 28 | .37 | .40 | .45 | .41 | .32 | .45 | .49 | .48 | .38 | .45 | .41 | .42 |
| 29 | .58 | .41 | .53 | .38 | .55 | .35 | .63 | .30 | .49 | .20 | .58 | -.10 |
| 30 | .64 | .42 | .55 | .32 | .55 | .23 | .48 | .00 | .31 | .08 | .52 | -.04 |
| 31 | .58 | .49 | .43 | .48 | .36 | .33 | .45 | .45 | .45 | .39 | .46 | .42 |
| 32 | .32 | .18 | .57 | .32 | .50 | .34 | .45 | .19 | .44 | .09 | .12 | .19 |
| 33 | .49 | .22 | .57 | .23 | .53 | .06 | .51 | .12 | .53 | .07 | .55 | .06 |
| 34 | .64 | .60 | .55 | .57 | .52 | .30 | .67 | .45 | .55 | .36 | .51 | .19 |
| 35 | .72 | .35 | .76 | .23 | .61 | .19 | .62 | .22 | .70 | .19 | .63 | .22 |
| 36 | .65 | .18 | .63 | .13 | .67 | .29 | .58 | .23 | .58 | .23 | .63 | .17 |
| 38 | .70 | .43 | .75 | .42 | .68 | .35 | .72 | .39 | .74 | .42 | .57 | .32 |
| 39 | .58 | .47 | .67 | .49 | .53 | .46 | .69 | .43 | .59 | .34 | .45 | .23 |

TABLE 30.--Total Item to Facet and Item to Level Correlations Greater Than .50, From all 6 Categories.

| Content Facet | Initial Item No. | No. of facet r's>.50 | No. of level r's>.50 | Total[a] r's>.50 |
|---|---|---|---|---|
| | 1 | 16 | 3 | (19) |
| | 2 | 2 | 0 | 2 |
| | 3 | 1 | 0 | 1 |
| 1 | 4 | 18 | 4 | (22) |
| | 5 | 10 | 5 | (15) |
| | 6 | 13 | 4 | (17) |
| | 7 | 4 | 1 | 5 |
| | 8 | 17 | 3 | 20 |
| | 9 | 17 | 10 | 27 |
| | 10 | 19 | 12 | 31 |
| | 11 | 20 | 7 | 27 |
| | 12 | 28 | 12 | (40) |
| | 13 | 28 | 8 | (36) |
| 2 | 14 | 25 | 9 | 34 |
| | 15 | 14 | 3 | 17 |
| | 16 | 13 | 3 | 17 |
| | 17 | 30 | 7 | (37) |
| | 18 | 27 | 12 | (39) |
| | 19 | 31 | 5 | 36 |
| | 20 | 12 | 3 | 15 |
| | 21 | 4 | 1 | 5 |
| | 22 | 26 | 15 | 41 |
| | 23 | 36 | 19 | (55) |
| | 24 | 36 | 20 | (56) |
| 3 | 25 | 31 | 11 | (42) |
| | 37 | 33 | 4 | (37) |
| | 40 | 23 | 1 | 24 |
| | 26 | 34 | 9 | (43) |
| | 27 | 35 | 15 | (50) |
| | 28 | 11 | 4 | 15 |
| 4 | 29 | 23 | 0 | (23) |
| | 30 | 29 | 1 | (30) |
| | 31 | 2 | 0 | 2 |
| | 32 | 14 | 1 | 15 |
| | 33 | 18 | 2 | 20 |
| | 34 | 20 | 13 | 33 |
| | 35 | 36 | 3 | (39) |
| 5 | 36 | 32 | 0 | (32) |
| | 38 | 36 | 4 | (40) |
| | 39 | 31 | 2 | (33) |

[a]Circled totals represent the four items within a facet which have the most item to facet and item to Level correlation totals greater than .50, yet have inter-item correlations less than .50.

Note: See Appendix 5 Table A48 for final scale.

simplex approximation may not yield results equivalent to those obtained if only the final items were administered as a scale to a new sample (due to such problems as answer sets). However it is believed that such a procedure will provide a valuable estimate of the reliability and simplex approximation to be found in the final scale. It should be pointed out that the reliability and $Q^2$ values obtained in this manner may be spuriously high however, due to the item selection procedures used to produce the final scale.

In order to obtain these predictive estimates of final scale reliability and simplex approximation, Hoyt reliability coefficients and the $Q^2$ simplex approximation values were generated on the final scale items. The Hoyt reliability values on the final scale, for all categories and groups, are shown in Table 31. If these reliability coefficients are indicative of those obtained when the final scale is administered as a separate entity, internal consistancy reliability is assured.

The $Q^2$ values generated from the items chosen for the final scale are shown for groups and for totals in Tables 33-39. Here again, if these values are predictive of the $Q^2$ values to be obtained on the final scale, it will satisfy the simplex approximation conditions described earlier. These relatively high $Q^2$ values also indicate that construct validity is supported.

As mentioned in Chapter III, content validity is assumed, due to the facet structure (lateral struction) employed to identify item content. This assumption is further supported in the final scale due to the item selection procedure employed. Namely, high item to facet and item to Level correlations, yet low item to item correlations. This assures that items within a facet are heterogeneous yet do correlate highly with the facet total.

Predictive validity was assessed by comparing the hypothesized position of "known groups" (categories) along an unfavorable to favorable continuum toward drug users, to the Actual Action Level (Level 6) scores obtained on the ABS:DU. Tables A49-A54 in Appendix 6 show the N, mean, and standard deviation of all groups on all variables. The rank ordering of the 5 major categories are presented for each Level in Table 40 (both incarcerated drug users and treatment addicts are combined here to form one category, since only the position of "drug users" was predicted). Although the rank ordering of each category is presented for all Levels, only Level 6 behavior is used to assess predictive validity (see Chapter III).

## Analysis of Variance

In order to further examine the relationship between the criterion groups chosen, analysis of variance procedures were employed. The UNEQ1 routine (Ruble, Kiel, Rafter, 1966)

TABLE 31.--Hoyt Reliability by Group for the Final ABS:DU.

| Category | Group | Level | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 |
| A | 1 | .88 | .83 | .73 | .87 | .88 | .82 |
| Incarcerated | 2 | .84 | .81 | .71 | .89 | .87 | .71 |
| Drug Users | 3 | .93 | .90 | .88 | .95 | .95 | .94 |
| B | 1 | .84 | .82 | .85 | .91 | .90 | .87 |
| Police | 2 | .92 | .93 | .92 | .93 | .94 | .94 |
| | 3 | .94 | .94 | .93 | .92 | .95 | .96 |
| C | | | | | | | |
| Kansas | 1 | .98 | .98 | .98 | .99 | .99 | .94 |
| Parish | | | | | | | |
| D | 1 | .93 | .89 | .90 | .94 | .94 | .70 |
| High School | 2 | .94 | .92 | .89 | .94 | .94 | .89 |
| Students | 3 | .92 | .92 | .89 | .93 | .93 | .82 |
| | 4 | .97 | .98 | .95 | .97 | .97 | .92 |
| E | 1 | .87 | .86 | .86 | .86 | .90 | .73 |
| College | 2 | .92 | .89 | .88 | .92 | .90 | .74 |
| Students | 3 | .95 | .95 | .93 | .92 | .96 | .87 |
| F | 1 | .96 | .90 | .92 | .94 | .94 | .89 |
| Treatment | 2 | .87 | .88 | .83 | .91 | .93 | .88 |
| Addicts | 3 | .82 | .75 | .86 | .92 | .92 | .89 |
| Total | | .99 | .99 | .99 | .99 | .99 | .99 |

TABLE 32.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category A, Final Scale

ORIGINAL SIMPLEX MATRIX CATEGORY A GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .8570 | .6180 | .0270 | .0450 | .1170 |
| .8570 | 1.0000 | .6000 | .0630 | .1010 | .1730 |
| .6180 | .6000 | 1.0000 | .2630 | .3370 | .2350 |
| .0270 | .0630 | .2630 | 1.0000 | .8860 | .7230 |
| .0450 | .1010 | .3370 | .8860 | 1.0000 | .7300 |
| .1170 | .1730 | .2350 | .7230 | .7300 | 1.0000 |

Q**2= .9447563117

BEST SIMPLEX MATRIX CATEGORY A GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .8570 | .6180 | .1170 | .0450 | .0270 |
| .8570 | 1.0000 | .6000 | .1730 | .1010 | .0630 |
| .6180 | .6000 | 1.0000 | .2350 | .3370 | .2630 |
| .1170 | .1730 | .2350 | 1.0000 | .7300 | .7230 |
| .0450 | .1010 | .3370 | .7300 | 1.0000 | .8860 |
| .0270 | .0630 | .2630 | .7230 | .8860 | 1.0000 |

Q**2= .9620516329

ORIGINAL SIMPLEX MATRIX CATEGORY A GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .5890 | .3810 | .3230 | .3050 | .1880 |
| .5890 | 1.0000 | .4730 | .4340 | .4060 | .3470 |
| .3810 | .4730 | 1.0000 | .4200 | .4510 | .4380 |
| .3230 | .4340 | .4200 | 1.0000 | .8560 | .7280 |
| .3050 | .4060 | .4510 | .8560 | 1.0000 | .8280 |
| .1880 | .3420 | .4380 | .7280 | .8280 | 1.0000 |

Q**2= .9625990568

BEST SIMPLEX MATRIX CATEGORY A GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .5890 | .3810 | .3230 | .3050 | .1880 |
| .5890 | 1.0000 | .4730 | .4340 | .4060 | .3470 |
| .3810 | .4730 | 1.0000 | .4200 | .4510 | .4380 |
| .3230 | .4340 | .4200 | 1.0000 | .8560 | .7280 |
| .3050 | .4060 | .4510 | .8560 | 1.0000 | .8280 |
| .1880 | .3420 | .4380 | .7280 | .8280 | 1.0000 |

Q**2= .9625990568

ORIGINAL SIMPLEX MATRIX CATEGORY A GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .4600 | .3040 | .1320 | .1190 | .1220 |
| .4600 | 1.0000 | .1350 | .1470 | .0810 | .0420 |
| .3040 | .1350 | 1.0000 | .6350 | .4730 | .0570 |
| .1320 | .1470 | .6350 | 1.0000 | .5860 | .2140 |
| .1190 | .0810 | .4730 | .5860 | 1.0000 | .1970 |
| .1220 | .0420 | .0570 | .2140 | .1970 | 1.0000 |

Q**2= .9299790059

BEST SIMPLEX MATRIX CATEGORY A GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .4600 | .1350 | .1470 | .0810 | .0420 |
| .4600 | 1.0000 | .3040 | .1320 | .1190 | .1220 |
| .1350 | .3040 | 1.0000 | .6350 | .4730 | .0570 |
| .1470 | .1320 | .6350 | 1.0000 | .5860 | .2140 |
| .0810 | .1190 | .4730 | .5860 | 1.0000 | .1970 |
| .0420 | .1220 | .0570 | .2140 | .1970 | 1.0000 |

Q**2= .9508699703

TABLE 33.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category B, Final Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY B GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .6970 | .4540 | .4050 | .3730 | .4280 |
| .6970 | 1.0000 | .6590 | .5020 | .2880 | .3290 |
| .4540 | .6590 | 1.0000 | .7750 | .1640 | .3020 |
| .4050 | .5020 | .7750 | 1.0000 | .1630 | .0510 |
| .3730 | .2880 | .1640 | .1630 | 1.0000 | .9770 |
| .4280 | .3290 | .3020 | .0510 | .9770 | 1.0000 |

Q**2= .7729809678

BEST SIMPLEX MATRIX CATEGORY B GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .7750 | .5020 | .4050 | .1630 | .0510 |
| .7750 | 1.0000 | .6590 | .4540 | .1640 | .3020 |
| .5020 | .6590 | 1.0000 | .6970 | .2880 | .3290 |
| .4050 | .4540 | .6970 | 1.0000 | .3730 | .4280 |
| .1630 | .1640 | .2880 | .3730 | 1.0000 | .9770 |
| .0510 | .3020 | .3290 | .4280 | .9770 | 1.0000 |

Q**2= .9476382684

ORIGINAL SIMPLEX MATRIX CATEGORY B GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .7540 | .7520 | .5880 | .4630 | .5150 |
| .7540 | 1.0000 | .8450 | .8630 | .6560 | .7540 |
| .7520 | .8450 | 1.0000 | .8450 | .6470 | .7450 |
| .5880 | .8630 | .8450 | 1.0000 | .7480 | .8450 |
| .4630 | .6560 | .6470 | .7480 | 1.0000 | .9180 |
| .5150 | .7590 | .7450 | .8450 | .9180 | 1.0000 |

Q**2= .9729392417

BEST SIMPLEX MATRIX CATEGORY B GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .7520 | .7540 | .5880 | .5150 | .4630 |
| .7520 | 1.0000 | .8450 | .8450 | .7450 | .6470 |
| .7540 | .8450 | 1.0000 | .8630 | .7540 | .6560 |
| .5880 | .8450 | .8630 | 1.0000 | .8450 | .7480 |
| .5150 | .7450 | .7590 | .8450 | 1.0000 | .9180 |
| .4630 | .6470 | .6560 | .7480 | .9180 | 1.0000 |

Q**2= .9883260789

ORIGINAL SIMPLEX MATRIX CATEGORY B GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .7430 | .4050 | .3750 | .4550 | .3700 |
| .7430 | 1.0000 | .4880 | .6020 | .4730 | .3590 |
| .4050 | .4880 | 1.0000 | .5610 | .4890 | .4980 |
| .3750 | .6020 | .5610 | 1.0000 | .8830 | .7790 |
| .4550 | .4730 | .4890 | .8830 | 1.0000 | .8580 |
| .3700 | .3590 | .4980 | .7990 | .8580 | 1.0000 |

Q**2= .9296742290

BEST SIMPLEX MATRIX CATEGORY B GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .7430 | .4050 | .3750 | .4550 | .3700 |
| .7430 | 1.0000 | .4880 | .6020 | .4730 | .3590 |
| .4050 | .4880 | 1.0000 | .5610 | .4890 | .4980 |
| .3750 | .6020 | .5610 | 1.0000 | .8830 | .7790 |
| .4550 | .4730 | .4890 | .8830 | 1.0000 | .8580 |
| .3700 | .3590 | .4980 | .7990 | .8580 | 1.0000 |

Q**2= .9296742290

TABLE 34.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category C, Final Scale.

**ORIGINAL SIMPLEX MATRIX CATEGORY C**

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.6620 | 0.3500 | 0.3020 | 0.4250 | 0.2410 |
| 0.6620 | 1.0000 | 0.3040 | 0.2520 | 0.3030 | 0.1140 |
| 0.3500 | 0.3400 | 1.0000 | 0.6090 | 0.6800 | 0.6060 |
| 0.3020 | 0.2520 | 0.6090 | 1.0000 | 0.8480 | 0.8460 |
| 0.4250 | 0.3030 | 0.6800 | 0.8480 | 1.0000 | 0.8700 |
| 0.2410 | 0.1140 | 0.6060 | 0.8460 | 0.8700 | 1.0000 |

Q**2= 0.9435600355

**BEST SIMPLEX MATRIX CATEGORY C**

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.6620 | 0.3040 | 0.3030 | 0.2520 | 0.1140 |
| 0.6620 | 1.0000 | 0.3500 | 0.4250 | 0.3020 | 0.2410 |
| 0.3400 | 0.3500 | 1.0000 | 0.6800 | 0.6090 | 0.6060 |
| 0.3030 | 0.4250 | 0.6800 | 1.0000 | 0.8480 | 0.8700 |
| 0.2520 | 0.3020 | 0.6090 | 0.8480 | 1.0000 | 0.8460 |
| 0.1140 | 0.2410 | 0.6060 | 0.8700 | 0.8460 | 1.0000 |

Q**2= 0.9726028183

TABLE 35.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category D, Final Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY D GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .4010 | .2380 | .1180 | .2260 | .1560 |
| .4010 | 1.0000 | .1360 | .0340 | .1220 | .1690 |
| .2380 | .1360 | 1.0000 | .6900 | .6130 | .6790 |
| .1180 | .0340 | .6900 | 1.0000 | .8610 | .8510 |
| .2260 | .1220 | .6130 | .8610 | 1.0000 | .8190 |
| .1560 | .1690 | .6790 | .8510 | .8190 | 1.0000 |

Q**2= .9176804166

BEST SIMPLEX MATRIX CATEGORY D GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .4010 | .1360 | .1690 | .1220 | .0340 |
| .4010 | 1.0000 | .2380 | .1540 | .2260 | .1180 |
| .1360 | .2340 | 1.0000 | .6790 | .6130 | .6900 |
| .1690 | .1560 | .6790 | 1.0000 | .8190 | .8510 |
| .1220 | .2260 | .6130 | .8190 | 1.0000 | .8610 |
| .0340 | .1180 | .6900 | .8510 | .8610 | 1.0000 |

Q**2= .9670703669

ORIGINAL SIMPLEX MATRIX CATEGORY D GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .1880 | .2380 | .1320 | .2700 | .2880 |
| .1880 | 1.0000 | .0290 | .1840 | .1990 | .2140 |
| .2380 | .0290 | 1.0000 | .6860 | .6880 | .7660 |
| .1320 | .1840 | .6860 | 1.0000 | .8260 | .7900 |
| .2700 | .1990 | .6880 | .8260 | 1.0000 | .9010 |
| .2880 | .2140 | .7660 | .7900 | .9010 | 1.0000 |

Q**2= .7879978181

BEST SIMPLEX MATRIX CATEGORY D GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .1880 | .2140 | .1990 | .1840 | .0290 |
| .1880 | 1.0000 | .2880 | .2700 | .1320 | .2380 |
| .2140 | .2880 | 1.0000 | .9010 | .7900 | .7660 |
| .1990 | .2700 | .9010 | 1.0000 | .8260 | .6880 |
| .1840 | .1320 | .7900 | .8260 | 1.0000 | .6860 |
| .0290 | .2380 | .7660 | .6880 | .6860 | 1.0000 |

Q**2= .9126287599

ORIGINAL SIMPLEX MATRIX CATEGORY D GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .2970 | .0690 | .0460 | .1890 | .2040 |
| .2970 | 1.0000 | .2530 | .4150 | .2740 | .4090 |
| .0690 | .2930 | 1.0000 | .7240 | .5890 | .4970 |
| .0460 | .4150 | .7240 | 1.0000 | .7880 | .7730 |
| .1890 | .2740 | .5890 | .7880 | 1.0000 | .8040 |
| .2040 | .4090 | .4970 | .7730 | .8040 | 1.0000 |

Q**2= .9079950677

BEST SIMPLEX MATRIX CATEGORY D GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .2970 | .2040 | .1890 | .0460 | .0690 |
| .2970 | 1.0000 | .4090 | .2740 | .4150 | .2530 |
| .2040 | .4090 | 1.0000 | .8040 | .7730 | .4970 |
| .1890 | .2740 | .8040 | 1.0000 | .7880 | .5890 |
| .0460 | .4150 | .7730 | .7880 | 1.0000 | .7240 |
| .0690 | .2930 | .4970 | .5890 | .7240 | 1.0000 |

Q**2= .9625175800

ORIGINAL SIMPLEX MATRIX CATEGORY D GROUP 4

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .6310 | .2850 | .1190 | .0830 | .0880 |
| .6310 | 1.0000 | .3140 | .1840 | .1170 | .1910 |
| .2850 | .3140 | 1.0000 | .5330 | .4770 | .5770 |
| .1190 | .1840 | .5330 | 1.0000 | .9460 | .8800 |
| .0830 | .1170 | .4770 | .9460 | 1.0000 | .8980 |
| .0880 | .1910 | .5770 | .8800 | .8980 | 1.0000 |

Q**2= .9901816380

BEST SIMPLEX MATRIX CATEGORY D GROUP 4

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .6310 | .2850 | .1190 | .0880 | .0830 |
| .6310 | 1.0000 | .3140 | .1840 | .1910 | .1170 |
| .2850 | .3140 | 1.0000 | .5330 | .5770 | .4770 |
| .1190 | .1840 | .5330 | 1.0000 | .8800 | .9460 |
| .0880 | .1910 | .5770 | .8800 | 1.0000 | .8980 |
| .0830 | .1170 | .4770 | .9460 | .8980 | 1.0000 |

Q**2= .9917112736

TABLE 36.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category E, Final Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY E GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .5680 | .4130 | .5600 | .5170 | .0340 |
| .5680 | 1.0000 | .2680 | .3090 | .1840 | .3570 |
| .4130 | .2680 | 1.0000 | .8080 | .7820 | .2270 |
| .5600 | .3090 | .8080 | 1.0000 | .9630 | .5860 |
| .5170 | .1840 | .7820 | .9630 | 1.0000 | .5690 |
| .0340 | .3570 | .2270 | .5860 | .5690 | 1.0000 |

Q**2= .8145865888

BEST SIMPLEX MATRIX CATEGORY E GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .5680 | .4130 | .5600 | .5170 | .0340 |
| .5680 | 1.0000 | .2680 | .3090 | .1840 | .3570 |
| .4130 | .2680 | 1.0000 | .8080 | .7820 | .2270 |
| .5600 | .3090 | .8080 | 1.0000 | .9630 | .5860 |
| .5170 | .1840 | .7820 | .9630 | 1.0000 | .5690 |
| .0340 | .3570 | .2270 | .5860 | .5690 | 1.0000 |

Q**2= .8145865888

ORIGINAL SIMPLEX MATRIX CATEGORY E GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .0700 | .1220 | .1970 | .1610 | .2710 |
| .0700 | 1.0000 | .0970 | .2280 | .2610 | .2350 |
| .1220 | .0970 | 1.0000 | .6280 | .6400 | .5580 |
| .1970 | .2280 | .6280 | 1.0000 | .9450 | .8900 |
| .1610 | .2610 | .6400 | .9450 | 1.0000 | .9250 |
| .2710 | .2350 | .5580 | .8900 | .9250 | 1.0000 |

Q**2= .8032595500

BEST SIMPLEX MATRIX CATEGORY E GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .0700 | .2710 | .1970 | .1610 | .1220 |
| .0700 | 1.0000 | .2350 | .2280 | .2610 | .0970 |
| .2710 | .2350 | 1.0000 | .8900 | .9250 | .5580 |
| .1970 | .2280 | .8900 | 1.0000 | .9450 | .6280 |
| .1610 | .2610 | .9250 | .9450 | 1.0000 | .6400 |
| .1220 | .0970 | .5580 | .6280 | .6400 | 1.0000 |

Q**2= .8506856314

ORIGINAL SIMPLEX MATRIX CATEGORY E GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .5660 | .2700 | .1590 | .0540 | .2040 |
| .5660 | 1.0000 | .3230 | .2430 | .1800 | .3350 |
| .2700 | .3230 | 1.0000 | .7870 | .7260 | .7820 |
| .1590 | .2430 | .7870 | 1.0000 | .8780 | .9230 |
| .0540 | .1800 | .7260 | .8780 | 1.0000 | .9020 |
| .2040 | .3350 | .7820 | .9230 | .9020 | 1.0000 |

Q**2= .9563579983

BEST SIMPLEX MATRIX CATEGORY E GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | .5660 | .2700 | .2040 | .1590 | .0540 |
| .5660 | 1.0000 | .3230 | .3350 | .2430 | .1800 |
| .2700 | .3230 | 1.0000 | .7820 | .7870 | .7260 |
| .2040 | .3350 | .7820 | 1.0000 | .9230 | .9020 |
| .1590 | .2430 | .7870 | .9230 | 1.0000 | .8780 |
| .0540 | .1800 | .7260 | .9020 | .8780 | 1.0000 |

Q**2= .9634568494

TABLE 37.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, Category F, Final Scale.

ORIGINAL SIMPLEX MATRIX CATEGORY F GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1,0000 | ,7220 | ,1330 | ,0040 | ,2250 | ,2040 |
| ,7220 | 1,0000 | ,1770 | ,2860 | ,0810 | ,2490 |
| ,1330 | ,1770 | 1,0000 | ,3410 | ,2190 | ,0310 |
| ,0040 | ,2860 | ,3410 | 1,0000 | ,4990 | ,4030 |
| ,2250 | ,0810 | ,2190 | ,4990 | 1,0000 | ,5840 |
| ,2040 | ,2490 | ,0310 | ,4030 | ,5840 | 1,0000 |

Q**2= ,7255303941

BEST SIMPLEX MATRIX CATEGORY F GROUP 1

| | | | | | |
|---|---|---|---|---|---|
| 1,0000 | ,7220 | ,1330 | ,2250 | ,2040 | ,0040 |
| ,7220 | 1,0000 | ,1770 | ,0810 | ,2490 | ,2860 |
| ,1330 | ,1770 | 1,0000 | ,2190 | ,0310 | ,3410 |
| ,2250 | ,0810 | ,2190 | 1,0000 | ,5840 | ,4990 |
| ,2040 | ,2490 | ,0310 | ,5840 | 1,0000 | ,4030 |
| ,0040 | ,2860 | ,3410 | ,4990 | ,4030 | 1,0000 |

Q**2= ,7521529593

ORIGINAL SIMPLEX MATRIX CATEGORY F GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1,0000 | ,8570 | ,6030 | ,2120 | ,2090 | ,1070 |
| ,8570 | 1,0000 | ,7280 | ,4350 | ,4350 | ,3480 |
| ,6030 | ,7280 | 1,0000 | ,4620 | ,4150 | ,2630 |
| ,2120 | ,4350 | ,4620 | 1,0000 | ,8860 | ,7970 |
| ,2090 | ,4350 | ,4150 | ,8860 | 1,0000 | ,8170 |
| ,1070 | ,3480 | ,2630 | ,7970 | ,8170 | 1,0000 |

Q**2= ,9670242434

BEST SIMPLEX MATRIX CATEGORY F GROUP 2

| | | | | | |
|---|---|---|---|---|---|
| 1,0000 | ,8570 | ,6030 | ,2120 | ,2090 | ,1070 |
| ,8570 | 1,0000 | ,7280 | ,4350 | ,4350 | ,3480 |
| ,6030 | ,7280 | 1,0000 | ,4620 | ,4150 | ,2630 |
| ,2120 | ,4350 | ,4620 | 1,0000 | ,8860 | ,7970 |
| ,2090 | ,4350 | ,4150 | ,8860 | 1,0000 | ,8170 |
| ,1070 | ,3480 | ,2630 | ,7970 | ,8170 | 1,0000 |

Q**2= ,9670242434

ORIGINAL SIMPLEX MATRIX CATEGORY F GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1,0000 | ,7240 | ,5180 | ,7120 | ,8030 | ,6540 |
| ,7240 | 1,0000 | ,4160 | ,4520 | ,5560 | ,4570 |
| ,5180 | ,4610 | 1,0000 | ,7750 | ,5730 | ,5260 |
| ,7120 | ,4520 | ,7750 | 1,0000 | ,8530 | ,8400 |
| ,8030 | ,5560 | ,5370 | ,8530 | 1,0000 | ,8690 |
| ,6540 | ,4570 | ,5260 | ,8400 | ,8690 | 1,0000 |

Q**2= ,7706164352

BEST SIMPLEX MATRIX CATEGORY F GROUP 3

| | | | | | |
|---|---|---|---|---|---|
| 1,0000 | ,7240 | ,4160 | ,4520 | ,5560 | ,4570 |
| ,7240 | 1,0000 | ,5180 | ,7120 | ,8030 | ,6540 |
| ,4610 | ,5180 | 1,0000 | ,7750 | ,5730 | ,5260 |
| ,4520 | ,7120 | ,7750 | 1,0000 | ,8530 | ,8400 |
| ,5560 | ,8030 | ,5370 | ,8530 | 1,0000 | ,8690 |
| ,4570 | ,6540 | ,5260 | ,8400 | ,8690 | 1,0000 |

Q**2= ,8440920733

TABLE 38.--Correlation Matrices and $Q^2$ Values for Original and Best Simplex Approximations, All Categories, Final Scale.

ORIGINAL SIMPLEX MATRIX TOTAL

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.5360 | 0.3330 | 0.2350 | 0.1960 | 0.1670 |
| 0.5360 | 1.0000 | 0.2920 | 0.1810 | 0.1840 | 0.1680 |
| 0.3330 | 0.2920 | 1.0000 | 0.7160 | 0.6230 | 0.6020 |
| 0.2350 | 0.1810 | 0.7160 | 1.0000 | 0.8400 | 0.7970 |
| 0.1960 | 0.1840 | 0.6230 | 0.8400 | 1.0000 | 0.8560 |
| 0.1670 | 0.1680 | 0.6020 | 0.7970 | 0.8560 | 1.0000 |

Q**2= 0.9809485721

BEST SIMPLEX MATRIX TOTAL

| | | | | | |
|---|---|---|---|---|---|
| 1.0000 | 0.5360 | 0.2920 | 0.1810 | 0.1840 | 0.1680 |
| 0.5360 | 1.0000 | 0.3330 | 0.2350 | 0.1960 | 0.1670 |
| 0.2920 | 0.3330 | 1.0000 | 0.7160 | 0.6230 | 0.6020 |
| 0.1810 | 0.2350 | 0.7160 | 1.0000 | 0.8400 | 0.7970 |
| 0.1840 | 0.1960 | 0.6230 | 0.8400 | 1.0000 | 0.8560 |
| 0.1680 | 0.1670 | 0.6020 | 0.7970 | 0.8560 | 1.0000 |

Q**2= 0.9899628587

was used to calculate one way analysis of variance to test for differences between group means. The procedure employed to test for significance among multiple means was approximately equal to Duncan's multiple means test (Kramer, 1956) up to and including three treatment means. The procedure is slightly more liberal when more than three means are included (slightly increasing the likelihood of a Type I error).

Due to the relatively small N in some groups, analysis of variance was not done between groups within categories. Pair-wise contrasts by Level of the ABS:DU, were however, calculated on the six categories sampled. These results are presented in Table 39. The means (by Level) are presented, as are the F ratios and significance levels of the actual pair-wise comparisons. It is apparent, for example, that categories A and B differed significantly from one another (.001) for all six Levels of the ABS:DU. It appears that the scale does differentiate certain categories on the basis of their Level scores.

The analysis of variance depicted in Table 39 indicates that the differences between the police and all other categories were significant at the .05 level or greater. Similarly, the difference in Level 6 means between the Kansas parish and all other categories is significant at the .0005 level. The only other pair-wise comparison to reveal significant differences at the .05 level is that between College

TABLE 39.--Analysis of Variance Between Categories, Pair Wise Comparisons, Initial Scale.

| Level | Category Means | | | | | | F Ratios and Significance Levels for Pair Wise Comparisons | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | A vs B F α | A vs C F α | A vs D F α | A vs E F α | A vs F F α | B vs C F α |
| 1 | 67.9 | 57.6 | 65.9 | 66.1 | 65.0 | 63.1 | 45.0(.0005) | 1.6(.20) | .01(.88) | 3.2(.07) | 9.4(.002) | 24.4(.0005) |
| 2 | 62.3 | 55.8 | 63.6 | 66.7 | 65.6 | 61.7 | 12.5(.001) | .38(.54) | 6.9(.009) | 2.7(.10) | .12(.72) | 14.7(.0005) |
| 3 | 70.6 | 59.1 | 72.8 | 77.2 | 77.8 | 73.2 | 33.2(.0005) | .49(.48) | 16.5(.0005) | 10.0(.002) | 1.6(.21) | 35.4(.0005) |
| 4 | 72.1 | 58.1 | 68.9 | 78.7 | 78.2 | 74.5 | 46.3(.0005) | 2.1(.14) | 13.2(.0005) | 8.0(.005) | 1.3(.26) | 23.4(.0005) |
| 5 | 71.9 | 56.2 | 79.0 | 78.9 | 78.3 | 74.7 | 54.1(.0005) | 1.7(.19) | 13.6(.0005) | 8.3(.005) | 1.7(.19) | 30.4(.0005) |
| 6 | 69.0 | 54.8 | 72.0 | 66.8 | 64.2 | 73.1 | 12.5(.001) | 92.1(.0005) | .37(.55) | 1.3(.24) | .95(.33) | 35.1(.0005) |

| Level | B vs D F α | B vs E F α | B vs F F α | C vs D F α | C vs E F α | C vs F F α | D vs E F α | D vs F F α | E vs F F α | Total F Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 48.1(.0005) | 18.9(.0005) | 10.8(.001) | 1.8(.17) | .29(.56) | 2.8(.09) | 3.7(.05) | 10.7(.001) | 1.3(.26) | 12.6(.0005) |
| 2 | 38.1(.0005) | 22.8(.0005) | 8.6(.005) | 3.5(.06) | 1.0(.31) | .85(.36) | .44(.52) | 3.7(.05) | 3.6(.06) | 8.3(.0005) |
| 3 | 97.2(.0005) | 67.7(.0005) | 42.2(.0005) | 10.2(.002) | 5.7(.02) | .25(.62) | .10(.74) | 6.3(.01) | 3.5(.06) | 21.4(.0005) |
| 4 | 111.4(.0005) | 78.5(.0005) | 54.1(.0005) | 27.6(.0005) | 17.1(.0005) | 6.1(.01) | .08(.77) | 5.0(.02) | 2.7(.10) | 26.3(.0005) |
| 5 | 125.2(.0005) | 88.3(.0005) | 64.5(.0005) | 26.1(.0005) | 16.1(.0005) | 6.1(.01) | .08(.77) | 4.4(.03) | 2.3(.12) | 29.1(.0005) |
| 6 | 9.8(.002) | 4.4(.03) | 17.5(.0005) | 108.2(.0005) | 65.1(.0005) | 103.2(.0005) | .50(.48) | 2.76(.09) | 4.0(.04) | 29.9(.0005) |

students and treatment addicts. Thus 10 of the 15 comparisons (analysis of variance was done using incarcerated and treatment addicts as separate categories) at Level 6 yielded significant differences. Although 10 of the 15 comparisons were significant, comparison of Tables 13 and 40 indicate that the predicted rank ordering of categories on Level 6 is supported (in the hypothesised direction) in six instances. It is pointed out, however, that with the exception of the Kansas Parish group, the categories did rank order as hypothesized. It was hypothesized that the Kansas Parish group would be most unfavorable toward drug users at Level 6. Their scores however, indicate that they are the most positive at Level 6. Examination of Table 13 indicates that differences between the means were suggested, although not explicitly stated. It should be noted that the difference between the Kansas Parish and other categories was believed to be large. Analysis of variance revealed that the Kansas Parish Level 6 scores were significantly different from all other categories but <u>in the direction opposite</u> to that hypothesized. This reversal means that either "predictive validity" of the scale may be limited for this group or that the position of the Kansas Parish is not really "known." That is to say that the Actual Behavior of parish members may not coincide closely with the stated church dogma regarding drug use. A further possibility is that this specific fundamentalist parish is not unfavorable

TABLE 40.--Rank Ordered Means, by Category and by Level (Initial Scale).

| | Unfavorable | | | Favorable | |
|---|---|---|---|---|---|
| Level 1 | P | C | K | D | H |
| Stereotypic | 57.6 | 65.0 | 65.9 | 66.1 | 67.8 |
| Level 2 | P | D | K | C | H |
| Normative | 55.8 | 65.6 | 63.6 | 65.6 | 66.7 |
| Level 3 | P | D | K | C | H |
| Moral | 59.1 | 71.7 | 72.8 | 77.2 | 77.8 |
| Level 4 | P | K | D | C | H |
| Hypothetical | 58.1 | 68.9 | 73.1 | 78.2 | 78.7 |
| Level 5 | P | K | D | C | H |
| Actual Feeling | 56.2 | 79.0 | 73.1 | 78.3 | 78.9 |
| Level 6 | P | C | H | D | K |
| Actual Action | 54.8 | 64.2 | 66.8 | 70.8 | 72.0 |

D = drug users (categories A and F).
P = police (category B).
C = College Students (category E).
H = High School Students (category D).
K = Kansas Parish (category C).

toward drug users. At any rate, the total reversal of the one category noted is not believed to seriously jeopardize the predictive validity of the scale since the other four groups rank ordered as hypothesized.

Examination of Table 13 also indicates that the "intuited" interval between police and college or high school students, and the difference between drug users and college or high school students was believed to be larger than that between college and high school students. Both visual inspection of the relative sizes of the means (Tables A49-A54) for these categories, as well as the pair-wise contrasts (Table 39) reveals that this was in fact the case. This lends further support to the predictive validity claimed for the ABS:DU.

## Substantive Hypothesis

Certain illustrative substantive hypotheses were generated to demonstrate that the variables identified in the literature as important correlates and/or predictors of drug related attitudes, relate differently to specified Levels of the ABS:DU. All the substantive hypothesis in the present study were tested with a variation of the CDC STATROUT program. The two variables chosen to demonstrate this relationship were political activism and Efficacy. Political activism was assessed by voting behavior and participation in rallies while Efficacy was measured by

an adaptation of Wolf's (1967) Life Situations scale. The hypothesized correlation directions are presented in Table 14. Table 41 depicts the actual size and direction of the correlations obtained between these two variables and the specified Levels of attitude-behavior (i.e. Stereotypic to Actual Action) on the initial scale. These correlations were obtained from the variable to Level analysis carried out on the total sample (i.e., all groups at all Levels). Examination of Table 41 indicates only one correlation between specified Level 6 of the ABS:DU and Efficacy or participation in political rallies to be significant at the .05 level. Although voting behavior does correlate significantly with Levels 3 through 6, it accounts for less than 9 per cent of the variance at any given Level. Nevertheless, hypothesis H-7 (Efficacy will correlate negatively with attitude-behavior toward drug users as measured at Level 2 of the ABS:DU for the sample identified), is supported. The eleven other substantive hypotheses are not supported. It appears, that political activism and Efficacy (as defined in this study) do not, by themselves predict attitude-behavior as measured by the ABS:DU. However, it is suggested that drug related attitude-behavior may not correlate highly with any one given variable, but that the combined variance of several variables may be predictive. This possibility will be further explored in Chapter V.

TABLE 41.--Actual Correlations and Significance Levels[a] Obtained With Specified Variables (Initial Scale; Total Sample).

| Subscale Type-Level | Efficacy | Political Activism Voting Behavior | Political Rallies |
|---|---|---|---|
| Level 1 | -.08 (.03) | -.05 (.20) | .03 (.39) |
| Level 2 | -.15 (.005) | -.05 (.25) | .05 (.17) |
| Level 3 | -.05 (.19) | -.17 (.005) | .02 (.65) |
| Level 4 | -.06 (.12) | -.28 (.005) | .01 (.80) |
| Level 5 | -.05 (.19) | -.29 (.005) | .04 (.28) |
| Level 6 | .02 (.65) | -.26 (.005) | .01 (.88) |

[a]Significance levels in parentheses.

# CHAPTER V

# SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The first four chapters have dealt primarily with the methodological nature of the study, the analysis of data, and the testing of hypotheses. This chapter will briefly summarize the study, discuss limitations of the research, discuss the results, and make recommendations for future research.

## Summary

The major purpose of this study was to create an attitude-behavior toward drug users scale, based on facet theory and methodology. The instrument consists of six Levels of attitude-behavior which scale according to a specified statistical structure (i.e., simplex joint struction).

Furthermore, the content of this attitude-behavior scale, was selected according to an *a priori* mapping sentence (lateral struction). Construct validity was assessed via the simplex approximation. Content validity is assumed since facet theory was employed to guide item

selection, thus increasing the probability of the selection of relevant item content. Predictive validity was assessed by hypothesizing the relative position of "known groups" along an unfavorable to favorable attitude-behavior toward drug user continuum at Level 6. Reliability was assessed via the Hoyt method.

The initial scale was administered to a total of 679 subjects from categories and groups specified in Chapter IV. Item analysis procedures were employed to select 4 items from each of the 5 content facets employed in the original scale. These items constitute the final scale (Appendix 5). Reliability data obtained on the original scale was consistantly high. Similarly, the $Q^2$ values obtained suggest that construct validity of the original scale is high. Data were also obtained that partially supports predictive validity. Reliability and $Q^2$ values calculated on the items used in the final scale suggest that both internal consistancy coefficients and construct validity are acceptable.

It was also the purpose of this study to demonstrate that certain predictor variables may relate differentially with specified Levels of attitude-behavior, as measured by the ABS:DU, since previous studies of drug related attitudes provided incomparable, inconclusive, and frequently incongruous results regarding predictors and/or correlates of drug related attitude-behavior. This was not generally supported.

## Limitations of the Study

The only theoretical hypothesis which was not supported was that regarding predictive validity. As discussed earlier, the rank ordering of the "known group" Kansas parish is believed to have been either "unknown" or spurious at Level 6. As a result, conclusive statements about predictive validity are not possible at this time.

The relationship of the predictor variables and/or correlates of attitude-behavior toward drug users seems to be questionable, although multiple correlations indicate that certain of these variables are contributing significantly to the observed variance in scores.

Finally, the joining of groups to form categories to test the substantive hypothesis seems to be a questionable procedure, since analysis of variance between groups within categories has often reflected significant differences on Level scores of the ABS:DU (Table 39).

## Discussion and Recommendations

The methodological and theoretical hypothesis (simplex order, reliability, and rank order of groups) were supported, and the data indicate that the ABS:DU will serve a useful purpose as a research instrument in the future. It is also anticipated that the content item to facet analysis employed herein, may assist in developing

scaling procedures which permit a more precise structuring of the content items employed. It is conceivable that such content or lateral struction may approach unidimensionality within facets,within Levels,while maintaining multidimensionality across Levels. This, however will be subject for future research.

The directions and item stems for Levels 3 and 6 were changed slightly from previous ABS scales. Previous scales had not strictly followed the semantic structure outlined by Jordan (1969) at Level 3. Previous scales stated: In respect to (attitude object), do you yourself believe that it is usually right or wrong (specified behavior). This item stem more closely approximates the obiis profile outlined in Table 10. Although this is a semantically acceptable profile (Maierle, 1969), it is not the profile suggested by Jordan. The recommended profile (ibois, see Table 10) was employed in this study and the item stem read: In respect to (attitude object) what do you, yourself, believe others think is right or wrong (specified behavior).

Previous scales employed 4 choices for each item at Level 6. These choices were: (1) No experience, (2) No, (3) Uncertain, and (4) Yes. In the present scale, respondents were told to leave out Level 6 unless they had had experience or contact with illegal drug users (attitude object). As a result, three choices were offered to each

item. Namely: (1) No, (2) Uncertain, (3) Yes. The consistantly high $Q^2$ values obtained may partially reflect the new semantics employed at these levels. Again further research and experimentation is required to more fully evaluate the effect of slight differences in semantic structure.

As stated in Chapter IV, only one of the substantive hypothesis was supported. It was suggested that no one variable identified in this study would consistently account for a large portion of variance observed on the ABS:DU Level scores. After these results were observed, it was postulated that multiple correlations, run between specified variables and Levels of the ABS:DU might reveal significant predictors and/or correlates of attitudes toward drug users.

In an effort to examine this possibility, seven variables were chosen, on which to run multiple and partial correlations. The variables chosen included those about which substantive hypothesis had been tested, namely Efficacy (variable 38) and political activism (variables 20 and 22, includes voting behavior and participation in rallies and demonstrations), plus contact. Jordan (1969) suggests that amount of content per se, avoidance possibilities, and enjoyment of contact were predictive of attitude-behavior toward the mentally retarded. The

multiple and partial correlations for these variables, by group (Initial Scale) are presented in Tables 42-47 Examination of these tables indicates that the combined variance of these variables was usually statistically significant. This suggests that the interaction of two or more variables is more predictive of attitudes toward drug users than any single variable.

Partial correlations permit simultaneous examination of a number of variables with the dependent variable (in this case, Level scores on the ABS:DU). When a series of Pearsonian r's are examined between predictor variables and a dependent variable, spurious conclusions might be drawn if the predictor variables are themselves interrelated. However, partial correlations take into consideration the relationships among the predictor variables and partial out the "unique" correlation of each variable with the dependent variable. This permits us to examine the relationship between two variables while holding the others constant.

Therefore, if significant multiple correlations exist for a given group, at a given Level, it is possible to examine both the partial and the zero order correlations (available from the author) to determine which variable(s) is contributing most to the variance at a given Level.

Examination of the partial correlations, (Tables 42-47) indicates that many are negative. For example, in

TABLE 42.--Multiple and Partial Correlations for Specified Variables, Category A, Initial Scale.

| Group | Variable | L.1 | L.2 | L.3 | L.4 | L.5 | L.6 |
|---|---|---|---|---|---|---|---|
| Category A Group 1 | 20 Political Rallies | .34(.07) | .13(.49) | .06(.76) | -.16(.41) | -.29(.12) | .00(.99) |
| | 21 Political Demonstrations | .04(.79) | .04(.83) | .01(.94) | -.09(.62) | -.17(.37) | .07(.73) |
| | 22 Vote | -.17(.36) | -.28(.14) | -.26(.17) | -.01(.97) | -.07(.71) | .12(.53) |
| | 29 Contact (amount) | -.06(.76) | .22(.25) | .25(.18) | .27(.15) | .28(.13) | .13(.50) |
| | 33 Avoidence | -.23(.22) | -.21(.27) | -.02(.94) | .08(.68) | .12(.52) | .05(.80) |
| | 35 Enjoyment | -.06(.76) | .07(.72) | .14(.45) | .12(.52) | .16(.41) | .22(.24) |
| | 38 Efficacy | .06(.76) | .16(.39) | .15(.43) | -.06(.76) | -.07(.70) | .10(.59) |
| | Multiple R 36[a] | .41(.02)[b] | .51(.02) | .58(.02) | .42(.02) | .49(.02) | .47(.02) |
| Category A Group 2 | 20 Political Rallies | -.32(.15) | .11(.61) | .10(.65) | -.22(.33) | .11(.62) | -.02(.92) |
| | 21 Political Demonstrations | .27(.23) | -.16(.47) | .02(.93) | .03(.88) | .02(.93) | .03(.89) |
| | 22 Vote | .10(.67) | .35(.12) | .17(.46) | .18(.41) | .34(.12) | .10(.66) |
| | 29 Contact (amount) | .22(.32) | -.14(.53) | -.03(.89) | .14(.54) | .41(.06) | -.34(.12) |
| | 33 Avoidence | -.37(.09) | .11(.62) | .02(.92) | -.10(.67) | .13(.55) | .10(.65) |
| | 35 Enjoyment | .16(.48) | .10(.67) | .27(.22) | .01(.97) | .20(.37) | .24(.28) |
| | 38 Efficacy | -.13(.55) | -.19(.40) | .06(.79) | .27(.22) | .25(.25) | .16(.48) |
| | Multiple R 28[a] | .54(.02) | .43(.02) | .47(.02) | .44(.02) | .62(.02) | .46(.02) |
| Category A Group 3 | 20 Political Rallies | .20(.25) | -.33(.05) | -.12(.50) | -.02(.92) | -.06(.77) | -.22(.21) |
| | 21 Political Demonstrations | .16(.35) | .34(.04) | .10(.57) | .05(.78) | -.08(.63) | .19(.26) |
| | 22 Vote | .06(.75) | .04(.82) | .12(.50) | .16(.36) | .22(.19) | .13(.44) |
| | 29 Contact (amount) | -.40(.02) | -.41(.01) | -.25(.14) | .15(.40) | .09(.62) | -.06(.75) |
| | 33 Avoidence | -.01(.94) | .07(.67) | .21(.22) | .17(.31) | .13(.45) | .02(.92) |
| | 35 Enjoyment | .05(.79) | -.09(.62) | -.07(.68) | .14(.40) | -.03(.88) | .17(.32) |
| | 38 Efficacy | -.31(.07) | .15(.39) | -.12(.50) | .12(.50) | .06(.72) | .09(.62) |
| | Multiple R 42[a] | .54(.02) | .55(.02) | .40(.02) | .34(.02) | .32(.02) | .30(.05) |

[a]N for Category.

[b]Significance levels in parentheses, Tables 48-53.

TABLE 43.--Multiple and Partial Correlations for Specified Variables, Category B, Initial Scale.

| Group | Variable | L.1 | L.2 | L.3 | L.4 | L.5 | L.6 |
|---|---|---|---|---|---|---|---|
| Category B Group 1 | 20 Political Rallies | .05(.82) | -.15(.51) | -.02(.92) | -.04(.86) | -.15(.53) | -.19(.40) |
| | 21 Political Demonstrations | .41(.07) | .51(.02) | .43(.05) | .65(.00) | .63(.00) | .59(.01) |
| | 22 Vote | -.20(.39) | .13(.56) | .01(.96) | .09(.70) | -.17(.46) | -.26(.25) |
| | 29 Contact (amount) | .10(.68) | .10(.65) | .31(.17) | .49(.02) | .36(.11) | .42(.06) |
| | 33 Avoidence | .18(.45) | -.01(.97) | .34(.13) | .41(.06) | .47(.03) | .45(.04) |
| | 35 Enjoyment | -.05(.82) | -.22(.33) | -.22(.33) | -.25(.27) | -.07(.77) | .09(.69) |
| | 38 Efficacy | .30(.19) | .44(.05) | .17(.47) | -.04(.88) | .07(.77) | -.25(.27) |
| | Multiple R 27[a] | .76(.02) | .70(.02) | .71(.02) | .80(.02) | .84(.02) | .81(.02) |
| Category B Group 2 | 20 Political Rallies | .11(.60) | -.05(.80) | .24(.25) | .09(.66) | -.10(.64) | .11(.61) |
| | 21 Political Demonstrations | .25(.23) | .14(.51) | -.12(.57) | -.02(.92) | .05(.82) | -.09(.68) |
| | 22 Vote | .26(.22) | .08(.70) | .01(.92) | .06(.75) | -.18(.40) | -.68(.75) |
| | 29 Contact (amount) | -.22(.29) | -.56(.00) | -.59(.00) | -.58(.00) | -.53(.01) | -.33(.10) |
| | 33 Avoidence | .12(.58) | .01(.96) | .19(.37) | .06(.76) | .25(.23) | .12(.58) |
| | 35 Enjoyment | .27(.19) | .03(.89) | .40(.05) | -.00(.99) | .01(.96) | -.12(.55) |
| | 38 Efficacy | .01(.95) | .17(.41) | .09(.67) | .24(.24) | .28(.18) | .27(.20) |
| | Multiple R 31[a] | .78(.02) | .86(.02) | .86(.02) | .86(.02) | .78(.02) | .61(.02) |
| Category B Group 3 | 20 Political Rallies | .17(.39) | .16(.43) | -.19(.35) | .26(.19) | .29(.15) | .17(.39) |
| | 21 Political Demonstrations | .23(.26) | .00(.99) | .11(.59) | .04(.85) | .41(.04) | .31(.12) |
| | 22 Vote | .03(.87) | -.01(.94) | -.18(.38) | -.01(.96) | .04(.83) | .06(.75) |
| | 29 Contact (amount) | -.25(.90) | -.05(.79) | -.02(.94) | -.14(.48) | -.11(.59) | .09(.67) |
| | 33 Avoidence | -.24(.23) | -.28(.16) | -.37(.06) | -.28(.16) | -.29(.14) | -.29(.14) |
| | 35 Enjoyment | .07(.74) | -.04(.87) | .18(.38) | .17(.39) | .25(.21) | .23(.24) |
| | 38 Efficacy | .08(.68) | -.02(.91) | .18(.37) | -.14(.50) | -.16(.41) | -.10(.61) |
| | Multiple R 33[a] | .47(.02) | .35(.02) | .44(.02) | .47(.02) | .73(.02) | .52(.02) |

[a]N for Category.

TABLE 44.--Multiple and Partial Correlations for Specified Variables, Category C, Initial Scale.

| Group | Variable | L.1 | L.2 | L.3 | L.4 | L.5 | L.6 |
|---|---|---|---|---|---|---|---|
| Category C | 20 Political Rallies | -.10(.37) | .06(.62) | .08(.45) | .16(.15) | .13(.08) | .19(.09) |
| | 21 Political Demonstrations | .08(.47) | .09(.43) | .05(.69) | .21(.06) | .24(.03) | .06(.59) |
| | 22 Vote | -.16(.15) | .03(.81) | -.08(.47) | .05(.67) | -.03(.78) | -.26(.02) |
| | 29 Contact (amount) | .00(.99) | -.11(.32) | -.00(.98) | .05(.68) | .03(.78) | .51(.005) |
| | 33 Avoidence | .54(.07) | -.01(.90) | .04(.72) | .01(.90) | .04(.73) | .07(.53) |
| | 35 Enjoyment | -.06(.59) | -.04(.73) | .10(.36) | .18(.11) | .16(.14) | .25(.02) |
| | 38 Efficacy | .01(.96) | .03(.76) | -.01(.94) | .18(.11) | -.05(.65) | .24(.03) |
| | Multiple R 87[a] | .05(NS) | .05(NS) | .07(NS) | .21(.05) | .44(.02) | .83(.02) |

[a]N for Category.

TABLE 45.--Multiple and Partial Correlations for Specified Variables, Category D, Initial Scale.

| Group | Variable | L.1 | L.2 | L.3 | L.4 | L.5 | L.6 |
|---|---|---|---|---|---|---|---|
| | 20 Political Rallies | -.05(.78) | .17(.47) | -.13(.43) | -.17(.31) | -.24(.13) | .03(.87) |
| Category | 21 Political Demonstra- | | | | | | |
| D | tions | .10(.53) | -.12(.45) | .29(.08) | .19(.26) | .27(.09) | .13(.42) |
| Group | 22 Vote | -.04(.81) | .02(.92) | .01(.96) | .05(.78) | -.03(.87) | .17(.31) |
| 1 | 29 Contact (amount) | .24(.14) | -.01(.96) | .20(.23) | .28(.08) | .36(.03) | .42(.01) |
| | 33 Avoidence | -.10(.53) | -.10(54) | -.04(.81) | .16(.32) | .07(.66) | .03(.88) |
| | 35 Enjoyment | -.13(.42) | -.01(.96) | -.11(.52) | .08(.63) | .07(.66) | .19(.26) |
| | 38 Efficacy | .01(.97) | -.25(.12) | -.20(.22) | -.43(.01) | -.45(.005) | -.43(.01) |
| | Multiple R 45[a] | .28(.02) | .32(.02) | .39(.02) | .59(.02) | .64(.02) | .68(.02) |
| | 20 Political Rallies | -.15(.28) | -.03(.83) | .00(.99) | -.04(.78) | .00(.99) | -.05(.71) |
| Category | 21 Political Demonstra- | | | | | | |
| D | tions | .16(.24) | .36(.01) | .25(.06) | .28(.04) | .20(.14) | .04(.75) |
| Group | 22 Vote | .10(.49) | .17(.21) | .07(.63) | .17(.21) | .10(.68) | .26(.06) |
| 2 | 29 Contact (amount) | .04(.78) | -.15(.27) | .06(.67) | .20(.14) | .30(.03) | .14(.30) |
| | 33 Avoidence | -.09(.52) | -.14(.30) | -.07(.62) | .04(.75) | -.06(.67) | -.08(.57) |
| | 35 Enjoyment | -.04(.74) | -.14(.32) | .18(.18) | .14(.30) | .16(.24) | .38(.005) |
| | 38 Efficacy | .18(.08) | .20(.13) | .20(.13) | .22(.10) | .27(.05) | -.02(.89) |
| | Multiple R 62[a] | .26(.05) | .49(.02) | .46(.02) | .57(.02) | .62(.02) | .57(.02) |
| | 20 Political Rallies | .00(.99) | .13(.43) | -.04(.80) | -.21(.21) | -.01(.94) | -.23(.16) |
| Category | 21 Political Demonstra- | | | | | | |
| D | tions | -.05(.76) | -.06(.71) | .22(.18) | .25(.13) | .20(.23) | .12(.47) |
| Group | 22 Vote | .02(.90) | -.02(.91) | .27(.10) | .23(.16) | .15(.38) | .16(.34) |
| 3 | 29 Contact (amount) | -.11(.53) | -.24(.15) | .12(.48) | .32(.05) | .35(.03) | .20(.23) |
| | 33 Avoidence | .07(.67) | -.09(.58) | .13(.45) | .01(.94) | -.26(.11) | .05(.78) |
| | 35 Enjoyment | -.04(.81) | -.14(.39) | .25(.12) | .33(.04) | .36(.03) | .24(.14) |
| | 38 Efficacy | -.11(.51) | -.07(.67) | .25(.14) | .08(.62) | -.00(.99) | .03(.87) |
| | Multiple R 44[a] | .20(NS) | .51(.02) | .58(.02) | .72(.02) | .69(.02) | .59(.02) |
| | 20 Political Rallies | .07(.63) | .01(.94) | .15(.33) | -.12(.40) | -.10(.50) | .18(.23) |
| Category | 21 Political Demonstra- | | | | | | |
| D | tions | .01(.94) | .00(.99) | -.02(.89) | -.10(.51) | -.14(.36) | -.05(.75) |
| Group | 22 Vote | .01(.93) | .06(.68) | -.22(.14) | -.08(.59) | -.12(.45) | -.18(.24) |
| 4 | 29 Contact (amount) | -.08(.60) | -.13(.39) | .08(.61) | .27(.07) | .32(.03) | .29(.05) |
| | 33 Avoidence | .08(.61) | -.02(.91) | .09(.54) | -.06(.67) | -.08(.62) | -.01(.93) |
| | 35 Enjoyment | .05(.76) | .15(.31) | .17(.25) | .23(.12) | .24(.11) | .04(.81) |
| | 38 Efficacy | .02(.89) | -.07(.64) | -.12(.44) | -.04(.78) | -.01(.95) | -.03(.82) |
| | Multiple R 52[a] | .14(NS) | .19(NS) | .47(.02) | .60(.02) | .65(.02) | .52(.02) |

[a]N for Category.

TABLE 46.--Multiple and Partial Correlations for Specified Variables, Category E, Initial Scale.

| Group | Variable | L.1 | L.2 | L.3 | L.4 | L.5 | L.6 |
|---|---|---|---|---|---|---|---|
| Category E Group 1 | 20 Political Rallies | .09(.82) | .84(.83) | -.26(.49) | -.17(.66) | -.14(.71) | .07(.87) |
| | 21 Political Demonstrations | -.44(.24) | -.00(.99) | .03(.94) | -.00(.99) | -.03(.95) | -.00(.99) |
| | 22 Vote | -.57(.11) | -.23(.55) | -.42(.26) | -.11(.78) | -.15(.70) | .12(.77) |
| | 29 Contact (amount) | -.44(.23) | -.12(.75) | .12(.76) | .32(.40) | .39(.30) | .86(.05) |
| | 33 Avoidence | .41(.27) | -.19(.62) | .14(.72) | .41(.28) | .29(.44) | -.11(.78) |
| | 35 Enjoyment | .56(.12) | -.04(.93) | .23(.56) | .11(.78) | .30(.43) | .43(.25) |
| | 38 Efficacy | .40(.29) | -.12(.75) | .36(.34) | .36(.34) | .54(.13) | -.31(.41) |
| | Multiple R 15[a] | .75(.02) | .39(NS) | .58(.05) | .67(.02) | .75(.02) | .92(.02) |
| Category E Group 2 | 20 Political Rallies | .18(.49) | -.08(.78) | .15(.57) | -.06(.82) | -.15(.58) | -.04(.87) |
| | 21 Political Demonstrations | -.26(.33) | -.18(.50) | .17(.49) | .29(.27) | .38(.15) | .18(.51) |
| | 22 Vote | -.19(.47) | .13(.64) | -.38(.15) | .07(.80) | .03(.92) | .20(.45) |
| | 29 Contact (amount) | .21(.44) | .03(.92) | .06(.83) | .10(.70) | .05(.85) | .44(.09) |
| | 33 Avoidence | -.31(.25) | -.24(.37) | -.45(.07) | -.15(.59) | -.19(.58) | .14(.60) |
| | 35 Enjoyment | -.12(.67) | .14(.62) | .50(.05) | .53(.04) | .64(.01) | .49(.05) |
| | 38 Efficacy | -.36(.17) | .31(.24) | -.13(.64) | .31(.24) | .25(.34) | -.27(.32) |
| | Multiple R 22[a] | .54(.02) | .56(.02) | .75(.02) | .79(.02) | .83(.02) | .76(.02) |
| Category E Group 3 | 20 Political Rallies | -.01(.95) | .03(.84) | .07(.67) | -.18(.28) | -.36(.03) | -.14(.39) |
| | 21 Political Demonstrations | .17(.30) | .17(.30) | .04(.83) | .42(.73) | .34(.04) | .01(.96) |
| | 22 Vote | -.11(.49) | .11(.52) | -.08(.64) | .06(.73) | .03(.84) | -.07(.68) |
| | 29 Contact (amount) | -.02(.91) | .19(.24) | .08(.63) | -.02(.89) | .04(.79) | -.09(.57) |
| | 33 Avoidence | -.13(.42) | -.07(.67) | .41(.01) | .45(.005) | .50(.005) | .27(.10) |
| | 35 Enjoyment | .05(.78) | -.12(.47) | .03(.85) | .29(.08) | .22(.18) | .48(.005) |
| | 38 Efficacy | -.21(.20) | -.19(.25) | -.05(.76) | -.04(.83) | -.07(.65) | -.14(.38) |
| | Multiple R 45[a] | .29(.05) | .32(.05) | .56(.02) | .71(.02) | .67(.02) | .71(.02) |

[a]N for Category.

TABLE 47.--Multiple and Partial Correlations for Specified Variables, Category F, Initial Scale.

| Group | Variable | L.1 | L.2 | L.3 | L.4 | L.5 | L.6 |
|---|---|---|---|---|---|---|---|
| Category F Group 1 | 20 Political Rallies | .27(.14) | .05(.79) | .02(.90) | .14(.47) | .16(.40) | .17(.37) |
| | 21 Political Demonstrations | -.36(.04) | -.17(.35) | .14(.44) | -.02(.90) | .32(.87) | .36(.85) |
| | 22 Vote | .05(.76) | -.09(.61) | .10(.61) | -.17(.36) | -.36(.05) | -.36(.05) |
| | 29 Contact (amount) | -.31(.08) | -.31(.08) | -.16(.39) | -.10(.59) | -.19(.31) | .24(.18) |
| | 33 Avoidence | .21(.24) | .20(.28) | .26(.16) | .17(.37) | .23(.21) | -.27(.15) |
| | 35 Enjoyment | .28(.11) | .17(.35) | .22(.22) | .30(.11) | .48(.01) | .31(.09) |
| | 38 Efficacy | .14(.42) | -.03(.89) | -.38(.03) | -.21(.25) | -.39(.03) | -.25(.17) |
| | Multiple R 37[a] | .50(.02) | .40(.02) | .59(.02) | .42(.02) | .67(.02) | .61(.02) |
| Category F Group 2 | 20 Political Rallies | .11(.71) | .02(.95) | .28(.32) | .38(.16) | .40(.14) | .18(.52) |
| | 21 Political Demonstrations | -.03(.91) | -.06(.84) | -.26(.35) | -.37(.16) | -.27(.33) | -.06(.84) |
| | 22 Vote | .40(.14) | .50(.06) | -.09(.74) | -.35(.20) | -.14(.60) | -.03(.90) |
| | 29 Contact (amount) | -.29(.29) | -.35(.21) | -.23(.41) | .37(.18) | .29(.29) | .31(.26) |
| | 33 Avoidence | .50(.06) | .57(.03) | .47(.08) | .39(.15) | .34(.22) | .41(.13) |
| | 35 Enjoyment | -.16(.56) | -.09(.75) | -.29(.30) | .08(.77) | -.06(.82) | -.07(.81) |
| | 38 Efficacy | -.42(.12) | -.52(.05) | -.25(.36) | .24(.39) | .12(.67) | -.09(.76) |
| | Multiple R 21[a] | .63(.02) | .68(.02) | .68(.02) | .72(.02) | .70(.02) | .76(.02) |
| Category F Group 3 | 20 Political Rallies | .11(.64) | .00(.97) | -.05(.84) | .15(.53) | -.06(.81) | -.05(.84) |
| | 21 Political Demonstrations | -.08(.77) | .18(.45) | -.02(.93) | .29(.23) | -.16(.50) | -.01(.96) |
| | 22 Vote | .10(.67) | -.02(.91) | -.17(.47) | .10(.76) | -.24(.31) | -.04(.88) |
| | 29 Contact (amount) | -.26(.27) | -.22(.37) | -.21(.37) | -.02(.94) | -.08(.72) | -.20(.62) |
| | 33 Avoidence | -.05(.83) | .01(.93) | -.11(.66) | .30(.21) | .35(.13) | .09(.69) |
| | 35 Enjoyment | -.02(.91) | -.04(.84) | .06(.79) | .24(.33) | .19(.43) | .15(.55) |
| | 38 Efficacy | .04(.85) | -.04(.87) | .07(.78) | -.19(.44) | -.25(.28) | -.09(.72) |
| | Multiple R 25[a] | .38(.05) | .33(.05) | .32(.05) | .42(.02) | .48(.05) | .28(NS) |

[a]N for Category.

the multiple correlation analysis (group 2, category B) attitude becomes more negative with increased contact per se (variable 29). One might hypothesize that this is due to the nature of the respondents occupation. However, the narcotic officers from this group who say they "enjoy" (partial correlation, variable 35) their contact are more favorable at Level 3. This suggests they feel that others "should do more" to help addicts (i.e. their Moral Evaluation is more positive).

It is also interesting to note that urban Michigan police, Table 43 (group 1, category B) indicate more positive attitudes on all Levels, as their involvement in political demonstrations and marches increases (variable 21). If one assumes that their involvement in these marches and demonstrations was job related, it might be postulated that as police become involved in such affairs, they may become more sensitive, attuned, or favorable toward drug users.

The fact that the multiple correlations do not vary widely across Levels for all groups, suggests that the variables chosen for inclusion in the multiple correlations do not differentially correlate with different Levels of attitude (for all groups sampled) as measured by the ABS:DU. It should be pointed out however, that the multiple R's do differ measurably across Levels for certain groups (e.g. category C, category D groups 3 and 4, and category E group 3).

In summary, the multiple correlation data indicate that a combination of the predictor variables do account for a significant portion of the variance, and that the predictor variables also relate differently for different groups such as fundamentalist parishoners, and students. These data indicate that future research may need to look for different predictors of drug related attitude-behavior for different groups, as well as looking at the interaction of predictor variables. It is believed that the final ABS:DU scale will provide a valuable tool in exploring these possibilities.

The present research supports the importance of the structural component of attitudes, i.e. that the object-subject relationship is approximately constant, as shown in the simplex analyses. The findings also support the contention from the review of literature that "attitude" is not a single unitary psychic position but rather that attitude-behaviors exist on a continuum of "strength"-- or Levels; from 1 to 6. This indicates that attitudes are multidimensional and that the Level of object-subject interaction must be specified to permit any meaningful examination of attitude content and/or situation aspects. The next phase of this research should emphasize the "predictor variables;" attempting to find those variables that can predict differentially for the six Levels of attitude-behavior.

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# APPENDICES

# APPENDIX 1

## GLOSSARY

# GLOSSARY[1]

Approximation--see "simplex approximation."

Attitude--"Delimited totality of behavior with respect to something" (Guttman, 1950, p. 51).

Attitude-behavior--the hyphenated term denotes that attitude is a subclass of behavior rather than an intervening variable or a "predisposition" to behavior.

Content--situation (action, feeling, comparison, circumstances) indicated in an attitude item; generally corresponds to "lateral struction."

Definitional statement--specification of characteristics proper to an item of a given Level member, typically stated in phrase or clause form.

Definitional system--ordered group of definitional statements or of the corresponding Level members; typically either the group constituting a "semantic path" or the complete group of 12 Level members in the "semantic map."

Directionality--characteristic of an item, sometimes called positive or negative, determining agreement with the item as indicating favorableness or unfavorableness toward the attitude object.

Element--one of two or more ways in which a facet may be expressed; in the present system, all joint facets are dichotomous, expressed in one of two ordered elements.

Facet--one of several semantic units distinguishable in the verbal expression of an attitude; in the present system, five dichotomous facets are noted within the joint struction.

Facet profile--see "struction profile."

Joint struction--see also "struction," "lateral struction"--"operationally defined as the ordered sets of . . . five facets from low to high across all five facets simultaneously" (Jordan, 1968, p. 76); that part of the semantic structure of attitude items which can be determined independently of specific response situations.

Lateral struction--see also "struction," "joint struction"--that part of the semantic structure of attitude items which is directly dependent on specification of situation and object; a more precise term than "content."

Level--degree of attitude strength specified by the number of strong and weak facets in the member(s) of that Level; in the present system, six ordered Levels are identified: Level 1 is characterized by the unique member having five weak facets; Level 2, by members having four weak and one strong facet . . . Level 6, by the unique member having five strong facets.

Level member--one of one or more permutations(s) of strong and weak facets which are common to a given Level; in the present system, 12 Level members have been identified: three on Level 2, four on Level 3, two on Level 4, and one each on Levels 1, 5, and 6.

Map--see "semantic map."

Member--see "Level member."

Path--see "semantic path."

Profile--see "struction profile."

Reversal--change in a specified order of Levels or of correlations, involving only the two indicated Levels or correlations.

Semantic--pertaining to or arising from the varying meanings, grammatical forms, or stylistic emphasis of words, phrases, or clauses.

Semantic map--two-dimensional representation of hypothesized relationships among six Levels and among 12 Level members.

Semantic path--ordered set of Level members, typically six, such that each member has one more strong facet than the immediately preceding member and one less strong facet then the immediately following member.

Semantic possibility analysis--linguistic discussion of the implications of the five dichotomous joint facets identified in the present system; of 32 permutations, only 12 are considered logically consistent.

Simplex--specific form of (correlation) matrix, diagonally dominated and decreasing in magnitude away from the main diagonal.

Simplex approximation--matrix which approaches more or less perfectly the simplex form; existing tests (Kaiser, 1962; Mukherjee, 1966) reflect both ordering of individual entries and sizes of differences between entries and between diagonals.

Strong(er)--opposite of weak(er)--term functionally assigned to one of two elements, to a facet expressed by its strong element, or to a Level member characterized by more strong facets than another Level member; the strong-weak continuum is presently examined as unidimensional.

Struction--see also "joint struction," "lateral struction"--semantic pattern identifiable in any attitude item, or the system of such identifications.

Struction profile--specification, typically indicated by small letters and numerical subscripts, of the permutation(s) of weak and strong elements or facets in a Level member or a set of Level members; or of permutations of lateral elements or facets.

Transposition--change in a specified order of Levels or of correlations involving a change in position

of one level or correlation and the corresponding one-place shift in the position of following or preceding levels or correlations.

Weak--opposite of "strong" (which see).

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[1]Credit is given to Maierle (1969) for most of the work in developing this glossary.

# APPENDIX 2

## DIRECTIONS FOR ADMINISTRATION

DIRECTIONS

RE: Administration of ABS-DU with respondents circling answers in the questionnaire booklets.

NOTE: It is recommended that respondents circle their answers on the answer sheet when they are not likely to have had previous contact with IBM answer forms. It is also recommended that respondents circle their answers when group administration is impossible.

Materials needed - Sufficient questionnaire booklets and pencils for each respondent and a desk, table, or suitable surface for each respondent.

Procedure - Say: "Do not write on these yet."

Hand out one ABS-DU questionnaire to each respondent.

Read the following after each respondent has received the questionnaire. (If the questionnaires are not being group administered - e.g., mailed and personal contact is impossible, dispense appropriate written instructions with each booklet).

"This booklet contains statements of how people behave in certain situations or feel about certain things. You, yourself, or other persons often behave in the same way toward illegal drug users. You also have some general ideas about yourself, about other persons like you and about illegal drug users. Sometimes you feel or behave the same way toward everyone and sometimes you feel or behave differently toward illegal drug users.

This questionnaire has statements about ideas and about behavior. Each statement in this questionnaire is different from every other statement, although some of the statements in each section are similar. Your answers, in one section, therefore, may be the same as answers in another section, or your answers may differ from section to section. Here is a sample statement:"

Sample I

Others believe the following things about drug users as compared to themselves:

1. Chance of drug users being sick more often

    1. less chance
    2. about the same
    3. more chance

If others believe that illegal drug users have less chance of being sick more often circle the number one as shown on the cover of your booklet. Use a soft lead pencil and circle what you believe to be the correct answer for each question. There are no "right" or "wrong" answers and it is suggested that you respond with your first thought about each question. It is important that you read the directions at the top of each page carefully, since questions in this booklet range from what <u>others</u> think to the way <u>you</u> think, feel and act about various things. Please answer every question. Do not put your name or any identifying marks on these questionnaires. Are there any question?"

After any questions have been answered say:

"When you have completed the entire questionnaire, place your booklets here (designate)."

If the questionnaires are not being group administered, make other suitable arrangements for collecting the questionnaires.

"Who needs a pencil?"

Dispense the pencils to those who need them and say:

"There is no time limit. Place your completed booklets here (designate) when you have finished. Be sure to follow the directions at the top of each page carefully. You may begin."

After all the questionnaires have been turned in, clearly label the group that has responded and the date and location of administration. (e.g., Clergy - April 15, 1971, Cobo Hall, Detroit, Michigan)

Place all the booklets, with answer sheets inside, in a box. Put a copy of the label inside the box and seal it. Also, label the outside of the box as to content (e.g., April 15, 1971, Cobo Hall, Detroit, Michigan) and mail to:

Dr. John E. Jordan
444 Erickson Hall
Michigan State University
East Lansing, Michigan 48823

Thank you for your co-operation.

DIRECTIONS

RE: Administration of ABS-DU employing IBM answer sheets.

NOTE: It is recommended that the IBM answer sheets be employed only when respondents are likely to have had previous contact with such answer forms. It is also recommended that the IBM answer sheets be employed with a captive audience that will take the scale under supervision.

Materials needed - Sufficient questionnaire booklets, answer sheets, and pencils for each respondent, (note - each respondent needs 2 answer sheets), a desk, table, or suitable surface for each respondent to write on.

Procedure - Say: "Do not write on these yet"

Hand out one ABS-DU questionnaire and two (2) IBM answer sheets to each respondent.

Read the following after each respondent has received the questionnaire and 2 answer sheets:

"This booklet contains statements of how people behave in certain situations or feel about certain things. You, yourself, or other persons often behave in the same way toward illegal drug users. You also have some general ideas about yourself, about other persons like you and about illegal drug users. Sometimes you feel or behave the same way toward everyone and sometimes you feel or behave differently toward illegal drug users.

This questionnaire has statements about ideas and about behavior. Each statement in this questionnaire is different from every other statement, although some of the statements in each section are similar. Your answers, in one section, therefore, may be the same as answers in another section, or your answers may differ from section to section. Here is a sample statement:"

Sample I

Others believe the following things about drug users as compared to themselves:

1. Chance of drug users being sick more often

    1. less chance
    2. about the same
    3. more chance

If others believe that illegal drug users have less chance of being sick more often make a heavy dark line on the answer sheet between the two lines after the number as shown on the cover of your booklet. Use a soft lead pencil and completely fill in what you believe to be the correct answer for each question. There are no "right" or "wrong" answers and it is suggested that you respond with your first thought about each question. It is important that you read the directions at the top of each page carefully, since questions in this booklet range from what others think to the way you think, feel and act about various things. Please answer every question. Do not put your name or any identifying marks on these questionnaires or answer sheets. Do not write on the questionnaire booklets. Are there any questions?"

After any questions have been answered say:

"Notice that the questions start on page two (2) and go from number 1 to number one hundred and sixty (160) on page 24. Put the answers to these first 160 questions opposite the appropriate number on one IBM sheet. Notice that page 25 starts over again with the number one (1). When you reach this point start on the second IBM sheet at number one and continue to the end of the booklet, marking your responses on the second answer sheet. Since two answer sheets are used, it is necessary to keep the responses to each person together. To do this we will start here (designate a person at the front of a row or some other convenient starting point) and number off. (Have each individual state his number, e.g., 1, 2, 3, etc., until all respondents have an identification number). Now, right the number you received on BOTH of the IBM answer sheets. Put this number in the space for your name. Do not put any other identifying marks on the answer sheets. Every person should now have put his number on BOTH IBM answer sheets. The same number should be on both sheets for any given individual. When you turn in your answer sheets and booklets, place the answer sheets inside the questionnaire booklet and place the booklet with the answer sheets inside on a pile here (designate a place for the booklets and answer sheets tc be placed). Are there any questions?"

After questions are answered ask:

"Who needs a pencil?"

Dispense the pencils to those who need them and say:

"There is no time limit. Place your answer sheets inside the questionnaire booklet and put them here (designate) when you have finished. Be sure to follow the directions at the top of each page carefully. You may begin."

After all the questionnaires AND answer sheets (two for each respondent) have been turned in, clearly label the group that has responded and the date and location of administration. (e.g., Clergy - April 15, 1971, Cobo Hall, Detroit, Michigan).

Place all the booklets, with answer sheets inside, in a box. Put a copy of the label inside the box and seal it. Also, label the outside of the box as to content (e.g., April 15, 1971, Cobo Hall, Detroit, Michigan) and mail to:

Dr. John E. Jordan
444 Erickson Hall
Michigan State University
East Lansing, Michigan 48823

Thank you for your co-operation.

# APPENDIX 3

## VARIABLE LIST--CODE BOOK

ABS-DU: Basic Variable List by IBM Card and Column

| Type | Variable | Card | Column | Page | Item | Range |
|---|---|---|---|---|---|---|
| Attitude Content | 1. Stereotype | 1 | 11-50 | 2-7 | 1-40 | 40-120 |
| | 2. Normative | 2 | 11-50 | 8-13 | 41-80 | 40-120 |
| | 3. Moral Eval. | 3 | 11-50 | 14-19 | 81-120 | 40-120 |
| | 4. Hypothetical | 4 | 11-50 | 20-24 | 121-160 | 40-120 |
| | 5. Personal Feeling | 5 | 11-50 | 25-29 | 1-40 | 40-120 |
| | 6. Personal Action | 6 | 11-50 | 30-34 | 41-80 | 40-120 |
| Demographic | 7. Sex[a] | 1-7 | 52 | 35 | 81 | 1-2 |
| | 8. Age | 1-7 | 53 | 35 | 82 | 1-5 |
| | 9. Marital | 1-7 | 54 | 35 | 83 | 1-5 |
| | 10. Religion - type | 1-7 | 55 | 35 | 84 | 1-5 |
| | 11. Religion - Import. | 1-7 | 56 | 35 | 85 | 1-5 |
| | 12. Education - Amount | 1-7 | 57 | 35 | 86 | 1-5 |
| Change Orientation | 13. Set in Ways | 1-7 | 58 | 36 | 87 | 1-4 |
| | 14. Child Rearing | 1-7 | 59 | 36 | 88 | 1-4 |
| | 15. Birth Control | 1-7 | 60 | 36 | 89 | 1-4 |
| | 16. Automation | 1-7 | 61 | 36 | 90 | 1-4 |
| | 17. Observe Rules (rel) | 1-7 | 62 | 36 | 91 | 1-5 |
| | 18. Follow Rules | 1-7 | 63 | 37 | 92 | 1-4 |
| Political Activism | 19. Political Pref. | 1-7 | 64 | 37 | 93 | 1-4 |
| | 20. Political rallies | 1-7 | 65 | 37 | 94 | 1-5 |
| | 21. Political demonst. | 1-7 | 66 | 37 | 95 | 1-5 |
| | 22. Vote | 1-7 | 67 | 37 | 96 | 1-3 |
| | 23. Civil Disturbances | 1-7 | 68 | 37 | 97 | 1-2 |
| | 24. Political Revol. | 1-7 | 69 | 37 | 98 | 1-2 |
| | 25. Social Revol. | 1-7 | 70 | 37 | 99 | 1-2 |
| | 26. Political Change | 1-7 | 71 | 38 | 100 | 1-4 |
| | 27. Armed Service | 1-7 | 72 | 38 | 101 | 1-2 |
| Contact | 28. With (type) | 7 | 11 | 38 | 102 | 1-5 |
| | 29. Amount | 7 | 12 | 38 | 103 | 1-5 |
| | 30. Kind | 7 | 13 | 38 | 104 | 1-4 |
| | 31. Use | 7 | 14 | 39 | 105 | 1-5 |
| | 32. Amount of use | 7 | 15 | 39 | 106 | 1-5 |
| | 33. Avoidance | 7 | 16 | 39 | 107 | 1-5 |
| | 34. Gain | 7 | 17 | 39 | 108 | 1-2 |
| | 35. Enjoyment | 7 | 18 | 39 | 109 | 1-5 |
| | 36. Arrested | 7 | 19 | 39 | 110 | 1-2 |
| | 37. Reason for use | 7 | 20 | 39 | 111 | 1-5 |
| Value | 38. Efficacy | 7 | 21-29 | 40-41 | 112-120 | 9-36 |
| Identity | 39. Nation | 1-7 | 1-2 | -- | -- | -- |
| | 40. Subject No. | 1-7 | 3-5 | -- | -- | -- |
| | 41. Administration Group[b] | 1-7 | 6-7 | -- | -- | -- |
| | 42. Interest Group[c] | 1-7 | 8-9 | -- | -- | -- |
| | 43. Card No. | 1-7 | 80 | -- | -- | -- |

[a]Sex: 1=female; 2=male

[b]Same as group numbers in Table 15.

[c]Same as category numbers in Table 15.

# APPENDIX 4

## ABS-DU (INITIAL VERSION)

# ATTITUDE BEHAVIOR SCALE DU

## DIRECTIONS

This booklet contains statements of how people behave in certain situations or feel about certain things. You, yourself, or other persons often behave in the same way toward illegal drug users. You also have some general ideas about yourself, about other persons like you and about illegal drug users. Sometimes you feel or behave the same way toward everyone and sometimes you feel or behave differently toward illegal drug users.

This questionnaire has statements about ideas and about behavior. Each statement in this questionnaire is different from every other statement, although some of the statements in each section are similar. Your answers in one section, therefore, may be the same as answers in another section, or your answers may differ from section to section. Here is a sample statement:

Sample I

Others believe the following things about drug users as compared to themselves:

1. Chance of drug users being sick more often

   (1.) less chance
   2. about the same
   3. more chance

If others believe that illegal drug users have less chance to be sick more often, should circle the number 1 as shown above or if you are using an IBM sheet, make a heavy dark line on the answer sheet between the two lines after the number as follows:

1. 1 ▬ 2 === 3 === 4 === 5 ===

Please mark only one response for each question. Although the answers to some questions may not exactly fit your opinion, choose a "best" answer.

********** DO NOT PUT YOUR NAME ON THE BOOKLET **********

by: John E. Jordan
James M. Kaple
William Nicholson
College of Education
Michigan State University

ABS-I-DU

Directions: Section I

This section contains statements about ideas which others have about illegal drug users. Circle or fill in the answer sheet number that indicates how others compare drug users with non drug users.

Others believe the following things about illegal drug users as compared to non-drug users:

1. Drug users usually come from homes that are:

   1. less happy than others
   2. same as others
   3. happier than others

2. Drug users are genetically predisposed (born that way) to use drugs.

   1. less often than others
   2. the same
   3. more often than others

3. Drug users take drugs because it is "the thing to do."

   1. disagree
   2. undecided
   3. agree

4. As compared to others drug users deal with anxiety or worry:

   1. less well
   2. same
   3. better than non drug users

5. Others believe that minority racial groups are more likely to be drug users than whites.

   1. agree
   2. uncertain
   3. disagree

6. People who use drugs are:

   1. physically weaker than others
   2. same
   3. physically stronger than others

7. Others believe that drug users start taking drugs for medical reasons.

   1. very seldom
   2. undecided
   3. more often than not

Others believe the following things about illegal drug users as compared to non-drug users:

8. Others believe drug users take drugs to "escape reality."

   1. agree
   2. uncertain
   3. disagree

9. Others believe drug users' intellectual ability is:

   1. less than others
   2. equal to others
   3. more than others

10. Others believe drug users can be trusted:

   1. less than others
   2. same as others
   3. more than others

11. As compared to non-drug users, others believe drug users are:

   1. more frightening
   2. same
   3. less frightening

12. As compared to non-drug users others believe that drug users plan for the future.

   1. less often
   2. same
   3. more often

13. With regard to work, drug users are:

   1. less dependable than others
   2. same as others
   3. more dependable than others

14. Others believe that drug users are usually "followers" rather than "leaders."

   1. agree
   2. uncertain
   3. disagree

15. With regard to sexual practices, others believe that drug users are:

   1. more sexually loose than non-drug users
   2. same
   3. less sexually loose than non-drug users

ABS-I-DU

Others believe the following things about illegal drug users as compared to non-drug users:

16. Others believe that drug users lead religious lives:

    1. less often than non-users
    2. same as non-users
    3. more often than non-users

17. As compared to others, drug users act immature.

    1. agree
    2. uncertain
    3. disagree

18. Others believe that drug users are antisocial:

    1. more often than non-drug users
    2. same as non-drug users
    3. less often than non-drug users

19. Others believe that drug users make "good friends:"

    1. less often than non-drug users
    2. same as non-drug users
    3. more often than non-drug users

20. Others believe that drug users are interested in unusual sexual practices:

    1. more often than non-drug users
    2. same as non-drug users
    3. less often than non-drug users

21. Others believe that drug users go to universities:

    1. less often than non-users
    2. same as non-users
    3. more often than non-users

22. Others believe that drug users are faithful to their spouses:

    1. less often than non-users
    2. same as non-users
    3. more often than non-users

23. Others believe drug users are an economic threat to society.

    1. agree
    2. undecided
    3. disagree

Others believe the following things about illegal drug users as compared to non-drug users:

24. Others believe that drug users are a threat to society.

    1. agree
    2. uncertain
    3. disagree

25. As compared to non-drug users, others believe that drug users are:

    1. less fun to date
    2. the same
    3. more fun to date

26. Others believe that drug users are beyond medical help.

    1. agree
    2. uncertain
    3. disagree

27. Others believe that drug users should be isolated from the rest of society in jails.

    1. agree
    2. uncertain
    3. disagree

28. Others believe that drug users should be isolated from society by hospitalization.

    1. agree
    2. uncertain
    3. disagree

29. Others believe that drug users can best be helped by ex-drug addicts.

    1. disagree
    2. uncertain
    3. agree

30. Others believe that drug users are beyond help by psychologists.

    1. agree
    2. uncertain
    3. disagree

31. Others believe that the government should pay all costs associated with rehabilitating drug users.

    1. disagree
    2. uncertain
    3. agree

Others believe the following things about illegal drug users as compared to non-drug users:

32. Others believe that all that drug users need is hospital detoxification (drying out).

    1. agree
    2. uncertain
    3. disagree

33. Others believe that drug users respond better to group therapy than to other therapy types.

    1. disagree
    2. uncertain
    3. agree

34. Others believe that legal restraints on drug users should be:

    1. more strict
    2. remain unchanged
    3. less strict

35. Others believe that most drug users usually seek treatment only to lower the amount of daily drug intake.

    1. agree
    2. uncertain
    3. disagree

36. Others believe that drug users need a permanent drug substitute, like methadone, to permanently "kick the habit."

    1. agree
    2. uncertain
    3. disagree

37. Others believe drug use leads to permanent physical damage to the user.

    1. agree
    2. uncertain
    3. disagree

38. Others believe drug users usually desire treatment because they are in legal difficulty.

    1. agree
    2. uncertain
    3. disagree

ABS-I-DU

Others believe the following things about illegal drug users as compared to non-drug users:

39. Drug users usually seek treatment to permanently "kick the habit."

    1. disagree
    2. uncertain
    3. agree

40. Others believe that drug users need help with emotional problems more than non drug users

    1. agree
    2. uncertain
    3. disagree

Directions: Section II

**This section contains statements which people generally believe others would experience when interacting with illegal drug users. Please choose the answer that indicates what you think most others believe about illegal drug users.**

Most people generally believe the following about interacting with illegal drug users:

41. People generally believe that others would find that drug users come from homes that are:

    1. less happy than others
    2. same as others
    3. more happy than others

42. People generally believe that others would find that drug users are genetically predisposed (born that way) to use drugs.

    1. less than others
    2. same as others
    3. more than others

43. People generally believe that others would find that drug users take drugs because it is the thing to do.

    1. disagree
    2. uncertain
    3. agree

44. People generally believe that others would find drug users deal with anxiety or worry:

    1. less well than others
    2. same as others
    3. better than others

45. People generally believe that others would find that minority racial groups are more likely to be drug users than whites.

    1. agree
    2. uncertain
    3. disagree

46. People generally believe that others would find drug users to be:

    1. physically weaker
    2. same
    3. physically stronger

ABS-II-DU

**Most people generally believe the following about interacting with illegal drug users:**

47. **People generally believe that others would find that drug users start to take drugs for medical reasons.**

    1. very seldom
    2. undecided
    3. more often than not

48. **People generally believe that others would find that drug users take drugs to "escape reality."**

    1. agree
    2. uncertain
    3. disagree

49. **People generally believe others would find drug users to be:**

    1. less intelligent than others
    2. of equal intelligence
    3. more intelligent than others

50. **People generally believe that others would find that drug users can be trusted:**

    1. less than others
    2. same as others
    3. more than others

51. **People generally believe that others would find drug users are:**

    1. more frightening than others
    2. the same
    3. less frightening than others

52. **People generally believe that others would find that drug users plan for the future:**

    1. less often than others
    2. same as others
    3. more often than others

53. **With regard to work, people generally believe that others would find drug users to be:**

    1. less dependable than others
    2. same as others
    3. more dependable than others

Most people generally believe the following about interacting with illegal drug users:

54. People generally believe that others would find that drug users are usually "followers" rather than "leaders."

    1. agree
    2. uncertain
    3. disagree

55. People generally believe that others would find drug users to be sexually loose.

    1. agree
    2. uncertain
    3. disagree

56. People generally believe that others would find that drug users lead religious lives:

    1. less often than non-users
    2. same as non-users
    3. more often than non-users

57. People generally believe that others would find that drug users act:

    1. less mature than others
    2. same as others
    3. more mature than others

58. People generally believe that others would find that drug users are antisocial.

    1. agree
    2. uncertain
    3. disagree

59. People generally believe that others would find that drug users make "good friends."

    1. disagree
    2. undecided
    3. agree

60. People generally believe that others would find that drug users are interested in unusual sexual practices:

    1. more often than non-users
    2. same as non-users
    3. less often than non-users

**Most people** generally believe the following about **interacting** with illegal drug users:

61. People generally believe that others would find drug users go to universities:

    1. less often than non-users
    2. same as non-users
    3. more often than non-users

62. People generally believe that others would find drug users to be faithful to their spouses:

    1. less often than non-users
    2. same as non-users
    3. more often than non-users

63. People generally believe others would find drug users to be an economic threat to society:

    1. more than others
    2. same as others
    3. less than others

64. People generally believe that others would find drug users to be:

    1. more of a threat to society than non-drug users
    2. same threat to society
    3. less of a threat to society than non-drug users

65. People generally believe that others would find that drug users are:

    1. less fun to date than non-drug users
    2. the same as non-drug users
    3. more fun than non-drug users

66. People generally believe others would find chat drug users are beyond medical help.

    1. agree
    2. uncertain
    3. disagree

67. People generally believe that others would find that drug users should be isolated from the rest of society in jail.

    1. agree
    2. uncertain
    3. disagree

ABS-II-DU

Most people generally believe the following about interacting with illegal drug users:

68. People generally believe that others would find that drug users should be isolated from society by hospitalization.

1. agree
2. uncertain
3. disagree

69. People generally believe others would find drug users can best be helped by ex-drug addicts.

1. disagree
2. uncertain
3. agree

70. People generally believe others would find that drug users are beyond help by psychologists.

1. agree
2. uncertain
3. disagree

71. People generally believe that others would find that all costs associated with rehabilitating drug users should be paid by the government.

1. disagree
2. uncertain
3. agree

72. People generally believe that others would find that drug users only require hospital detoxification (drying out).

1. agree
2. uncertain
3. disagree

73. People generally believe that others would find that drug users respond well to group therapy.

1. disagree
2. uncertain
3. agree

74. People generally believe that others would find legal restraints on drug users should be:

1. more strict
2. remain unchanged
3. less strict

Most people generally believe the following about interacting with illegal drug users:

75. People generally believe that others would find that drug users usually seek treatment only to lower the amount of daily drug intake.

1. agree
2. uncertain
3. disagree

76. People generally believe that others would find that drug users need a permanent drug substitute, like methadone, to permanently "kick the habit."

1. agree
2. uncertain
3. disagree

77. People generally believe that others would find that drug use leads to permanent physical damage to the user.

1. agree
2. uncertain
3. disagree

78. People generally believe that others would find drug users usually desire treatment because they are in legal difficulty.

1. agree
2. uncertain
3. disagree

79. People generally believe that others would find drug users seek treatment to permanently "kick the habit."

1. disagree
2. uncertain
3. agree

80. People generally believe that others would find that drug users need help with emotional problems:

1. more often than others
2. same
3. less often than others

ABS-III-DU

Directions: Section III

This section contains statements of the right or wrong way of behaving or acting toward illegal drug users. You are asked to indicate what you yourself believe others think should be done with respect to illegal drug users.

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

81. For others to believe that drug users come from unhappy homes is:

1. usually right
2. undecided
3. usually wrong

82. For others to believe that drug users are genetically predisposed (born that way) to take drugs is:

1. usually wrong
2. undecided
3. usually right

83. For others to believe that drug users take drugs because it is the "thing to do" is:

1. usually wrong
2. undecided
3. usually right

84. For others to believe that drug users deal with anxiety well is:

1. usually wrong
2. undecided
3. usually right

85. For others to expect most drug users to be from a minority racial group is:

1. usually right
2. uncertain
3. usually wrong

86. For others to believe that drug users are physically weak is:

1. usually right
2. undecided
3. usually wrong

87. For others to expect that drug users usually start to take drugs for medical reasons is:

1. usually wrong
2. undecided
3. usually right

ABS-III-DU

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

88. For others to expect that drug users take drugs to "escape reality" is:

1. usually right
2. uncertain
3. usually wrong

89. For others to expect drug users' intellectual ability to be the same as others is:

1. usually wrong
2. undecided
3. usually right

90. For others to expect drug users to be trustworthy is:

1. usually right
2. undecided
3. usually wrong

91. For others to expect drug users to be frightening is:

1. usually right
2. undecided
3. usually wrong

92. For others to expect drug users to plan for the future is:

1. usually wrong
2. undecided
3. usually right

93. For others to believe that drug users are less dependable workers is:

1. usually right
2. undecided
3. usually wrong

94. For others to expect drug users to be "followers" rather than "leaders" is:

1. usually right
2. uncertain
3. usually wrong

95. For others to expect drug users to be sexually loose is:

1. usually right
2. undecided
3. usually wrong

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

96. For others to expect drug users to lead religious lives is:

1. usually wrong
2. undecided
3. usually right

97. For others to expect drug users to be immature is:

1. usually right
2. uncertain
3. usually wrong

98. For others to expect drug users to be antisocial is:

1. usually right
2. undecided
3. usually wrong

99. For others to expect drug users to make 'good friends" is:

1. usually wrong
2. undecided
3. usually right

100. For others to expect drug users to be interested in unusual sexual practices is:

1. usually right
2. undecided
3. usually wrong

101. For others to expect drug users to go to university is:

1. usually wrong
2. uncertain
3. usually right

102. For others to expect drug users to be faithful to their spouses is:

1. usually wrong
2. undecided
3. usually right

103. For others to expect drug users to be an economic threat to society is:

1. usually right
2. uncertain
3. usually wrong

ABS-III-DU

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

104. For others to expect drug users to be a threat to society is:

1. usually right
2. uncertain
3. usually wrong

105. For others to expect drug users to be fun on a date is:

1. usually wrong
2. undecided
3. usually right

106. For others to expect that drug users are beyond medical help is:

1. usually right
2. uncertain
3. usually wrong

107. For others to expect drug users to be isolated from society by jail is:

1. usually right
2. uncertain
3. usually wrong

108. For others to expect drug users to be isolated from society by hospitalization is:

1. usually right
2. uncertain
3. usually wrong

109. For others to expect drug users to best be helped by ex-drug addicts is:

1. usually wrong
2. uncertain
3. usually right

110. For others to expect that drug users are beyond help by psychologists is:

1. usually right
2. uncertain
3. usually wrong

111. For others to expect the government to pay all costs associated with rehabilitating drug users is:

1. usually wrong
2. undecided
3. usually right

ABS-III-DU

**In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:**

**112. For others to believe that all that drug users need is hospital detoxification (drying out) is:**

1. usually right
2. undecided
3. usually wrong

**113. For others to expect drug users to respond well to group therapy is:**

1. usually wrong
2. undecided
3. usually right

**114. For others to expect legal restraints on drug users to be too strict is:**

1. usually wrong
2. uncertain
3. usually right

**115. For others to think drug users seek treatment only to lower the amount of daily drug intake is:**

1. usually right
2. uncertain
3. usually wrong

**116. For others to think that drug users need a permanent drug substitute, like methadone, to permanently "kick the habit" is:**

1. usually right
2. uncertain
3. usually wrong

**117. For others to think that drug use leads to physical damage to the user is:**

1. usually right
2. uncertain
3. usually wrong

**118. For others to believe that drug users usually desire treatment because they are in legal difficulty is:**

1. usually right
2. undecided
3. usually wrong

ABS-III-DU

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

119. For others to believe that drug users seek treatment to permanently "kick the habit" is:

1. usually wrong
2. uncertain
3. usually right

120. For others to believe that drug users need help with emotional problems is:

1. usually right
2. uncertain
3. usually wrong

## ABS-IV-DU

Directions: Section IV

This section contains statements about how you think you would act toward illegal drug users. Choose the answer that indicates how you think you would act.

In respect to illegal drug users would you yourself:

121. I would expect that drug users come from:

1. unhappy homes
2. undecided
3. happy homes

122. I would expect that drug users are genetically predisposed (born that way) to be that way.

1. disagree
2. uncertain
3. agree

123. I would expect drug users to take drugs because it is "the thing to do."

1. no
2. undecided
3. yes

124. I would expect that drug users deal with anxiety:

1. poorly
2. uncertain
3. well

125. I would usually expect drug users to be from a minority racial group.

1. agree
2. uncertain
3. disagree

126. I would expect that drug users are:

1. physically weak
2. undecided
3. physically strong

127. I would expect that drug users usually start to take drugs for medical reasons.

1. disagree
2. uncertain
3. agree

In respect to illegal drug users would you yourself:

128. I would expect drug users to take drugs to "escape reality."

1. agree
2. uncertain
3. disagree

129. I would expect the intellectual ability of drug users to be:

1. less than mine
2. equal to mine
3. more than mine

130. I believe I would trust drug users:

1. disagree
2. uncertain
3. agree

131. I believe I would be frightened by a drug user.

1. agree
2. uncertain
3. disagree

132. I would expect that drug users plan for the future.

1. disagree
2. uncertain
3. agree

133. With regard to work, I would expect drug users to be:

1. less dependable than others
2. same
3. more dependable than others

134. I would expect to find that drug users are "followers" rather than leaders.

1. agree
2. uncertain
3. disagree

135. I would expect that drug users are sexually loose.

1. agree
2. uncertain
3. disagree

136. I would expect drug users to lead religious lives.

1. less often than non users.
2. same as non users
3. more than non users

## ABS-IV-DU

In respect to illegal drug users would you yourself:

137. I would expect drug users to be immature.

1. agree
2. uncertain
3. disagree

138. I would expect drug users to be antisocial.

1. agree
2. uncertain
3. disagree

139. I would expect drug users to make good friends.

1. disagree
2. uncertain
3. agree

140. I would expect drug users to be interested in unusual sexual practices.

1. agree
2. uncertain
3. disagree

141. I would expect drug users to go to university.

1. disagree
2. uncertain
3. agree

142. I would expect that drug users are less faithful to their spouses than non drug users.

1. agree
2. uncertain
3. disagree

143. I would expect drug users to be an economic threat to society.

1. agree
2. uncertain
3. disagree

144. I would expect drug users to be a threat to society.

1. agree
2. uncertain
3. disagree

145. I would expect that drug users are fun on a date.

1. disagree
2. undecided
3. agree

In respect to illegal drug users would you yourself:

146. I would expect that drug users are beyond medical help.

1. agree
2. uncertain
3. disagree

147. I would expect drug users to be isolated from society by jail.

1. agree
2. uncertain
3. disagree

148. I would expect drug users to be isolated from society by hospitalization.

1. agree
2. uncertain
3. disagree

149. I would expect that drug users can best be helped by ex-drug addicts.

1. disagree
2. uncertain
3. agree

150. I would expect that drug users are beyond help by psychologists.

1. agree
2. uncertain
3. disagree

151. I would expect the government to pay all costs associated with rehabilitating drug users.

1. disagree
2. uncertain
3. agree

152. I would expect that all that drug users need is hospital detoxification (drying out).

1. agree
2. uncertain
3. disagree

153. I would expect drug users to respond well to group therapy.

1. disagree
2. uncertain
3. agree

ABS-IV-DU

In respect to illegal drug users would you yourself:

154. I would expect to find that legal restraints on drug users are:

1. not strict enough
2. undecided
3. too strict

155. I would expect drug users usually seek treatment only to lower the amount of daily intake.

1. agree
2. uncertain
3. disagree

156. I would expect that drug users need a permanent drug substitute like methodone to permanently "kick the habit."

1. agree
2. uncertain
3. disagree

157. I would expect that drug use leads to physical damage to the user.

1. agree
2. uncertain
3. disagree

158. I would expect that drug users usually desire treatment because they are in legal difficulty.

1. agree
2. uncertain
3. disagree

159. I would expect drug users to seek treatment primarily to "kick the habit."

1. disagree
2. uncertain
3. agree

160. I would expect that drug users need help with emotional problems.

1. agree
2. uncertain
3. disagree

This section concerns actual feelings that you yourself have about illegal drug users. You are asked to indicate how you feel about the following.

How do you feel toward illegal drug users:

1. I feel drug users come from:

   1. unhappy homes
   2. undecided
   3. happy homes

2. I feel drug users are genetically predisposed (born that way).

   1. disagree
   2. uncertain
   3. agree

3. I feel drug users take drugs because it is "the thing to do."

   1. disagree
   2. uncertain
   3. agree

4. I feel drug users deal with anxiety

   1. poorly
   2. uncertain
   3. well

5. I feel drug users usually belong to minority racial groups.

   1. agree
   2. uncertain
   3. disagree

6. I feel drug users are:

   1. physically weak
   2. undecided
   3. physically strong

7. I feel drug users usually start to take drugs for medical reasons.

   1. disagree
   2. uncertain
   3. agree

8. I feel drug users take drugs "to escape reality."

   1. agree
   2. uncertain
   3. disagree

## ABS-V-DU

How do you feel toward illegal drug users:

9. I feel the intellectual ability of drug users is

   1. less than mine
   2. same as mine
   3. more than mine

10. I feel I can trust drug users:

   1. disagree
   2. uncertain
   3. agree

11. I feel frightened by drug users.

   1. agree
   2. uncertain
   3. disagree

12. I feel drug users plan for the future:

   1. less than others
   2. same as others
   3. more than others

13. With regard to work, I feel drug users are:

   1. undependable
   2. undecided
   3. dependable

14. I feel drug users are usually "follower" rather than "leaders".

   1. agree
   2. uncertain
   3. disagree

15. I feel drug users are sexually loose.

   1. agree
   2. uncertain
   3. disagree

16. I feel drug users lead religious lives.

   1. disagree
   2. uncertain
   3. agree

ABS-V-DU

How do you feel toward illegal drug users:

17. I feel drug users are immature.
    1. agree
    2. uncertain
    3. disagree

18. I feel drug users are usually anti-social.
    1. agree
    2. uncertain
    3. disagree

19. I feel drug users make "good friends".
    1. disagree
    2. uncertain
    3. agree

20. I feel that drug users are involved in unusual sexual practices.
    1. agree
    2. uncertain
    3. disagree

21. I feel drug users go to the university as often as others.
    1. disagree
    2. uncertain
    3. agree

22. I feel drug users are less faithful to their spouses than non-drug users.
    1. agree
    2. uncertain
    3. disagree

23. I feel drug users are an economic burden.
    1. agree
    2. uncertain
    3. disagree

24. I feel drug users are a threat to society.
    1. agree
    2. uncertain
    3. disagree

25. I feel that drug users are fun on a date.
    1. disagree
    2. uncertain
    3. agree

## ABS-V-DU

**How do you feel toward illegal drug users:**

26. **I feel drug users are beyond medical help.**

    1. agree
    2. uncertain
    3. disagree

27 I feel drug users need to be isolated from society by being put in jail.

    1. agree
    2. uncertain
    3. disagree

28. I feel drug users need to be isolated from society by being hospitalized.

    1. agree
    2. uncertain
    3. disagree

29. I feel drug users can best be helped by ex-drug addicts.

    1. disagree
    2. uncertain
    3. agree

30. I feel drug users are beyond help by psychologists.

    1. agree
    2. uncertain
    3. disagree

31. I feel the government should pay all costs associated with rehabilitating drug users.

    1. disagree
    2. uncertain
    3. agree

32. I feel that all that drug users need is hospital detoxification (drying out).

    1. agree
    2. uncertain
    3. disagree

33. I feel drug users respond well to group therapy.

    1. disagree
    2. uncertain
    3. agree

## ABS-V-DU

**How do you feel toward illegal drug users:**

34. **I feel legal restraints on drug users are:**

    1. too easy
    2. all right
    3. too strict

35. I feel drug users usually seek treatment only to lower the amount of daily intake.

    1. agree
    2. uncertain
    3. disagree

36. I feel drug users need a permanent drug substitute like methodone to permanently "kick the habit".

    1. agree
    2. uncertain
    3. disagree

37. I feel drug use leads to physical damage to the user.

    1. agree
    2. uncertain
    3. disagree

38. I feel drug users desire treatment because they are in legal difficulty.

    1. agree
    2. uncertain
    3. disagree

39. I feel that drug users seek treatment primarly to "kick the habit".

    1. disagree
    2. uncertain
    3. agree

40. I feel that drugusers need help with emotional problems.

    1. agree
    2. uncertain
    3. disagree

ABS-VI-OU

Directions: Section VI

This section concerns actual experiences you have had with illegal drug users. Try to answer the following questions from the knowledge of your own experiences. If you have had no experience or contact with illegal drug users, omit the next 40 questions and begin again at question on page 34. If you have had any experience or contact with illegal drug users answer all questions to the best of your ability.

Experiences or contacts with illegal drug users:

41. I have found that drug users come from:

    1. unhappy homes
    2. undecided
    3. happy homes

42. I have found that drug users are genetically predisposed to (born that way) use drugs.

    1. disagree
    2. undecided
    3. agree

43. I have found that drug users take drugs because it is the thing to do.

    1. no
    2. undecided
    3. yes

44. I have seen drug users deal well with anxiety.

    1. no
    2. uncertain
    3. yes

45. I have seen that drug users usually belong to a minority racial group.

    1. yes
    2. uncertain
    3. no

46. I have experienced that drug users are:

    1. physically weak
    2. undecided
    3. physically strong

47. I have seen that drug users usually start to take drugs for medical reasons.

    1. no
    2. uncertain
    3. yes

ABS-VI-DU

Experiences or contacts with illegal drug users:

48. I have seen drug users take drugs to escape "reality".

1. yes
2. uncertain
3. no

49. I have experienced that the intellectual ability of drug users is:

1. less than mine
2. equal to mine
3. more than mine

50. I have trusted drug users.

1. no
2. uncertain
3. yes

51. I have been frightened by drug users.

1. yes
2. uncertain
3. no

52. I have experienced that drug users plan for the future.

1. no
2. undecided
3. yes

53. I have found drug users to be:

1. undependable
2. undecided
3. dependable

54. I have seen that drug users are usually "followers" rather than "leaders".

1. yes
2. undecided
3. no

55. I have seen that drug users are sexually loose.

1. yes
2. undecided
3. no

56. I have seen that drug users lead "religious lives" more often than non users.

1. no
2. uncertain
3. yes

Experiences or contacts with illegal drug users:

57. I have seen that drug users are immature.

1. yes
2. uncertain
3. no

58. I have found that drug users are anti-social.

1. yes
2. uncertain
3. no

59. I have seen that drug users make "good friends".

1. no
2. uncertain
3. yes

60. I have seen that drug users are involved in unusual sexual practices.

1. agree
2. uncertain
3. disagree

61. I have experienced that drug users go to university less often than non users.

1. agree
2. uncertain
3. disagree

62. I have seen that drug users are unfaithful to their spouses more often than non drug users.

1. yes
2. uncertain
3. no

63. I have seen that drug users are an economic threat to society.

1. yes
2. uncertain
3. no

64. I have seen that drug users are a threat to society.

1. yes
2. uncertain
3. no

ABS-VI-DU

Experiences or contacts with illegal drug users:

65. I have had fun dating drug users.

1. no
2. uncertain
3. yes

66. I have seen that drug users are beyond medical help.

1. yes
2. uncertain
3. no

67. I have seen that drug users need to be isolated from society by jail.

1. yes
2. uncertain
3. no

68. I have seen that drug users need to be isolated from society by hospitalization.

1. yes
2. uncertain
3. no

69. I have seen that drug users can best be helped by ex-drug addicts.

1. no
2. uncertain
3. yes

70. I have seen that drug users are beyond help by Psychologists.

1. yes
2. uncertain
3. no

71. I have encouraged the government to pay all costs associated with rehabilitating drug users.

1. no
2. undecided
3. yes.

72. I have seen that all drug users need is hospital detoxification (drying out).

1. no
2. undecided
3. yes

ABS-VI-DU

Experiences or contacts with illegal drug users:

73. I have seen that drug users respond well to group therapy.

1. no
2. uncertain
3. yes

74. I have seen that legal restraints on drug users are:

1. too easy
2. all right
3. too strict

75. I have seen that drug users usually seek treatment only to lower their daily intake.

1. yes
2. uncertain
3. no

76. I have seen that drug users need a permanent drug substitute like methadone to permanently "kick the habit."

1. yes
2. uncertain
3. no

77. I have seen that drug use leads to physical damage to the user.

1. yes
2. undecided
3. no

78. I have experienced that drug users desire treatment because they are in legal difficulty.

1. yes
2. uncertain
3. no

79. I have experienced that drug users seek treatment primarily to "kick the habit."

1. no
2. uncertain
3. yes

80. I have seen that drug users need help with emotional problems.

1. yes
2. uncertain
3. no

ABS-VI-DU

This part of the booklet deals with many things. For the purpose of this study, the answers of all persons are important.

Part of the questionnaire has to do with personal information about you. Since the questionnaire is completely anonymous or confidential, you may answer all of the questions freely without any concern about being identified. It is important to the study to obtain your answer to every question.

Please read each question carefully and do not omit any questions. Please answer by circling the answer you choose.

81. Please indicate your sex.

1. Female
2. Male

82. Please indicate your age as follows:

1. Under 20 years of age
2. 21-30
3. 31-40
4. 41-50
5. 50 - over

83. What is your marital status?

1. Married
2. Single
3. Divorced
4. Widowed
5. Separated

84. What is your religion?

1. I prefer not to answer
2. Catholic
3. Protestant
4. Jewish
5. Other or none

85. About how important is your religion to you in your daily life?

1. I prefer not to answer
2. I have no religion
3. Not very important
4. Fairly important
5. Very important

86. About how much education do you have?

1. 6 years of school or less
2. 9 years of school or less
3. 12 years of school or less
4. Some college or university
5. A college or university degree

87. Some people are more set in their ways than others. How would you rate yourself?

1. I find it very difficult to change
2. I find it slightly difficult to change
3. I find it somewhat easy to change
4. I find it very easy to change my ways

88. Some people feel that in bringing up children, new ways and methods should be tried whenever possible. Others feel that trying out new methods is dangerous. What is your feeling about the following statement?

"New methods of raising children should be tried out whenever possible."

1. Strongly disagree
2. Slightly disagree
3. Slightly agree
4. Strongly agree

89. Family planning on birth control has been discussed by many people. What is your feeling about a married couple practicing birth control? Do you think they are doing something good or bad? If you had to decide, would you say that they are doing wrong, or that they are doing right?

1. It is always wrong
2. It is usually wrong
3. It is probably all right
4. It is always right

90. People have different ideas about what should be done concerning automation and other new ways of doing things. How do <u>you feel</u> about the following statement?

"Automation and similar new procedures should be encouraged (in government, business and industry) since eventually they create new jobs and raise the standard of living."

1. Strongly disagree
2. Slightly disagree
3. Slightly agree
4. Strongly agree

91. In respect to your religion, about to what extent do you observe the rules and regulations of your religion?

1. I prefer not to answer
2. I have no religion
3. Sometimes
4. Usually
5. Almost always

92. I find it easier to follow rules than to do things on my own.

1. Agree strongly
2. Agree slightly
3. Disagree slightly
4. Disagree strongly

93. What is your political preference?

1. Republican
2. Independent
3. Democrat
4. Other

94. How many political rallies have you attended?

1. None
2. One or two
3. Three to six
4. Seven to 15
5. More than 15

95. How many political demonstrations or marches have you taken part in?

1. None
2. One or two
3. Three to six
4. Seven to 15
5. More than 15

96. Did you vote in the 1968 Presidential election?

1. No
2. Was too young to vote or unable to vote
3. Yes

97. Have you ever been arrested or taken into custody for taking part in a civil disturbance?

1. No
2. Yes

98. Do you feel that a political revolution is needed in this country?

1. No
2. Yes

99. Do you believe that a social revolution is needed in this country?

1. No
2. Yes

100. Running a village, city, town or any governmental organization is an important job. What is your feeling on the following statement?

"Political leaders should be changed regularly, even if they are doing a good job."

1. Strongly disagree
2. Slightly disagree
3. Slightly agree
4. Strongly agree

101. Have you ever been in the armed services:

1. no
2. yes

QUESTIONNAIRE: PC

This part of the questionnaire deal with you experiences or contacts with illegal drug users. Perhaps you have had much contact with illegal drug users, or yoy may have read or studied about them. On the other hand, you may have had little or no contact with illegal drug users and may have never though much about them at all.

102. Some types of drug users are listed below. Indicate the type you have had the most contact with. Mark only one.

1. Marijuana users
2. Amphitamine and/or barbiturates
3. Heroine or opium users
4. Multiple users
5. No contact

103. How many times have you talked with, worked with or had personal contact with illegal drug users?

1. No contact
2. Less than five
3. Between five and 15
4. Between 15 and 50
5. More than 50

104. The following question deals with the kinds of experiences you have had with illegal drug users. If more than one categor applies, please choose the answer with the highest number.

1. I have read or heard lectures or seen movies about drug users
2. A friend or relative is, or was, a drug user
3. I have counseled, dated or worked intensively with drug users
4. I, myself, am or have been an illegal drug user

105. If you have ever used illegal drugs, circle the drug most frequently used. If you have never used illegal drugs, leave the answer blank.

1. Marijuana
2. LSD and/or hallucogens
3. Barbiturates and/or amphetamines
4. Heroine and/or opiates
5. Cocaine

106. How many times have you used the drug(s) circled above? If you have not used any illegal drugs, leave your answer blank.

1. Only once
2. Two to five times
3. Five to 10 times
4. 10 to 50 times
5. More than 50 times

107. When you have been in contact with drug users, how easy for you, in general, would it have been to avoid contact with these drug users?

1. I could not avoid contact
2. I could generally avoid the personal contact only at great difficulty
3. I could generally avoid this personal contact with considerable difficulty
4. I could generally avoid this personal contact with some difficulty
5. I could generally avoid this personal contac without any difficulty

108. During your contact with drug users did you gain materially in any way, such as being paid or gaining academic credit?

1. No
2. Yes

109. How have you generally felt about your experiences with drugh users?

1. No experience
2. I definitely disliked it
3. I did not like it very much
4. I liked it somewhat
5. I definitely enjoyed it

110. Have you ever been arrested or taken into custody for possession or use of illegal drugs?

1. No
2. Yes

111. Why do you (or might you) take illegal drugs?

1. Never have or would
2. To release anxiety
3. To feel good
4. Because it is the "thing to do"
5. to "escape"

## LIFE SITUATIONS

**This section of the booklet deals with how people feel about several aspects of life or life situations. Please indicate how you feel about each by marking the appropriate number on the answer sheet.**

112. **It should be possible to eliminate war once and for all.**

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

113. Success depends to a large part on luck and fate.

1. Strongly agree
2. agree
3. Disagree
4. Strongly disagree

114. **Some day most of the mysteries of the world will be revealed by science.**

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

115. **By improving industrial and agricultural methods, poverty can be eliminated in the world.**

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

116. **With increased medical knowledge it should be possible to lengthen the average life span to 100 years or more.**

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

117. **Some day the deserts will be converted into good farming land by the application of engineering and science.**

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

118. **Education can only help people develop their natural abilities; it cannot change people in any fundamental way.**

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree

119. With hard work anyone can succeed.

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

120. Almost every present human problem will be solved in the future.

1. Strongly disagree
2. Disagree
3. Agree
4. Strongly agree

# APPENDIX 5

## ABS-DU (FINAL SCALE)

TABLE A-48.--Abbreviated Item Content and Subscale Level Numbers for the Final[a] ABS:DU.

| Content Facet | Original Number | Item Content | Item Numbers in Subscale Level | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 |
| 1 Causes | 1 | Homes-type | 1 | 21 | 41 | 61 | 81 | 101 |
| | 4 | Anxiety/worry | 2 | 22 | 42 | 62 | 82 | 102 |
| | 5 | Minority group | 3 | 23 | 43 | 63 | 83 | 103 |
| | 6 | Weak-strong | 4 | 24 | 44 | 64 | 84 | 104 |
| 2 Character-istics | 12 | Future orientation | 5 | 25 | 45 | 65 | 85 | 105 |
| | 13 | Work dependable | 6 | 26 | 46 | 66 | 86 | 106 |
| | 17 | Immature | 7 | 27 | 47 | 67 | 87 | 107 |
| | 18 | Antisocial | 8 | 28 | 48 | 68 | 88 | 108 |
| 3 Conse-quences | 23 | Economic threat | 9 | 29 | 49 | 69 | 89 | 109 |
| | 25 | Dating | 10 | 30 | 50 | 70 | 90 | 110 |
| | 37 | Physical damage | 11 | 31 | 51 | 71 | 91 | 111 |
| | 24 | Societal threat | 12 | 32 | 52 | 72 | 92 | 112 |
| 4 Treatment Type | 26 | Medical help | 13 | 33 | 53 | 73 | 93 | 113 |
| | 27 | In jails | 14 | 34 | 54 | 74 | 94 | 114 |
| | 29 | Addict-help | 15 | 35 | 55 | 75 | 95 | 115 |
| | 30 | Psychologist-help | 16 | 36 | 56 | 76 | 96 | 116 |
| 5 Treatment Reason | 35 | Lower intake | 17 | 37 | 57 | 77 | 97 | 117 |
| | 36 | Need methadone | 18 | 38 | 58 | 78 | 98 | 118 |
| | 38 | Legal trouble | 19 | 39 | 59 | 79 | 99 | 119 |
| | 39 | Kick habit | 20 | 40 | 60 | 80 | 110 | 120 |

[a]See Table 30.

# ATTITUDE BEHAVIOR SCALE DU

## DIRECTIONS

This booklet contains statements of how people behave in certain situations or feel about certain things. You, yourself, or other persons often behave in the same way toward illegal drug users. You also have some general ideas about yourself, about other persons like you and about illegal drug users. Sometimes you feel or behave the same way toward everyone and sometimes you feel or behave differently toward illegal drug users.

This questionnaire has statements about ideas and about behavior. Each statement in this questionnaire is different from every other statement, although some of the statements in each section are similar. Your answers in one section, therefore, may be the same as answers in another section, or your answers may differ from section to section. Here is a sample statement:

Sample I

Others believe the following things about drug users as compared to themselves:

1. Chance of drug users being sick more often

   (1) less chance
   2. about the same
   3. more chance

If others believe that illegal drug users have less chance to be sick more often, you should circle the number 1 as shown above or if you are using an IBM sheet, make a heavy dark line on the answer sheet between the two lines after the number as follows:

1. 1 ▬▬ 2 ═══ 3 ═══ 4 ═══ 5 ═══

Please mark only one response for each question. Although the answers to some questions may not exactly fit your opinion, choose a "best" answer.

********** DO NOT PUT YOUR NAME ON THE BOOKLET **********

by: John E. Jordan
James M. Kaple
William Nicholson
College of Education
Michigan State University

ABS-I-DU

Directions: Section I

This section contains statements about ideas which others have about illegal drug users. Circle or fill in the answer sheet number that indicates how others compare drug users with non drug users.

Others believe the following things about illegal drug users as compared to non-drug users:

1. Drug users usually come from homes that are:

    1. less happy than others
    2. same as others
    3. happier than others

2. As compared to others drug users deal with anxiety or worry:

    1. less well
    2. same
    3. better than non drug users

3. Others believe that minority racial groups are more likely to be drug users than whites.

    1. agree
    2. uncertain
    3. disagree

4. Others believe that people who use drugs are:

    1. physically weaker than others
    2. same
    3. physically stronger than others

5. As compared to non-drug users others believe that drug users plan for the future.

    1. less often
    2. same
    3. more often

6. With regard to work, others believe that drug users are:

    1. less dependable than others
    2. same as others
    3. more dependable than others

Others believe the following things about illegal drug users as compared to non-drug users:

7. As compared to others, drug users act immature.

   1. agree
   2. uncertain
   3. disagree

8. Others believe that drug users are antisocial.

   1. more often than non-drug users
   2. same as non-drug users
   3. less often than non-drug users

9. Others believe drug users are an economic threat to society.

   1. agree
   2. undecided
   3. disagree

10. As compared to non-drug users, others believe that drug users are:

    1. less fun to date
    2. the same
    3. more fun to date

11. Others believe drug use leads to permanent physical damage to the user.

    1. agree
    2. uncertain
    3. disagree

12. Others believe that drug users are a threat to society.

    1. agree
    2. uncertain
    3. disagree

13. Others believe that drug users are beyond medical help.

    1. agree
    2. uncertain
    3. disagree

14. Others believe that drug users should be isolated from the rest of society in jails.

    1. agree
    2. uncertain
    3. disagree

Others believe the following things about illegal drug users as compared to non-drug users:

15. Others believe that drug users can best be helped by ex-drug addicts.

    1. disagree
    2. uncertain
    3. agree

16. Others believe that drug users are beyond help by psychologists.

    1. agree
    2. uncertain
    3. disagree

17. Others believe that most drug users usually seek treatment only to lower the amount of daily drug intake.

    1. agree
    2. uncertain
    3. disagree

18. Others believe drug users need a permanent drug substitute, like methadone, to permanently "kick the habit."

    1. agree
    2. uncertain
    3. disagree

19. Others believe drug users usually desire treatment because they are in legal difficulty.

    1. agree
    2. uncertain
    3. disagree

20. Drug users usually seek treatment to permanently "kick the habit."

    1. disagree
    2. uncertain
    3. agree

Directions: Section II

This section contains statements which people generally believe others would experience when interacting with illegal drug users. Please choose the answer that indicates what you think most others believe about illegal drug users.

Most people generally believe the following about interacting with illegal drug users:

21. People generally believe that others would find that drug users come from homes that are:

    1. less happy than others
    2. same as others
    3. more happy than others

22. People generally believe that others would find drug users deal with anxiety or worry:

    1. less well than others
    2. same as others
    3. better than others

23. People generally believe that others would find that minority racial groups are more likely to be drug users than whites.

    1. agree
    2. uncertain
    3. disagree

24. People generally believe that others would find drug users to be:

    1. physically weaker
    2. same
    3. physically stronger

25. People generally believe that others would find that drug users plan for the future:

    1. less often than others
    2. same as others
    3. more often than others

Most people generally believe the following about interacting with illegal drug users:

26. With regard to work, people generally believe that others would find drug users to be:

    1. less dependable than others
    2. same as others
    3. more dependable than others

27. People generally believe that others would find that drug users act:

    1. less mature than others
    2. same as others
    3. more mature than others

28. People generally believe that others would find that drug users are antisocial.

    1. agree
    2. undecided
    3. disagree

29. People generally believe others would find drug users to be an economic threat to society:

    1. more than others
    2. same as others
    3. less than others

30. People generally believe that others would find that drug users are:

    1. less fun to date than non-drug users
    2. the same as non-drug users
    3. more fun than non-drug users

31. People generally believe that others find that drug use leads to permanent physical damage to the user.

    1. agree
    2. uncertain
    3. disagree

32. People generally believe that others would find drug users to be:

    1. more of a threat to society than non-drug users
    2. same threat to society
    3. less of a threat to society than non-drug users

Most people generally believe the following about interacting with illegal drug users:

33. People generally believe others would find that drug users are beyond medical help.

    1. agree
    2. uncertain
    3. disagree

34. People generally believe that others would find that drug users should be isolated from the rest of society in jail.

    1. agree
    2. uncertain
    3. disagree

35. People generally believe others would find drug users can best be helped by ex-drug addicts.

    1. disagree
    2. uncertain
    3. agree

36. People generally believe others would find that drug users are beyond help by psychologists.

    1. agree
    2. uncertain
    3. disagree

37. People generally believe that others would find that drug users usually seek treatment only to lower the amount of daily drug intake.

    1. agree
    2. uncertain
    3. disagree

38. People generally believe that others would find that drug users need a permanent drug substitute, like methadone, to permanently "kick the habit."

    1. agree
    2. uncertain
    3. disagree

Most people generally believe the following about interacting with illegal drug users:

39. People generally believe that others would find drug users usually desire treatment because they are in legal difficulty.

    1. agree
    2. uncertain
    3. disagree

40. People generally believe that others would find drug users seek treatment to permanently "kick the habit."

    1. disagree
    2. uncertain
    3. agree

ABS-III-DU

Directions: Section III

This section contains statements of the right or wrong way of behaving or acting toward illegal drug users. You are asked to indicate what you yourself believe others think should be done with respect to illegal drug users.

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

41. For others to believe that drug users come from unhappy homes is:

    1. usually right
    2. undecided
    3. usually wrong

42. For others to believe that drug users deal with anxiety well is:

    1. usually wrong
    2. undecided
    3. usually right

43. For others to expect most drug users to be from a minority racial group is:

    1. usually right
    2. uncertain
    3. usually wrong

44. For others to believe that drug users are physically weak is:

    1. usually right
    2. undecided
    3. usually wrong

45. For others to expect drug users to plan for the future is:

    1. usually wrong
    2. undecided
    3. usually right

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

46. For others to believe that drug users are less dependable workers is:

    1. usually right
    2. undecided
    3. usually wrong

47. For others to expect drug users to be immature is:

    1. usually right
    2. uncertain
    3. usually wrong

48. For others to expect drug users to be antisocial is:

    1. usually right
    2. undecided
    3. usually wrong

49. For others to expect drug users to be an economic threat to society is:

    1. usually right
    2. uncertain
    3. usually wrong

50. For others to expect drug users to be fun on a date is:

    1. usually wrong
    2. undecided
    3. usually right

51. For others to think that drug use leads to physical damage to the user is:

    1. usually right
    2. uncertain
    3. usually wrong

52. For others to expect drug users to be a threat to society is:

    1. usually right
    2. uncertain
    3. usually wrong

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

53. For others to expect that drug users are beyond medical help is:

    1. usually right
    2. uncertain
    3. usually wrong

54. For others to expect drug users to be isolated from society by jail is:

    1. usually right
    2. uncertain
    3. usually wrong

55. For others to expect drug users to best be helped by ex-drug addicts is:

    1. usually wrong
    2. uncertain
    3. usually right

56. For others to expect that drug users are beyond help by psychologists is:

    1. usually right
    2. uncertain
    3. usually wrong

57. For others to think drug users seek treatment only to lower the amount of daily drug intake is:

    1. usually right
    2. uncertain
    3. usually wrong

58. For others to think that drug users need a permanent drug substitute, like methadone, to permanently "kick the habit" is:

    1. usually right
    2. uncertain
    3. usually wrong

In respect to illegal drug users, what do you, yourself, believe others think is right or wrong:

59. For others to believe that drug users usually desire treatment because they are in legal difficulty is:

    1. usually right
    2. undecided
    3. usually wrong

60. For others to believe that drug users seek treatment to permanently "kick the habit" is:

    1. usually wrong
    2. uncertain
    3. usually right

ABS-IV-DU

Directions: Section IV

This section contains statements about how you think you would act toward illegal drug users. Choose the answer that indicates how you think you would act.

In respect to illegal drug users would you yourself:

61. I would expect that drug users come from:

    1. unhappy homes
    2. undecided
    3. happy homes

62. I would expect that drug users deal with anxiety:

    1. poorly
    2. uncertain
    3. well

63. I would usually expect drug users to be from a minority racial group.

    1. agree
    2. uncertain
    3. disagree

64. I would expect that drug users are:

    1. physically weak
    2. undecided
    3. physically strong

65. I would expect that drug users plan for the future.

    1. disagree
    2. uncertain
    3. agree

66. With regard to work, I would expect drug users to be:

    1. less dependable than others
    2. same
    3. more dependable than others

In respect to illegal drug users would you yourself:

67. I would expect drug users to be immature.

1. agree
2. uncertain
3. disagree

68. I would expect drug users to be antisocial.

1. agree
2. uncertain
3. disagree

69. I would expect drug users to be an economic threat to society.

1. agree
2. uncertain
3. disagree

70. I would expect that drug users are fun on a date.

1. disagree
2. undecided
3. agree

71. I would expect that drug use leads to physical damage to the user.

1. agree
2. uncertain
3. disagree

72. I would expect drug users to be a threat to society.

1. agree
2. uncertain
3. disagree

73. I would expect that drug users are beyond medical help.

1. agree
2. uncertain
3. disagree

74. I would expect drug users to be isolated from society by jail.

1. agree
2. uncertain
3. disagree

In respect to illegal drug users would you yourself:

75. I would expect that drug users can best be helped by ex-drug addicts.

    1. disagree
    2. uncertain
    3. agree

76. I would expect that drug users are beyond help by psychologists.

    1. agree
    2. uncertain
    3. disagree

77. I would expect drug users usually seek treatment only to lower the amount of daily intake.

    1. agree
    2. uncertain
    3. disagree

78. I would expect that drug users need a permanent drug substitute like methadone to permanently "kick the habit."

    1. agree
    2. uncertain
    3. disagree

79. I would expect that drug users usually desire treatment because they are in legal difficulty.

    1. agree
    2. uncertain
    3. disagree

80. I would expect drug users to seek treatment primarily to "kick the habit."

    1. disagree
    2. uncertain
    3. agree

ABS-V-DU

Directions: Section V

This section concerns actual feelings that you yourself have about illegal drug users. You are asked to indicate how you feel about the following

How do you feel toward illegal drug users:

81. I feel drug users come from:

1. unhappy homes
2. undecided
3. happy homes

82. I feel drug users deal with anxiety:

1. poorly
2. uncertain
3. well

83. I feel drug users usually belong to minority racial groups.

1. agree
2. uncertain
3. disagree

84. I feel drug users are:

1. physically weak
2. undecided
3. physically strong

85. I feel drug users plan for the future:

1. less than others
2. same as others
3. more than others

86. With regard to work, I feel drug users are:

1. undependable
2. undecided
3. dependable

How do you feel toward illegal drug users:

87. I feel drug users are immature.

1. agree
2. uncertain
3. disagree

88. I feel drug users are antisocial.

1. agree
2. uncertain
3. disagree

89. I feel drug users are an economic burden.

1. agree
2. uncertain
3. disagree

90. I feel that drug users are fun on a date.

1. disagree
2. uncertain
3. agree

91. I feel drug use leads to physical damage to the user.

1. agree
2. uncertain
3. disagree

92. I feel drug users are a threat to society.

1. agree
2. uncertain
3. disagree

93. I feel drug users are beyond medical help.

1. agree
2. uncertain
3. disagree

94. I feel drug users need to be isolated from society by being put in jail.

1. agree
2. uncertain
3. disagree

How do you feel toward illegal drug users:

95. I feel drug users can best be helped by ex-drug addicts.

1. disagree
2. uncertain
3. agree

96. I feel drug users are beyond help by psychologists.

1. agree
2. uncertain
3. disagree

97. I feel drug users usually seek treatment only to lower the amount of daily intake.

1. agree
2. uncertain
3. disagree

98. I feel drug users need a permanent drug substitute like methadone to permanently "kick the habit."

1. agree
2. uncertain
3. disagree

99. I feel drug users desire treatment primarily because they are in legal difficulty.

1. agree
2. uncertain
3. disagree

100. I feel that drug users seek treatment primarily to "kick the habit."

1. disagree
2. uncertain
3. agree

ABS-VI-DU

Directions: Section VI

This section concerns actual experiences you have had with illegal drug users. Try to answer the following questions from the knowledge of your own experiences. If you have had no experience or contact with illegal drug users, omit questions 101-120 and begin again at question 121 on page 20. If you have had any experience or contact with illegal drug users answer all questions to the best of your ability.

Experiences or contacts with illegal drug users:

101. I have found that drug users come from:

1. unhappy homes
2. undecided
3. happy homes

102. I have seen drug users deal well with anxiety.

1. no
2. uncertain
3. yes

103. I have seen that drug users usually belong to a minority racial group.

1. yes
2. uncertain
3. no

104. I have experienced that drug users are:

1. physically weak
2. undecided
3. physically strong

105. I have experienced that drug users plan for the future.

1. no
2. undecided
3. yes

Experiences or contacts with illegal drug users:

106. I have found drug users to be:

1. undependable in work
2. undecided
3. dependable in work

107. I have seen that drug users are immature.

1. yes
2. uncertain
3. no

108. I have seen that drug users are antisocial.

1. yes
2. uncertain
3. no

109. I have seen that drug users are an economic threat to society.

1. yes
2. uncertain
3. no

110. I have had fun dating drug users.

1. no
2. uncertain
3. yes

111. I have seen that drug use leads to physical damage to the user.

1. yes
2. undecided
3. no

112. I have seen that drug users are a threat to society.

1. yes
2. uncertain
3. no

113. I have seen that drug users are beyond medical help.

1. yes
2. uncertain
3. no

Experiences or contacts with illegal drug users:

114. I have seen that drug users need to be isolated from society by jail.

1. yes
2. uncertain
3. no

115. I have seen that drug users can best be helped by ex-drug addicts.

1. no
2. uncertain
3. yes

116. I have seen that drug users are beyond help by psychologists.

1. yes
2. uncertain
3. no

117. I have seen that drug users usually seek treatment only to lower their daily intake.

1. yes
2. uncertain
3. no

118. I have seen that drug users need a permanent drug substitute like methadone to permanently "kick the habit."

1. yes
2. uncertain
3. no

119. I have experienced that drug users desire treatment primarily because they are in legal difficulty.

1. yes
2. uncertain
3. no

120. I have experienced that drug users seek treatment primarily to "kick the habit."

1. no
2. uncertain
3. yes

# APPENDIX 6

## N, MEAN, AND STANDARD DEVIATION BY GROUP FOR ALL VARIABLES

Variables are identified in the variable list--
Code Book Appendix 3

TABLE A-49.--Adjusted[a] N, Mean, and Standard Deviation Category A all Variables (Initial Scale).

**CATEGORY A GROUP 1**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 40 | 68,975 | 12.248 | VAR 2 | 35 | 66,686 | 11,968 | VAR 3 | 34 | 74,176 | 11,352 |
| VAR 4 | 35 | 80,429 | 10,606 | VAR 5 | 35 | 80,857 | 11,768 | VAR 6 | 35 | 79,429 | 10,648 |
| VAR 7 | 36 | 1,778 | 0,422 | VAR 8 | 36 | 2,222 | 0,797 | VAR 9 | 36 | 2,500 | 1,384 |
| VAR 10 | 36 | 3,167 | 1,363 | VAR 11 | 36 | 3,194 | 1,527 | VAR 12 | 36 | 2,917 | 0,874 |
| VAR 13 | 36 | 2,556 | 1,027 | VAR 14 | 36 | 2,917 | 1,156 | VAR 15 | 36 | 2,639 | 1,018 |
| VAR 16 | 36 | 2,889 | 1,141 | VAR 17 | 36 | 2,833 | 1,384 | VAR 18 | 36 | 2,694 | 1,142 |
| VAR 19 | 34 | 2,676 | 0,806 | VAR 20 | 36 | 1,889 | 1,389 | VAR 21 | 35 | 1,543 | 1,010 |
| VAR 22 | 36 | 1,611 | 0,871 | VAR 23 | 36 | 1,111 | 0,319 | VAR 24 | 34 | 1,824 | 0,387 |
| VAR 25 | 33 | 1,788 | 0,415 | VAR 26 | 36 | 2,361 | 1,199 | VAR 27 | 36 | 1,250 | 0,439 |
| VAR 28 | 33 | 3,212 | 0,820 | VAR 29 | 34 | 4,294 | 1,268 | VAR 30 | 33 | 3,667 | 0,777 |
| VAR 31 | 34 | 3,706 | 0,906 | VAR 32 | 34 | 4,676 | 0,843 | VAR 33 | 33 | 3,000 | 1,732 |
| VAR 34 | 34 | 1,353 | 0,485 | VAR 35 | 32 | 3,344 | 1,181 | VAR 36 | 33 | 1,364 | 0,489 |
| VAR 37 | 31 | 3,484 | 1,313 | VAR 38 | 34 | 21,529 | 5,361 | VAR 41 | 40 | 1,000 | 0,000 |
| VAR 42 | 40 | 2,000 | 0,000 | | | | | | | | |

**CATEGORY A GROUP 2**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 30 | 71,167 | 11,997 | VAR 2 | 29 | 70,517 | 12,287 | VAR 3 | 30 | 79,000 | 11,231 |
| VAR 4 | 30 | 82,800 | 11,451 | VAR 5 | 30 | 83,400 | 10,798 | VAR 6 | 27 | 83,074 | 9,261 |
| VAR 7 | 28 | 2,000 | 0,000 | VAR 8 | 29 | 1,586 | 0,501 | VAR 9 | 29 | 1,793 | 0,559 |
| VAR 10 | 29 | 3,069 | 1,412 | VAR 11 | 29 | 3,241 | 1,455 | VAR 12 | 29 | 3,276 | 0,751 |
| VAR 13 | 29 | 2,552 | 1,121 | VAR 14 | 29 | 3,034 | 0,944 | VAR 15 | 29 | 2,828 | 0,889 |
| VAR 16 | 29 | 2,828 | 1,104 | VAR 17 | 29 | 2,897 | 1,263 | VAR 18 | 29 | 3,276 | 0,922 |
| VAR 19 | 29 | 2,793 | 0,902 | VAR 20 | 29 | 2,276 | 1,386 | VAR 21 | 29 | 2,448 | 1,639 |
| VAR 22 | 29 | 1,517 | 0,785 | VAR 23 | 29 | 1,310 | 0,471 | VAR 24 | 28 | 1,679 | 0,476 |
| VAR 25 | 26 | 1,769 | 0,430 | VAR 26 | 28 | 2,821 | 1,056 | VAR 27 | 29 | 1,241 | 0,435 |
| VAR 28 | 29 | 3,138 | 1,026 | VAR 29 | 29 | 4,414 | 1,119 | VAR 30 | 29 | 3,586 | 0,907 |
| VAR 31 | 29 | 3,103 | 1,175 | VAR 32 | 29 | 4,517 | 1,090 | VAR 33 | 29 | 2,552 | 1,502 |
| VAR 34 | 29 | 1,448 | 0,506 | VAR 35 | 29 | 3,793 | 1,320 | VAR 36 | 29 | 1,552 | 0,506 |
| VAR 37 | 29 | 3,414 | 1,181 | VAR 38 | 28 | 22,429 | 4,350 | VAR 41 | 29 | 1,000 | 0,000 |
| VAR 42 | 29 | 3,000 | 0,000 | | | | | | | | |

**CATEGORY A GROUP 3**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 45 | 66,156 | 7,888 | VAR 2 | 45 | 62,178 | 10,612 | VAR 3 | 43 | 75,116 | 10,252 |
| VAR 4 | 42 | 73,143 | 7,691 | VAR 5 | 41 | 73,976 | 6,995 | VAR 6 | 42 | 71,548 | 7,319 |
| VAR 7 | 42 | 2,000 | 0,000 | VAR 8 | 42 | 1,833 | 0,437 | VAR 9 | 42 | 2,119 | 1,087 |
| VAR 10 | 42 | 3,357 | 1,441 | VAR 11 | 42 | 3,071 | 1,295 | VAR 12 | 42 | 2,857 | 0,783 |
| VAR 13 | 42 | 2,595 | 0,912 | VAR 14 | 42 | 3,024 | 1,093 | VAR 15 | 42 | 2,452 | 0,968 |
| VAR 16 | 42 | 3,000 | 1,126 | VAR 17 | 42 | 2,667 | 1,223 | VAR 18 | 43 | 2,977 | 0,963 |
| VAR 19 | 43 | 3,000 | 0,845 | VAR 20 | 43 | 1,914 | 1,258 | VAR 21 | 43 | 1,814 | 1,160 |
| VAR 22 | 43 | 1,163 | 0,485 | VAR 23 | 43 | 1,163 | 0,374 | VAR 24 | 43 | 1,814 | 0,394 |
| VAR 25 | 43 | 1,674 | 0,474 | VAR 26 | 42 | 2,381 | 1,209 | VAR 27 | 43 | 1,163 | 0,374 |
| VAR 28 | 40 | 3,100 | 0,496 | VAR 29 | 43 | 4,698 | 0,803 | VAR 30 | 41 | 3,780 | 0,725 |
| VAR 31 | 41 | 4,024 | 0,418 | VAR 32 | 43 | 4,953 | 0,213 | VAR 33 | 43 | 2,605 | 1,720 |
| VAR 34 | 43 | 1,488 | 0,506 | VAR 35 | 43 | 3,465 | 1,240 | VAR 36 | 43 | 1,651 | 0,482 |
| VAR 37 | 43 | 4,000 | 1,175 | VAR 38 | 43 | 25,163 | 4,197 | VAR 41 | 45 | 1,000 | 0,000 |
| VAR 42 | 45 | 1,000 | 0,000 | | | | | | | | |

[a]When any subject failed to answer 10 or more items at any given Level (i.e. variables 1-6) the observation was dropped for that Level.

TABLE A-50.--Adjusted[a] N, Mean, and Standard Deviation Category B all Variables (Initial Scale).

CATEGORY B GROUP 1

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 16 | 67,813 | 10,028 | VAR 2 | 16 | 62,813 | 11,714 | VAR 3 | 17 | 70,176 | 16,156 |
| VAR 4 | 17 | 71,294 | 16,442 | VAR 5 | 17 | 67,706 | 14,503 | VAR 6 | 15 | 68,467 | 13,287 |
| VAR 7 | 27 | 1,926 | 0,267 | VAR 8 | 27 | 1,741 | 0,899 | VAR 9 | 20 | 1,700 | 0,865 |
| VAR 10 | 27 | 2,519 | 1,156 | VAR 11 | 27 | 3,111 | 1,311 | VAR 12 | 27 | 2,963 | 0,706 |
| VAR 13 | 27 | 2,000 | 1,074 | VAR 14 | 25 | 2,320 | 1,030 | VAR 15 | 26 | 2,808 | 0,801 |
| VAR 16 | 25 | 2,680 | 0,900 | VAR 17 | 25 | 3,200 | 0,913 | VAR 18 | 27 | 2,222 | 1,086 |
| VAR 19 | 24 | 2,417 | 0,830 | VAR 20 | 22 | 1,545 | 1,011 | VAR 21 | 18 | 1,278 | 0,575 |
| VAR 22 | 26 | 1,885 | 0,952 | VAR 23 | 16 | 1,000 | 0,000 | VAR 24 | 18 | 1,222 | 0,548 |
| VAR 25 | 21 | 1,190 | 0,402 | VAR 26 | 24 | 2,292 | 1,160 | VAR 27 | 25 | 1,480 | 0,586 |
| VAR 28 | 24 | 2,875 | 1,262 | VAR 29 | 26 | 3,500 | 1,503 | VAR 30 | 23 | 2,261 | 0,752 |
| VAR 31 | 7 | 1,429 | 1,134 | VAR 32 | 10 | 2,400 | 1,506 | VAR 33 | 21 | 3,000 | 1,761 |
| VAR 34 | 19 | 1,316 | 0,582 | VAR 35 | 26 | 2,308 | 1,087 | VAR 36 | 18 | 1,222 | 0,548 |
| VAR 37 | 17 | 1,647 | 0,931 | VAR 38 | 27 | 18,593 | 4,299 | VAR 41 | 27 | 2,000 | 0,000 |
| VAR 42 | 27 | 1,593 | 0,501 | | | | | | | | |

CATEGORY B GROUP 2

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 32 | 61,875 | 6,786 | VAR 2 | 32 | 61,125 | 10,543 | VAR 3 | 32 | 62,531 | 11,444 |
| VAR 4 | 32 | 60,688 | 13,890 | VAR 5 | 31 | 57,097 | 9,751 | VAR 6 | 32 | 58,969 | 8,819 |
| VAR 7 | 31 | 1,742 | 0,445 | VAR 8 | 31 | 3,032 | 0,752 | VAR 9 | 30 | 1,233 | 0,568 |
| VAR 10 | 31 | 2,806 | 1,108 | VAR 11 | 31 | 3,452 | 1,060 | VAR 12 | 31 | 3,839 | 0,820 |
| VAR 13 | 30 | 2,233 | 0,679 | VAR 14 | 30 | 2,000 | 0,830 | VAR 15 | 30 | 3,600 | 0,724 |
| VAR 16 | 31 | 3,355 | 0,877 | VAR 17 | 30 | 3,400 | 1,192 | VAR 18 | 31 | 2,484 | 1,092 |
| VAR 19 | 30 | 1,267 | 0,740 | VAR 20 | 29 | 2,034 | 1,322 | VAR 21 | 29 | 1,379 | 1,015 |
| VAR 22 | 29 | 2,931 | 0,371 | VAR 23 | 31 | 1,032 | 0,180 | VAR 24 | 31 | 1,065 | 0,250 |
| VAR 25 | 31 | 1,097 | 0,301 | VAR 26 | 30 | 2,200 | 1,215 | VAR 27 | 30 | 1,633 | 0,490 |
| VAR 28 | 30 | 3,033 | 0,999 | VAR 29 | 30 | 4,067 | 0,183 | VAR 30 | 28 | 2,893 | 0,567 |
| VAR 31 | 1 | 3,000 | 9,000 | VAR 32 | 2 | 1,500 | 0,707 | VAR 33 | 25 | 2,920 | 1,977 |
| VAR 34 | 29 | 1,759 | 0,636 | VAR 35 | 29 | 2,897 | 1,145 | VAR 36 | 31 | 1,032 | 0,180 |
| VAR 37 | 31 | 1,065 | 0,250 | VAR 38 | 32 | 23,219 | 2,871 | VAR 41 | 33 | 2,000 | 0,000 |
| VAR 42 | 33 | 3,000 | 0,000 | | | | | | | | |

CATEGORY B GROUP 3

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 33 | 63,727 | 8,460 | VAR 2 | 33 | 62,636 | 8,459 | VAR 3 | 33 | 63,818 | 8,505 |
| VAR 4 | 33 | 61,909 | 8,853 | VAR 5 | 33 | 62,697 | 11,964 | VAR 6 | 33 | 61,424 | 9,243 |
| VAR 7 | 33 | 1,939 | 0,242 | VAR 8 | 33 | 2,848 | 0,939 | VAR 9 | 33 | 1,394 | 0,747 |
| VAR 10 | 33 | 2,848 | 0,870 | VAR 11 | 33 | 3,667 | 1,051 | VAR 12 | 33 | 3,939 | 0,429 |
| VAR 13 | 33 | 2,121 | 0,781 | VAR 14 | 33 | 2,515 | 0,939 | VAR 15 | 33 | 3,636 | 0,742 |
| VAR 16 | 33 | 3,273 | 0,876 | VAR 17 | 33 | 3,485 | 1,124 | VAR 18 | 33 | 2,364 | 0,962 |
| VAR 19 | 33 | 1,606 | 0,864 | VAR 20 | 33 | 1,697 | 1,104 | VAR 21 | 33 | 1,030 | 0,174 |
| VAR 22 | 33 | 2,545 | 0,833 | VAR 23 | 33 | 1,091 | 0,292 | VAR 24 | 33 | 1,061 | 0,242 |
| VAR 25 | 33 | 1,030 | 0,174 | VAR 26 | 33 | 2,152 | 1,121 | VAR 27 | 33 | 1,818 | 0,465 |
| VAR 28 | 33 | 2,848 | 1,253 | VAR 29 | 33 | 4,727 | 0,839 | VAR 30 | 32 | 2,219 | 0,975 |
| VAR 31 | 3 | 2,333 | 1,528 | VAR 32 | 1 | 1,000 | 1,000 | VAR 33 | 27 | 2,259 | 1,767 |
| VAR 34 | 29 | 1,517 | 0,509 | VAR 35 | 32 | 2,581 | 0,807 | VAR 36 | 33 | 1,030 | 0,174 |
| VAR 37 | 33 | 1,242 | 0,614 | VAR 38 | 33 | 23,697 | 3,187 | VAR 41 | 33 | 2,000 | 0,000 |
| VAR 42 | 33 | 4,000 | 3,000 | | | | | | | | |

[a]When any subject failed to answer 10 or more items at any given Level (i.e. variables 1-6) the observation was dropped for that Level.

TABLE A-51.--Adjusted[a] N, Mean, and Standard Deviation Category C all Variables (Initial Scale).

CATEGORY C

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 91 | 65,978 | 7,844 | VAR 2 | 91 | 63,593 | 7,608 | VAR 3 | 91 | 72,220 | 8,961 |
| VAR 4 | 91 | 68,835 | 9,712 | VAR 5 | 90 | 69,300 | 9,286 | VAR 6 | 36 | 72,056 | 11,519 |
| VAR 7 | 87 | 1,460 | 0,501 | VAR 8 | 89 | 3,348 | 1,298 | VAR 9 | 89 | 1,247 | 0,608 |
| VAR 10 | 88 | 3,080 | 3,465 | VAR 11 | 89 | 4,764 | 0,739 | VAR 12 | 89 | 3,753 | 0,830 |
| VAR 13 | 99 | 2,326 | 0,795 | VAR 14 | 88 | 2,614 | 0,890 | VAR 15 | 89 | 3,528 | 0,641 |
| VAR 16 | 89 | 2,966 | 1,005 | VAR 17 | 89 | 4,573 | 0,865 | VAR 18 | 88 | 2,534 | 0,896 |
| VAR 19 | 89 | 1,764 | 0,966 | VAR 20 | 89 | 1,539 | 0,867 | VAR 21 | 89 | 1,034 | 0,181 |
| VAR 22 | 89 | 2,584 | 0,781 | VAR 23 | 89 | 1,034 | 0,318 | VAR 24 | 88 | 1,159 | 0,452 |
| VAR 25 | 87 | 1,276 | 0,521 | VAR 26 | 89 | 2,270 | 1,156 | VAR 27 | 89 | 1,258 | 0,512 |
| VAR 28 | 96 | 3,756 | 1,526 | VAR 29 | 87 | 2,345 | 1,493 | VAR 30 | 86 | 1,616 | 0,856 |
| VAR 31 | 6 | 1,333 | 0,816 | VAR 32 | 6 | 1,833 | 1,329 | VAR 33 | 46 | 3,174 | 1,817 |
| VAR 34 | 50 | 1,080 | 0,274 | VAR 35 | 74 | 2,189 | 1,268 | VAR 36 | 79 | 1,025 | 0,225 |
| VAR 37 | 76 | 1,276 | 0,776 | VAR 38 | 89 | 22,562 | 2,977 | VAR 41 | 91 | 8,791 | 7,548 |
| VAR 42 | 91 | 1,000 | 0,000 | | | | | | | | |

[a]When any subject failed to answer 10 or more items at any given Level (i.e. variables 1-6) the observation was dropped for that Level.

TABLE A-52.--Adjusted[a] N, Mean, and Standard Deviation Category D all Variables (Initial Scale).

CATEGORY D GROUP 1

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 48 | 69.708 | 10.300 | VAR 2 | 48 | 66.188 | 11.710 | VAR 3 | 48 | 76.125 | 11.081 |
| VAR 4 | 48 | 76.750 | 12.621 | VAR 5 | 48 | 77.063 | 11.894 | VAR 6 | 40 | 79.775 | 12.282 |
| VAR 7 | 47 | 1.404 | 0.538 | VAR 8 | 47 | 1.149 | 0.699 | VAR 9 | 47 | 2.000 | 0.209 |
| VAR 10 | 47 | 2.809 | 1.409 | VAR 11 | 47 | 3.149 | 1.103 | VAR 12 | 47 | 2.681 | 0.594 |
| VAR 13 | 47 | 2.234 | 1.005 | VAR 14 | 46 | 2.957 | 1.010 | VAR 15 | 48 | 2.667 | 0.859 |
| VAR 16 | 48 | 2.917 | 0.964 | VAR 17 | 48 | 2.604 | 1.142 | VAR 18 | 48 | 2.438 | 0.987 |
| VAR 19 | 45 | 2.422 | 0.965 | VAR 20 | 48 | 1.500 | 0.772 | VAR 21 | 48 | 1.396 | 0.676 |
| VAR 22 | 48 | 1.458 | 0.582 | VAR 23 | 47 | 1.234 | 0.520 | VAR 24 | 48 | 1.417 | 0.577 |
| VAR 25 | 48 | 1.604 | 0.676 | VAR 26 | 48 | 2.167 | 0.996 | VAR 27 | 48 | 1.188 | 0.491 |
| VAR 28 | 48 | 3.000 | 1.502 | VAR 29 | 48 | 2.979 | 1.466 | VAR 30 | 46 | 1.891 | 0.924 |
| VAR 31 | 28 | 1.464 | 0.922 | VAR 32 | 26 | 2.269 | 1.430 | VAR 33 | 44 | 3.205 | 1.636 |
| VAR 34 | 40 | 1.325 | 0.616 | VAR 35 | 47 | 2.681 | 1.304 | VAR 36 | 47 | 1.149 | 0.465 |
| VAR 37 | 48 | 2.000 | 1.288 | VAR 38 | 48 | 22.063 | 4.426 | VAR 41 | 48 | 6.000 | 0.000 |
| VAR 42 | 48 | 2.000 | 0.000 | | | | | | | | |

CATEGORY D GROUP 2

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 65 | 67.938 | 8.928 | VAR 2 | 65 | 65.862 | 8.993 | VAR 3 | 65 | 77.969 | 10.247 |
| VAR 4 | 65 | 77.108 | 10.352 | VAR 5 | 65 | 78.815 | 10.569 | VAR 6 | 54 | 78.278 | 11.529 |
| VAR 7 | 65 | 1.431 | 0.637 | VAR 8 | 65 | 1.077 | 0.367 | VAR 9 | 64 | 1.984 | 0.218 |
| VAR 10 | 64 | 3.172 | 1.375 | VAR 11 | 64 | 3.391 | 1.292 | VAR 12 | 64 | 2.891 | 0.475 |
| VAR 13 | 64 | 2.250 | 0.836 | VAR 14 | 64 | 2.594 | 0.921 | VAR 15 | 65 | 2.800 | 0.754 |
| VAR 16 | 64 | 2.719 | 0.967 | VAR 17 | 65 | 3.215 | 1.329 | VAR 18 | 64 | 2.656 | 1.042 |
| VAR 19 | 65 | 2.338 | 0.871 | VAR 20 | 65 | 1.431 | 0.770 | VAR 21 | 65 | 1.446 | 0.751 |
| VAR 22 | 64 | 1.469 | 0.643 | VAR 23 | 65 | 1.046 | 0.276 | VAR 24 | 65 | 1.385 | 0.578 |
| VAR 25 | 65 | 1.477 | 0.687 | VAR 26 | 65 | 2.292 | 1.100 | VAR 27 | 65 | 1.062 | 0.300 |
| VAR 28 | 64 | 2.750 | 1.709 | VAR 29 | 62 | 3.048 | 1.498 | VAR 30 | 62 | 2.048 | 1.108 |
| VAR 31 | 34 | 1.618 | 0.817 | VAR 32 | 28 | 2.393 | 1.370 | VAR 33 | 49 | 3.469 | 1.569 |
| VAR 34 | 48 | 1.333 | 0.559 | VAR 35 | 57 | 2.754 | 1.443 | VAR 36 | 57 | 1.123 | 0.381 |
| VAR 37 | 57 | 1.825 | 1.227 | VAR 38 | 65 | 21.169 | 4.495 | VAR 41 | 65 | 6.000 | 0.000 |
| VAR 42 | 65 | 2.000 | 0.000 | | | | | | | | |

CATEGORY D GROUP 3

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 44 | 64.455 | 9.267 | VAR 2 | 44 | 68.182 | 13.894 | VAR 3 | 44 | 75.864 | 13.443 |
| VAR 4 | 44 | 77.068 | 13.564 | VAR 5 | 44 | 78.841 | 12.281 | VAR 6 | 30 | 83.767 | 10.712 |
| VAR 7 | 44 | 1.341 | 0.479 | VAR 8 | 44 | 1.068 | 0.452 | VAR 9 | 44 | 2.023 | 0.505 |
| VAR 10 | 44 | 3.000 | 1.034 | VAR 11 | 44 | 3.659 | 0.939 | VAR 12 | 44 | 3.000 | 0.431 |
| VAR 13 | 44 | 2.439 | 0.787 | VAR 14 | 44 | 2.818 | 0.947 | VAR 15 | 44 | 3.182 | 0.843 |
| VAR 16 | 44 | 2.659 | 1.033 | VAR 17 | 44 | 3.136 | 1.287 | VAR 18 | 44 | 2.614 | 0.993 |
| VAR 19 | 43 | 2.140 | 0.915 | VAR 20 | 44 | 1.341 | 0.680 | VAR 21 | 44 | 1.250 | 0.578 |
| VAR 22 | 43 | 1.302 | 0.465 | VAR 23 | 44 | 1.000 | 0.000 | VAR 24 | 44 | 1.295 | 0.462 |
| VAR 25 | 44 | 1.455 | 0.548 | VAR 26 | 44 | 2.545 | 0.999 | VAR 27 | 44 | 1.159 | 0.645 |
| VAR 28 | 43 | 2.302 | 1.626 | VAR 29 | 43 | 3.256 | 1.465 | VAR 30 | 44 | 2.205 | 1.153 |
| VAR 31 | 20 | 1.550 | 1.146 | VAR 32 | 17 | 2.882 | 1.576 | VAR 33 | 35 | 3.486 | 1.597 |
| VAR 34 | 37 | 1.270 | 0.560 | VAR 35 | 41 | 2.537 | 1.468 | VAR 36 | 43 | 1.186 | 0.546 |
| VAR 37 | 43 | 1.744 | 1.177 | VAR 38 | 44 | 22.341 | 5.322 | VAR 41 | 44 | 6.000 | 0.000 |
| VAR 42 | 44 | 1.818 | 0.000 | | | | | | | | |

CATEGORY D GROUP 4

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 52 | 67.596 | 8.263 | VAR 2 | 52 | 67.173 | 9.241 | VAR 3 | 52 | 80.481 | 12.205 |
| VAR 4 | 52 | 83.096 | 11.323 | VAR 5 | 52 | 82.654 | 11.424 | VAR 6 | 44 | 85.227 | 11.233 |
| VAR 7 | 52 | 1.346 | 0.480 | VAR 8 | 52 | 1.000 | 0.000 | VAR 9 | 52 | 2.000 | 0.000 |
| VAR 10 | 51 | 3.412 | 1.134 | VAR 11 | 52 | 3.769 | 0.943 | VAR 12 | 52 | 3.000 | 0.000 |
| VAR 13 | 52 | 2.462 | 0.641 | VAR 14 | 52 | 2.712 | 0.825 | VAR 15 | 52 | 3.346 | 0.623 |
| VAR 16 | 52 | 2.846 | 0.872 | VAR 17 | 52 | 3.538 | 0.999 | VAR 18 | 52 | 2.731 | 0.843 |
| VAR 19 | 50 | 2.020 | 0.915 | VAR 20 | 52 | 1.500 | 0.918 | VAR 21 | 52 | 1.250 | 0.519 |
| VAR 22 | 52 | 1.442 | 0.502 | VAR 23 | 52 | 1.000 | 0.000 | VAR 24 | 52 | 1.250 | 0.437 |
| VAR 25 | 52 | 1.519 | 0.505 | VAR 26 | 51 | 2.392 | 1.168 | VAR 27 | 51 | 1.020 | 0.140 |
| VAR 28 | 51 | 1.784 | 1.487 | VAR 29 | 51 | 3.353 | 1.349 | VAR 30 | 51 | 2.157 | 1.046 |
| VAR 31 | 16 | 1.313 | 0.704 | VAR 32 | 16 | 3.188 | 1.905 | VAR 33 | 47 | 3.723 | 1.410 |
| VAR 34 | 47 | 1.170 | 0.380 | VAR 35 | 51 | 3.412 | 1.314 | VAR 36 | 51 | 1.000 | 0.000 |
| VAR 39 | 46 | 2.000 | 1.238 | VAR 38 | 51 | 23.706 | 3.276 | VAR 41 | 52 | 6.000 | 0.000 |
| VAR 42 | 52 | 3.000 | 0.000 | | | | | | | | |

[a]When any subject failed to answer 10 or more items at any given Level (i.e. variables 1-6) the observation was dropped for that Level.

TABLE A-53.--Adjusted[a] N, Mean, and Standard Deviation Category E all Variables (Initial Scale).

**CATEGORY E GROUP 1**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 16 | 62.688 | 7.766 | VAR 2 | 16 | 66.063 | 8.559 | VAR 3 | 16 | 75.000 | 14.565 |
| VAR 4 | 16 | 73.875 | 11.313 | VAR 5 | 15 | 77.000 | 11.964 | VAR 6 | 11 | 81.818 | 8.316 |
| VAR 7 | 16 | 1.313 | 0.479 | VAR 8 | 15 | 1.800 | 0.676 | VAR 9 | 15 | 1.733 | 0.704 |
| VAR 10 | 15 | 3.400 | 1.242 | VAR 11 | 15 | 3.667 | 0.900 | VAR 12 | 15 | 4.467 | 0.516 |
| VAR 13 | 16 | 2.313 | 0.602 | VAR 14 | 16 | 3.313 | 0.602 | VAR 15 | 16 | 3.688 | 0.479 |
| VAR 16 | 16 | 2.875 | 0.806 | VAR 17 | 15 | 3.313 | 0.873 | VAR 18 | 16 | 2.500 | 0.894 |
| VAR 19 | 16 | 2.313 | 1.014 | VAR 20 | 15 | 1.813 | 0.834 | VAR 21 | 15 | 1.333 | 0.617 |
| VAR 22 | 15 | 1.933 | 0.884 | VAR 23 | 15 | 1.000 | 0.000 | VAR 24 | 15 | 1.333 | 0.488 |
| VAR 25 | 15 | 1.400 | 0.507 | VAR 26 | 15 | 2.400 | 0.910 | VAR 27 | 15 | 1.200 | 0.775 |
| VAR 28 | 15 | 2.133 | 1.727 | VAR 29 | 15 | 3.133 | 1.407 | VAR 30 | 14 | 1.643 | 0.842 |
| VAR 31 | 6 | 1.167 | 0.408 | VAR 32 | 6 | 2.500 | 1.517 | VAR 33 | 11 | 3.909 | 1.300 |
| VAR 34 | 12 | 1.250 | 0.452 | VAR 35 | 14 | 2.786 | 1.311 | VAR 36 | 15 | 1.000 | 0.000 |
| VAR 37 | 15 | 1.667 | 1.047 | VAR 38 | 15 | 22.250 | 3.493 | VAR 41 | 16 | 5.000 | 2.066 |
| VAR 42 | 16 | 2.500 | 0.516 | | | | | | | | |

**CATEGORY E GROUP 2**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 23 | 66.478 | 6.368 | VAR 2 | 23 | 66.565 | 10.277 | VAR 3 | 23 | 74.696 | 12.152 |
| VAR 4 | 23 | 77.826 | 12.153 | VAR 5 | 23 | 78.478 | 13.628 | VAR 6 | 21 | 79.095 | 11.941 |
| VAR 7 | 23 | 1.522 | 0.593 | VAR 8 | 22 | 1.273 | 0.550 | VAR 9 | 23 | 1.957 | 0.367 |
| VAR 10 | 23 | 3.174 | 1.154 | VAR 11 | 23 | 3.826 | 1.193 | VAR 12 | 23 | 3.826 | 0.650 |
| VAR 13 | 23 | 2.348 | 0.775 | VAR 14 | 23 | 2.696 | 0.765 | VAR 15 | 22 | 3.409 | 0.908 |
| VAR 16 | 23 | 2.913 | 0.848 | VAR 17 | 23 | 2.870 | 1.359 | VAR 18 | 23 | 3.000 | 0.905 |
| VAR 19 | 23 | 1.957 | 0.767 | VAR 20 | 23 | 1.696 | 0.926 | VAR 21 | 23 | 1.478 | 0.994 |
| VAR 22 | 23 | 1.565 | 0.590 | VAR 23 | 23 | 1.174 | 0.491 | VAR 24 | 23 | 1.304 | 0.470 |
| VAR 25 | 22 | 1.727 | 0.703 | VAR 26 | 23 | 2.304 | 0.974 | VAR 27 | 23 | 1.130 | 0.344 |
| VAR 28 | 23 | 1.957 | 1.331 | VAR 29 | 23 | 3.739 | 1.137 | VAR 30 | 22 | 2.364 | 1.002 |
| VAR 31 | 15 | 1.533 | 0.990 | VAR 32 | 14 | 2.571 | 1.453 | VAR 33 | 22 | 3.636 | 1.649 |
| VAR 34 | 21 | 1.143 | 0.478 | VAR 35 | 20 | 3.000 | 1.589 | VAR 36 | 23 | 1.304 | 0.822 |
| VAR 37 | 21 | 2.238 | 1.375 | VAR 38 | 23 | 23.478 | 3.013 | VAR 41 | 23 | 7.000 | 0.000 |
| VAR 42 | 23 | 1.000 | 0.000 | | | | | | | | |

**CATEGORY E GROUP 3**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 45 | 65.089 | 8.536 | VAR 2 | 45 | 65.133 | 9.416 | VAR 3 | 45 | 78.800 | 10.723 |
| VAR 4 | 45 | 79.911 | 11.750 | VAR 5 | 45 | 79.467 | 12.116 | VAR 6 | 35 | 80.914 | 12.045 |
| VAR 7 | 45 | 1.600 | 0.495 | VAR 8 | 45 | 1.622 | 0.747 | VAR 9 | 45 | 1.889 | 0.487 |
| VAR 10 | 45 | 3.178 | 1.154 | VAR 11 | 43 | 3.605 | 0.955 | VAR 12 | 44 | 3.932 | 0.334 |
| VAR 13 | 43 | 2.465 | 0.767 | VAR 14 | 44 | 2.727 | 0.788 | VAR 15 | 45 | 3.356 | 0.712 |
| VAR 16 | 44 | 2.773 | 1.031 | VAR 17 | 44 | 3.432 | 1.031 | VAR 18 | 43 | 2.605 | 0.903 |
| VAR 19 | 43 | 2.395 | 0.877 | VAR 20 | 43 | 1.744 | 1.049 | VAR 21 | 44 | 1.318 | 0.561 |
| VAR 22 | 45 | 1.622 | 1.777 | VAR 23 | 45 | 1.044 | 0.208 | VAR 24 | 45 | 1.178 | 0.387 |
| VAR 25 | 45 | 1.489 | 0.506 | VAR 26 | 44 | 2.432 | 0.998 | VAR 27 | 44 | 1.227 | 0.424 |
| VAR 28 | 43 | 2.744 | 1.654 | VAR 29 | 42 | 3.714 | 1.412 | VAR 30 | 42 | 2.333 | 1.028 |
| VAR 31 | 24 | 1.458 | 0.977 | VAR 32 | 23 | 3.391 | 1.500 | VAR 33 | 39 | 3.718 | 1.450 |
| VAR 34 | 38 | 1.158 | 0.370 | VAR 35 | 41 | 3.122 | 1.269 | VAR 36 | 42 | 1.071 | 0.342 |
| VAR 37 | 39 | 2.231 | 1.307 | VAR 38 | 44 | 22.023 | 5.019 | VAR 41 | 45 | 7.000 | 0.000 |
| VAR 42 | 45 | 3.000 | 0.000 | | | | | | | | |

[a]When any subject failed to answer 10 or more items at any given Level (i.e. variables 1-6) the observation was dropped for that Level.

TABLE A-54.--Adjusted[a] N, Mean, and Standard Deviation Category F all Variables (Initial Scale).

**CATEGORY F GROUP 1**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 40 | 58.850 | 7.560 | VAR 2 | 40 | 58.925 | 8.340 | VAR 3 | 40 | 72.375 | 9.857 |
| VAR 4 | 40 | 73.300 | 10.209 | VAR 5 | 40 | 73.550 | 10.337 | VAR 6 | 39 | 71.462 | 9.349 |
| VAR 7 | 40 | 1.800 | 0.564 | VAR 8 | 40 | 2.325 | 0.838 | VAR 9 | 40 | 2.300 | 1.137 |
| VAR 10 | 40 | 2.825 | 1.299 | VAR 11 | 40 | 3.250 | 1.316 | VAR 12 | 40 | 3.100 | 0.955 |
| VAR 13 | 39 | 2.231 | 0.986 | VAR 14 | 39 | 3.103 | 0.852 | VAR 15 | 40 | 2.875 | 0.966 |
| VAR 16 | 40 | 2.750 | 1.127 | VAR 17 | 40 | 3.000 | 1.241 | VAR 18 | 39 | 2.667 | 1.177 |
| VAR 19 | 40 | 2.925 | 0.797 | VAR 20 | 39 | 2.103 | 1.294 | VAR 21 | 40 | 1.900 | 1.194 |
| VAR 22 | 40 | 1.375 | 0.667 | VAR 23 | 40 | 1.250 | 0.543 | VAR 24 | 39 | 1.692 | 0.614 |
| VAR 25 | 39 | 1.821 | 0.451 | VAR 26 | 40 | 2.450 | 1.154 | VAR 27 | 40 | 1.350 | 0.580 |
| VAR 28 | 40 | 3.175 | 0.931 | VAR 29 | 40 | 4.200 | 1.436 | VAR 30 | 40 | 3.625 | 0.868 |
| VAR 31 | 40 | 3.175 | 1.279 | VAR 32 | 40 | 4.700 | 0.833 | VAR 33 | 37 | 2.811 | 1.664 |
| VAR 34 | 39 | 1.692 | 1.080 | VAR 35 | 38 | 3.263 | 1.349 | VAR 36 | 39 | 1.846 | 0.540 |
| VAR 37 | 39 | 3.744 | 1.208 | VAR 38 | 40 | 23.650 | 4.876 | VAR 41 | 40 | 4.000 | 0.000 |
| VAR 42 | 40 | 2.000 | 0.000 | | | | | | | | |

**CATEGORY F GROUP 2**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 21 | 67.762 | 14.754 | VAR 2 | 21 | 66.857 | 12.583 | VAR 3 | 21 | 76.095 | 10.554 |
| VAR 4 | 21 | 79.905 | 6.752 | VAR 5 | 21 | 79.952 | 6.399 | VAR 6 | 21 | 80.000 | 6.580 |
| VAR 7 | 21 | 1.476 | 0.512 | VAR 8 | 21 | 1.905 | 0.539 | VAR 9 | 21 | 2.524 | 1.123 |
| VAR 10 | 21 | 3.714 | 1.347 | VAR 11 | 21 | 3.095 | 1.375 | VAR 12 | 21 | 3.476 | 0.680 |
| VAR 13 | 21 | 1.667 | 0.730 | VAR 14 | 21 | 3.048 | 1.161 | VAR 15 | 20 | 3.450 | 0.826 |
| VAR 16 | 20 | 2.350 | 0.988 | VAR 17 | 20 | 2.750 | 1.209 | VAR 18 | 20 | 3.650 | 0.671 |
| VAR 19 | 20 | 3.300 | 0.657 | VAR 20 | 20 | 2.150 | 1.565 | VAR 21 | 20 | 2.150 | 1.531 |
| VAR 22 | 20 | 1.300 | 0.733 | VAR 23 | 20 | 1.100 | 0.308 | VAR 24 | 20 | 1.700 | 0.470 |
| VAR 25 | 20 | 1.500 | 0.513 | VAR 26 | 19 | 2.842 | 0.834 | VAR 27 | 20 | 1.150 | 0.366 |
| VAR 28 | 21 | 3.524 | 0.680 | VAR 29 | 21 | 4.667 | 0.856 | VAR 30 | 21 | 3.952 | 0.218 |
| VAR 31 | 21 | 3.571 | 0.746 | VAR 32 | 21 | 4.857 | 0.478 | VAR 33 | 21 | 3.238 | 1.513 |
| VAR 34 | 21 | 1.333 | 0.483 | VAR 35 | 21 | 4.476 | 0.750 | VAR 36 | 21 | 1.714 | 0.463 |
| VAR 37 | 21 | 3.381 | 0.973 | VAR 38 | 20 | 22.900 | 3.892 | VAR 41 | 21 | 1.000 | 0.000 |
| VAR 42 | 21 | 4.000 | 0.000 | | | | | | | | |

**CATEGORY F GROUP 3**

| NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV | NAME | N | MEAN | STD DEV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VAR 1 | 26 | 66.154 | 11.298 | VAR 2 | 24 | 64.833 | 12.667 | VAR 3 | 26 | 72.385 | 12.999 |
| VAR 4 | 26 | 72.500 | 12.869 | VAR 5 | 25 | 75.840 | 12.130 | VAR 6 | 25 | 76.360 | 10.719 |
| VAR 7 | 25 | 1.800 | 0.408 | VAR 8 | 25 | 2.320 | 0.852 | VAR 9 | 25 | 1.800 | 0.866 |
| VAR 10 | 25 | 3.560 | 1.325 | VAR 11 | 25 | 3.720 | 1.275 | VAR 12 | 25 | 3.160 | 0.688 |
| VAR 13 | 26 | 2.346 | 0.892 | VAR 14 | 26 | 3.115 | 1.033 | VAR 15 | 26 | 2.731 | 0.962 |
| VAR 16 | 26 | 3.077 | 0.977 | VAR 17 | 26 | 2.692 | 1.408 | VAR 18 | 26 | 2.615 | 0.941 |
| VAR 19 | 25 | 3.160 | 0.624 | VAR 20 | 26 | 1.654 | 1.050 | VAR 21 | 25 | 1.560 | 0.712 |
| VAR 22 | 26 | 2.038 | 0.999 | VAR 23 | 26 | 1.192 | 0.402 | VAR 24 | 26 | 1.769 | 0.430 |
| VAR 25 | 25 | 1.720 | 0.458 | VAR 26 | 25 | 2.520 | 1.122 | VAR 27 | 26 | 1.385 | 0.496 |
| VAR 28 | 26 | 3.154 | 0.834 | VAR 29 | 26 | 4.808 | 0.634 | VAR 30 | 26 | 3.462 | 0.948 |
| VAR 31 | 24 | 3.625 | 1.013 | VAR 32 | 24 | 4.750 | 0.897 | VAR 33 | 26 | 2.385 | 1.722 |
| VAR 34 | 25 | 1.400 | 0.500 | VAR 35 | 26 | 3.423 | 1.102 | VAR 36 | 26 | 1.346 | 0.485 |
| VAR 37 | 26 | 3.192 | 1.167 | VAR 38 | 26 | 23.769 | 5.078 | VAR 41 | 26 | 4.000 | 0.000 |
| VAR 42 | 26 | 1.000 | 0.000 | | | | | | | | |

[a]When any subject failed to answer 10 or more items at any given Level (i.e. variables 1-6) the observation was dropped for that Level.