A three part questionnaire was administered to 1,280 Southern Illinois University students to: (1) elicit demographic data; (2) determine the extent of experience with marihuana; and (3) measure alienation utilizing Dean's scale. In addition, the Minnesota Multiphasic Personality Lie Inventory was given. Statistical analyses were performed to discover relationships: (1) between background information and marihuana usage and alienation; and (2) among more than two respondent characteristics and marihuana use and alienation. Protest sympathy and father's occupation were found to be significant predictors of alienation. Marihuana usage and alienation were significant reciprocal predictors, though no causal relationship was established. Evidence from the study provided a basis for the following conclusions for the sample population: (1) Marihuana users are more alienated than non-users; (2) alienation is increasing among college youth; and (3) marihuana usage has increased among college students. Characteristics of students more likely to use marihuana or evidence alienation are listed. Conclusions also indicated that factors examined in this study are by no means the whole story. It was recommended that peer group pressure be studied.
INTRODUCTION:

One of our current major social concerns is drug usage by young people in this country. Although no single explanation can be offered for the increase in drug use among today's youth, many authorities believe this to be a form of rebellion against or alienation from the established society. In an effort to gain more understanding of these questions this study was devised to measure the degree of alienation of college student marijuana users and non-users.

Among the substances classified as "drugs" used by college students are narcotics, barbiturates, stimulants (speed), and the hallucinogens. The most frequently used drug, classified as a mild hallucinogen, is marijuana. Its popularity among youth, the lack of scientific information about its effects, and its condemnation by many of the older generation has resulted in marijuana use becoming a major contemporary social issue.

The ferment among youth has aroused questions about the relationship of drug usage, especially marijuana, to violent and rebellious behavior. Those in rebellion are usually characterized by a feeling of apartness from the group rebelled against. This estrangement or exclusion is frequently termed alienation. 1

BACKGROUND OF STUDY:

To procure information for this study 1380 students enrolled in Healthful Living 201 during the Fall, 1969 quarter at Southern Illinois University were asked to respond to a three-part questionnaire. The questionnaire was administered by the instructors in each of the sixty sections of the course.

The first part of the questionnaire elicited socio-economic and demographic data of respondents. The specific items were age, sex, race, academic standing (grade and class), parental income, occupation and educational level and early childhood rearing. Subjects were asked to report membership in fraternal organizations, participation in intercollegiate athletics and protest movements. Additionally, respondents were asked to report whether they were sympathetic to protest movements.

Marijuana usage by respondents was indicated on a scale showing extent of their experience. The ten categories of the scale were later grouped into respondents who: (1) have never used marijuana; (2) had used marijuana in the past but no longer did; and (3) were using marijuana. The three marijuana-user groups embodied the following percentages of the sample population: never users, 57.8 per cent; past users, 22.1 per cent; and present users, 1.1 per cent.

The measurement of alienation utilized a Likert type scale developed by Dean. Responses to statements in the scale reflected subject's feelings of isolation, powerlessness, and normlessness. These are believed to be sub-concepts which together contribute to over-all alienation. The alienation scale consisted of twenty-four

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items with responses ranging from 0 to 4. The range of possible alienation scores was 0 to 55.

In this study, alienation scores ranged from 10 to 82, with an average of 47.62. Higher scores indicate a higher degree of alienation. In the late 1950s examination of several Midwestern college student groups by one researcher produced average alienation scores ranging in mid to lower 30s. It would appear, therefore, that alienation—indicated by feelings of normlessness, powerlessness, and isolation—is at an appreciably higher level among the sample student group at Southern Illinois University than similar groups tested approximately ten years ago in other Midwestern universities.

The third part of the questionnaire was the Minnesota Multiphasic Personality Lie Inventory. Respondents answered "true" or "false" to statements reflected items with possible scores from 15 to 30. The higher score indicated a higher degree of "lying" or attempting to create a good image. The sample population examined in this study produced scores ranging from 10 to 27 with an average score of 17.67.

STATISTICAL ANALYSIS:

Analysis of the data involved calculating t values to test significant differences between means of groups. The hypotheses, stated in null form, were rejected if the t values were significant at or beyond the five per cent level.

Significant t values, which indicated differences occurring by chance once in twenty cases, were found for differences in alienation between marijuana users and non-users, different income groups, racial groups, male and female respondents, protest movement activity and

1 Data on alienation scores in several samples collected by Dwight G. Dean.
No protest movement activity, sympathetic and nonsympathetic with protest movements. The t value in comparing mean lie scores of marijuana users and non-users was not significant (P < .05).

Coefficients of correlation were developed to examine respondents' background information for any relationship to marijuana usage and alienation. Characteristics found to have a significant correlation with marijuana usage were: (1) protest movement activity, (2) protest movement sympathy, (3) religious affiliation, (4) parental income, (5) father's educational level, (6) respondent's sex, (7) father's occupation, (8) respondent's class, and (9) grade point average. Respondent's socio-economic and demographic characteristics having a significant correlation with alienation were: (1) respondent's sex, (2) race, (3) lie inventory score, (4) age, (5) rearing, (6) protest sympathy, (7) marijuana use, (8) parental income, (9) parental marital status, and (10) protest activity.

In order to show relationships among more than two of the respondent's characteristics and to test the use of these characteristics to predict marijuana use and alienation, regression equations were cast. The first equation involved all socio-economic and demographic factors as predictor variables for the criterion, marijuana use. The amount of variance accounted for in predicting marijuana use by all predictor variables was slightly more than twenty-seven per cent. This equation with $R^2$ of .274 was tested with an F ratio against an equation accounting for no variance ($R^2$=0). Results of this test indicated the amount of variance accounted for was "real" or not due to chance (P < .0001). Individual socio-economic and demographic
characteristics found to be predictors of marijuana use in order of amount of variance accounted for were: (1) protest movement activity ($R^2 = 1.33$), (2) protest sympathy ($R^2 = 0.069$), (3) religious affiliation ($R^2 = 0.069$), (4) father's occupation ($R^2 = 0.022$), (5) father's educational level ($R^2 = 0.019$), (6) father's income ($R^2 = 0.019$), (7) respondent's sex ($R^2 = 0.015$), (8) respondent's class ($R^2 = 0.015$), (9) mother's education ($R^2 = 0.009$), (10) alienation score ($R^2 = 0.008$), and (11) grade average ($R^2 = 0.002$).

The same procedure was used in examining respondents' background information for predicting alienation. The first equation indicated that in using all of the respondents' socio-economic and demographic characteristics as predictors for alienation, only approximately nine per cent ($R^2 = 0.088$) of total variance was accounted for. This indicates that alienation is greatly affected by factors other than those characteristics examined in this study.

However, those factors found to be statistically significant (P < .05) predictors of alienation, listed in order of amount of variance accounted for, are (1) father's occupation ($R^2 = 0.013$), (2) childhood rearing ($R^2 = 0.012$), (3) race ($R^2 = 0.011$), (4) marijuana use ($R^2 = 0.005$), and (5) protest sympathy ($R^2 = 0.003$).

Only two factors were significant predictors of both alienation and marijuana use. These were protest sympathy and father's occupation. It was of further interest to note that marijuana use was a significant predictor of alienation and, similarly, that alienation was a significant predictor of marijuana use.

Evidence indicates that 42.2 per cent of the college student population in this study has used marijuana to some extent. This percentage is somewhat higher than had been previously estimated.
However, many authorities estimate that the use of marijuana is increasing especially on college campuses. This assumption is supported by the present study which shows that among the college student, 42.2 per cent have used marijuana. In comparison, a survey of marijuana users among the college student population at Southern Illinois University in 1968 showed that approximately thirty-five per cent of the students had used marijuana.

An attempt was made to assess any difference in tendency to lie between marijuana users and non-users. In utilizing the MMPI Lie Inventory no difference was found between the groups. It may be assumed that students reporting marijuana usage were reliable sources for this information.

In predicting marijuana use from respondents' socio-economic and demographic characteristics, it was found that these factors accounted for approximately twenty-seven per cent of variance in predicting marijuana use, this was significant ($p < .05$) as a predictor. Consequently, it may be concluded that students who exhibit feelings of isolation, powerlessness, and normlessness are more likely to use marijuana than those who do not.

In this study a "cause and effect" relationship was not established between alienation and marijuana usage. In other words, it cannot be concluded that being alienated causes marijuana usage. Alienation may not be a causative factor for marijuana usage, but may develop after the individual has started to use marijuana.

The five hypotheses tested to achieve the objectives of the study were:

I. Marijuana users and non-users show no difference in degree of alienation.

II. Demographic and socio-economic factors of subjects will not be significantly related to marijuana use.

III. Demographic and socio-economic factors of subjects will not be significantly related to alienation.

IV. Demographic and socio-economic factors of subjects will not be significant in predicting marijuana use.

V. Demographic and socio-economic factors will not be significant in predicting alienation.

The first hypothesis was rejected since the t value obtained in testing the difference between the groups was significant (P < .05). Significant (P < .05) coefficients of correlation were found between subjects' demographic and socio-economic factors and both marijuana usage and alienation. Therefore, the second and third hypotheses were also rejected. The fourth and fifth hypotheses were tested by developing regression equations which produced significant predictors based on respondents' socio-economic and demographic characteristics for both marijuana use and alienation. These hypotheses were also rejected.

CONCLUSIONS AND RECOMMENDATIONS

Evidence from this study provides a basis for the following conclusions for the sample population of college students at Southern Illinois University. These are:

I. Marijuana users are more alienated than non-users.

II. College students tested in the Fall of 1969 evidenced higher alienation scores than sample populations of college students similarly tested ten years ago lending credence to the assumption that alienation is increasing among college youth.
III. Marijuana usage has increased among college students.

IV. College students who are more likely to use marijuana
   A. are upper classmen
   B. have a higher than average alienation score
   C. are male
   D. have fathers with income and occupation level higher than average
   E. have higher than average parental educational level
   F. are active in protest movements

V. The respondents who are most likely to evidence high levels of alienation are characterized by:
   A. being female
   E. having parents not living together
   C. father's occupation and income being at lower level
   D. early childhood rearing with other than both parents
   B. belonging to black racial group
   F. being active in protest movements
   G. being sympathetic with protest movements
   H. having a low MMPI lie score
   I. using marijuana

VI. Although many of the background characteristics are statistically significantly related to marijuana usage, these factors account for only approximately twenty-seven per cent of variance in predicting marijuana use. Therefore, factors other than those examined in this study appear to account for a large amount of the variance.

VII. Respondent background characteristics used in predicting alienation accounted for approximately nine per cent of the variance.
This indicates that factors examined in this study play a small role in relation to alienation.

There is a definite need for more information concerning marijuana usage among college youth. A repetition of the present study with similar groups in different locations would further establish the validity of the relationship between the background factors assessed herein and marijuana usage. In addition, factors which were not under consideration should be investigated.

One of the factors not considered in this study which may be critical in determining whether an individual uses marijuana is peer group influence. This may be found to constitute a greater influence than any of the socio-economic or demographic characteristics.

Furthermore, it would be of interest to examine characteristics of students who have had opportunities to use marijuana but have refrained from doing so. How would they differ from the student who utilizes the opportunity? Of particular interest to health educators would be whether knowledge about the effect of drugs would be a factor in identifying the student who refrains from using marijuana when the opportunity to do so arises.

Most important in applying the results of this study is reduction of the alienation which contributes to marijuana usage. The health educator, counselor, administrator, parent, or any other individual dealing with today's young people plays a role with a positive or negative effect on the student who feels isolated, powerless, and that guides for behavior in the form of specific values are lacking.

For health educators, in particular, factual information alone is not sufficient to combat the increase in drug use on campus.
Students need to feel that they are not alone, that decisions they make do influence the future, and that there are values which should influence decisions about drug usage.