

USE OF MARIJUANA
IN THE
HAIGHT-ASHBURY SUBCULTURE

by

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Marijuana has been adopted by a significant fraction of the youthful subculture as a social drug. Despite its central importance in understanding current patterns of drug use, only limited information is available, especially concerning its relation to the use of other drugs. The present study was feasible because the Haight-Ashbury Medical Clinic provided access to a population in which marijuana and other drugs were in wide use.

The Haight-Ashbury Clinic was established in San Francisco in anticipation of the influx of persons into that neighborhood during the summer of 1967, and beginning June 6, 1967 began to provide free care for acute medical problems as well as for problems related to drug use. By the time of this study the Clinic and its volunteer staff had gained acceptance by the community and was providing care for as many as 200 persons per day.

By September 1967, when our survey was conducted, the well-publicized hippie group had been diluted by a large number of transient youths who were exploring rather than committed to the hip philosophy. And to describe the people of the neighborhood at that time as being "hippies" is to deny the diversity of the people who come to the Haight with differing backgrounds, motivations, expectations, and degree of drug experience. Furthermore, the community subsequently changed to include a substantial proportion of compulsive methamphetamine users, and the beginnings of that group were evident at the time of our survey.

The availability of a favorable population and the status of the Haight-Ashbury Clinic with that population encouraged us to believe that accurate data could be collected to test our subjective impressions.

Methods

Members of the clinic staff, themselves Haight-Ashbury residents and members of the community, were trained to administer a questionnaire designed to present limited and simple choices and to be self-explanatory. The survey included multiple choice questions providing demographic and personal data, present employment, past incidence of psychiatric counseling and hospitalization, drug preferences and questions detailing the respondents own use of marijuana, hard liquor, beer and wine, other sedative-hypnotic drugs, oral and intravenous, amphetamines, the psychedelic drugs, heroin, cocaine and opium.

Four hundred and thirteen usable questionnaires were completed during the month of September 1967, sampling both from the Clinic population and from other congregation areas and community agencies within the 20 square block Haight-Ashbury neighborhood. The sample, admittedly a sample of opportunity, is as representative as possible of the Haight-Ashbury "hippie" population present at the time. The demographic data agrees well with the findings of other investigators.¹

Among the community there was a well-known mistrust of the "straight" society and a history of a lack of cooperation with other investigators who had attempted even less comprehensive surveys. We therefore decided that in addition to protecting the anonymity of the respondent it would be necessary to have members of the "New Community", as Clinic personnel, administer the drug survey in order to obtain adequate and truthful

answers concerning drug use. The reputation of the Clinic minimized any suspicion that the information collected would be used against the community or any individual. Community leaders were assured that the data would be published only after a reasonable interval. The survey was well received by the community and the refusal rate was less than one percent.

Data from the surveys were transferred onto IBM cards, and several computer programs were written to select and tabulate the information on selected groups from the sample. The statistics are for the most part expressed in percentage form, and an analysis of variance applied to obtain the standard error and confidence interval for the statistic obtained. Where the percentage statistic of two samples is to be compared and to test for the equality of population means, a two-tailed Student's T test is applied to the hypothesis of the equality of the means or percentages. In this study the confidence interval expressed is 95%, or $p < .05$. Likewise for a difference to be labeled as significant, a two-tailed test with a $p = .05$ or less is required unless otherwise stated.

The characteristics of the population living in the Haight-Ashbury neighborhood have not been constant over any but very brief periods. As the drug-centered community has evolved, the relative proportion of individuals who prefer one or another drug or pattern of drug use has changed. At the time of this survey the hippie influence was still influential but waning, and the use of high dose, intravenous methamphetamine was growing in prominence. In order to follow changes in the neighborhood and to test several hypotheses related to sociological aspects of drug use, extensive surveys have been carried out at two subsequent times. Reports of the analysis of these later surveys will be forthcoming as they are completed by Dr. James Carey, Department of Criminology, University of California at Berkeley.

The present paper will focus on the patterns of marijuana use and its relationship to the abuse of other drugs. We will briefly characterize the total sample of respondents regardless of their pattern of marijuana use and then discuss areas of difference between various patterns of use.

The community as revealed by the sample

The types of people who comprise this community vary in proportion from one time to another. During the summer and fall of 1967, the time interval which the present study represents, the Haight-Ashbury could be described as composed primarily of sons and daughters of the white middle class, who often had some college experience and who frequently experimented with various drugs.

Our sample consisted of 413 respondents, 222 males and 191 females. Our analysis confirms this impression that the population was drawn largely from families of the middle class. The occupation of the head of the household served as an index of socioeconomic class and $51.6 \pm 4.8\%$ (213) of their fathers have occupations in the professions, managerial or sales categories, and one-half ($44.3 \pm 4.8\%$) of the fathers have some college education. Of the entire sample of 413 respondents, $79.90 \pm 3.9\%$ identified themselves as single, and $10.7 \pm 2.9\%$ were married. $86.20 \pm 3.3\%$ of the sample identified themselves as Caucasian; there were less than 1% of the sample who were Negro and the sample included 16 American

Indians. This mean age of the respondents was 20.65 ± 1.5 years, and $51.82 \pm 4.8\%$ had had at least some college experience. For $43.34 \pm 4.8\%$ (179) of the respondents, it had been three years or more since they had lived with their parents.

It is remarkable that about half of the respondents were from areas other than California. Only $16.22 \pm 3.5\%$ had been raised in the Bay Area of San Francisco, $34.14 \pm 4.6\%$ had been raised in another large metropolitan area such as New York City, Los Angeles, or Chicago, and $41.40 \pm 4.7\%$ had spent most of their life and were raised in cities of less than 200,000 or in rural areas. One hundred eighty-one ($43.83 \pm 4.8\%$) were living outside of California before they began to participate in the Haight-Ashbury scene, whereas only 128 ($30.99 \pm 4.5\%$) were then living in the Bay Area.

The use of marijuana was practically universal in this population. It was generally used as a social drug, much as the parents of the respondents use alcohol. In answer to the question "Have you ever used marijuana?" $94.59 \pm 2.9\%$ (210) of the males and 188 or $98.43 \pm 1.8\%$ of the females said "yes". $90.80 \pm 2.8\%$ (375) of the total sample of 413 had used the drug in the Haight-Ashbury, though not necessarily exclusively there as we shall discuss later. Three hundred eighty-one or $92.35 \pm 2.6\%$ had used marijuana within a month prior to the time of the survey (September 1967), and $86.97 \pm 3.3\%$ of the 413 had used LSD or a similar hallucinogenic drug at least once.

It is important to emphasize that this population has a particularly high level of acquaintance with various drugs. $87.22 \pm 3.2\%$ have used hard liquor, $54.57 \pm 4.1\%$ have used other drugs of the sedative-hypnotic category, not to mention the 96% who have tried marijuana. One-fourth ($25.19 \pm 4.3\%$) of the sample of 413 has tried heroin (though not necessarily intravenously), although there were only 8 persons presently abusing that narcotic. $58.33 \pm 4.9\%$ have tried smoking opium, or what was thought to be opium which is an important distinction when discussing "street drugs." $86.97 \pm 3.3\%$ have tried one of the various psychedelics, most frequently LSD. $35.43 \pm 4.7\%$ have tried intravenous amphetamine; $74.87 \pm 4.4\%$ have tried the oral amphetamines; and $35.99 \pm 4.8\%$ admit some personal experience with cocaine. Thus it differs from other drug-using populations in several aspects, and the results should not necessarily be construed as applying to other drug-using subcultures.

Patterns of Marijuana Use by the Respondents

A. Frequency of use and present age - It is difficult to speak of the abuse of marijuana in the United States, due to the low concentration of active ingredients in the "grass" arriving or grown in the United States and due to its inherent low potential for abuse. Certainly our questions were not sensitive enough to identify the rare person whose functioning was interfered with by his use of marijuana. For the purposes of this analysis we differentiated three groups of marijuana users, namely the occasional user, the regular user, and the "habitual" user. Our sample consisted of 51 occasional users, 161 regular users, and 177 habitual users of the drug. The occasional user was defined as the individual choosing an answer on the questionnaire indicating use up to 4 times in the month preceding the time of the questionnaire. A regular user indicated use 4-30 times and a habitual user more than 30 times during the prior month.

Questions regarding the amount of drug used on each occasion were, unfortunately, often regarded as ambiguous by respondents and were not used unless gross differences appeared. The loss of data is not great since the variable potency of the product and varying techniques of smoking could not have been evaluated in any case. The use of certain drugs was found to differ in some respects between the two sexes, and we believe that their motivations to drug use often are dissimilar. So for the most part the analysis is made on males and females as separate groups and the statistics compared. Our sample of 413 respondents, 222 males and 191 females, had a mean age of $20.65 \pm .15$ and a range of 9 to 37 years. The ages of the various groups of marijuana users is detailed in Table I. The mean age of all of the males was $21.04 \pm .2$ (range 15-34 years), which is significantly older than all of the females ($20.2 \pm .23$ (range 9-37 years)). (Table I) The mean age of the female habitual user of marijuana is significantly younger than either her male habitual user counterpart ($20.99 \pm .3$) or the females as a whole ($20.2 \pm .2$). And this same finding is reflected in the significantly increased number of female habitual users in the 16 to 20 year old age bracket. Furthermore, there was a statistically significant higher percentage of single females in either the occasional or regular user category.

B. Age at introduction to use - The entire sample had first tried marijuana at a mean age of $17.07 \pm .2$ years of age (range 5-35 years). The age for first trying the drug was the same for both the males and the females in any use pattern, although the age for the first trying marijuana did tend to vary with the level of use within each sex grouping. That is, the occasional user had first tried marijuana at a mean age of $18.6 \pm .7$; the regular user at the age of $17.4 \pm .3$; and the habitual user at the age of $16.2 \pm .3$. The difference between the age of first trying marijuana and the present age indicated a trend within the groups of male users that is not present among the females. The male occasional user had first tried marijuana on the average 2.9 years ago, and the male regular user 3.4 years ago, and the male habitual user 4.6 years ago. These findings are summarized in Table II.

The older age group (25 to 30 years), average 27.4 years old, had the greatest percentage of occasional users in contrast to the 17 year olds (ages 16 to 20) who had the least number who were occasional users. Furthermore, the percentage of habitual users in the 25 to 30 year old age bracket tended to be lower than the younger age groups. (Table III).

Thus the data in Table II analyzed without other data could lead to the conclusion that the longer one used marijuana, the greater becomes his use of the drug. But this conclusion is not supported by the data in Table III, for the older age group has one of the smallest percentages of habitual users, although they have been using the drug for the greatest length of time. In fact, the greatest percent of habitual users were found among the 16 to 20 year olds in both the male and female samples.

Our study supports the impression that in the past few years marijuana has been reaching increasingly younger persons. In the 25 to 30 year age bracket (mean age 27.4 years) the age of trying marijuana was about 21, while in the 16 to 20 year old bracket (mean age 18.8 years) the age was significantly younger, about 16 years of age. And most of the 10 to 15 year olds in our sample had tried marijuana within the year, while the 25 to 30 year olds had tried it on the average 7 years ago. (Table III) Ninety to 95% of all groups of users agreed their use would continue, and among the older groups the agreement was unanimous.

C. Characteristics of the three groups - The habitual user, besides using the drug more frequently than the other users, also more frequently uses greater amounts of the drug as one might expect. There was a detectable difference between the amount used each time by the females and the males. There was a tendency (significant at the 90% level of confidence) for the females to use less of the drug than the males each time they used it, irrespective of their frequency of use.

One half ($54.72 \pm 4.8\%$) of the respondents had at one time used or were now using marijuana habitually, but it is interesting how often the habitual level of use may be replaced by only occasional use. This is reflected in the $15.71 \pm 9.9\%$ of the occasional users (8/51) who had at one time had a peak habitual use of marijuana and the one quarter ($23.60 \pm 6.5\%$) of the regular users (38/161) who at one time had used the drug habitually. It is rare to find such decreases in level of use among the users of drugs with more abuse potential, e.g. intravenous methamphetamine, and certainly such findings reflect the low abuse potential for the marijuana found circulating in the United States.

The occasional user differs from the regular and habitual user in several important attitudes about his continued use of marijuana. Only three-quarters (74.51% or 38/51) of the occasional users admitted that they still used the drug. Furthermore, a significantly lower number of the occasional users (77.1%) admitted that they planned to continue using the drug. The persons in the regular-habitual use patterns were almost unanimous (95-99%) about their intention to continue. And finally, only 13.3% of the females and 20.1% of the males of the total sample admitted that they had ever worried about their marijuana use. Only $10.7 \pm 3.0\%$ of the sample had ever refrained from using any drug because of the dangerous drug or narcotic drug laws.

An analysis of the relationship of the demographic data to the level of marijuana was remarkable in that no trends were apparent. For instance, there was no correlation between the population of the area in which the user was raised and his level of use. Socioeconomic level, the occupation of the head of the household serving as the index, had no detectable relationship to the level of marijuana use, although the sample from the upper-manual and lower-manual classes was small. Fifty percent of the sample had an educational background of at least some college education or more. And a detailed analysis of the level of schooling achieved and the present level of marijuana use gave no hint of a relationship. It was apparent however that there was a particularly high concentration of people with some graduate education who were also occasional users of marijuana. Otherwise marijuana use appeared independent of the educational level achieved in our population.

D. The possible hazard of residence in an environment of high use - We looked particularly at the respondent's time in the Haight-Ashbury and his present level of marijuana use. Do those who stay longer have higher levels of use due to increased availability, associations made in the area, and the like? Conclusive evidence is difficult to gain from our questionnaire, since so few had arrived before 1967 (only 70 (16.95%) respondents had come to the Haight before 1967). We are awaiting more data from the surveys conducted in 1968 to conclusively deal with this question. At this time it can be said, however, that there was no statistically significant difference in the frequency of the levels of marijuana use between those who arrived in the summer of 1967 and those who had arrived earlier in 1967.

The individuals experience with marijuana was by no means entirely in the Haight-Ashbury, and their first introduction to the drug was usually outside the community. This is evidenced by a difference of at least two years between the age of first trying marijuana and their age when they arrived in the Haight. (Table II) Many users ($73.6 \pm 4.3\%$) had come to the Haight-Ashbury during the first nine months of 1967. In addition, a full $17.7 \pm 10.5\%$ of the occasional users and $3.1 \pm 2.7\%$ of the regular users had never used Marijuana in the Haight, and over one-half were at the time of the study Haight-Ashbury residents. A significantly lower percentage of the 25 to 30 year olds had used marijuana in the Haight-Ashbury, perhaps reflecting a greater mobility and diversity of experience and acquaintances.

The Use of Marijuana and the Abuse of Other Drugs.

A. Alcohol-Marijuana correlates. The use of the legal ethyl alcohol-containing drugs by this population is particularly interesting, especially when comparing and contrasting the use of marijuana to the use of alcohol. Evidence has been presented that marijuana may be similar in its pharmacologic action to alcohol -- that it is a member of the sedative-hypnotic class of drugs.² It was our impression that within this community marijuana was being used as an alcohol substitute. Fifty-two of the total sample (12.8%) had never tried hard liquor while only about 2% (8) had never tried marijuana. Only $65.62\% \pm$ of the entire group of respondents had used any form of ethanol in the Haight-Ashbury, while $90.8\% \pm 2.8$ had used marijuana there. The average age of the sample was 20.65 years, and almost half were of the legal age to use and purchase alcoholic beverages.

The abuse of hard liquor in this sample was quite small when compared to the abuse of other drugs, notably the psychedelics and intravenous amphetamines. Only about 3% (12/413, $2.9 \pm 1.6\%$) of the 413 were dependent drinkers of hard liquor and only about half of them were assuredly abusing the drug in terms of the amount they consumed on each occasion. So at first glance, among a population which has a very high level of marijuana use, as well as much experience with the psychedelic drugs, where 50% habitually use marijuana and 15% abuse the psychedelic drugs, by contrast only about 3% (3.25 ± 1.7) abuse the ethyl alcohol-containing drugs, hard liquor, beer and wine, in terms of number of times and amount consumed on each occasion.

The males in the survey had first tried hard liquor at about the same age of 13 years, independent of their present age, yet there was a difference among the females. The younger females, 16 to 20 years of age, had first tried hard liquor at a significantly earlier age than their 25 to 30 year old counterparts. The younger females had begun at age 12 to 13, about the same age as all age groups of the males. Perhaps this reflects a change in social attitude toward the use of liquor by females in our society.

But we were concerned with a relationship between the use of marijuana and the use of alcohol and so examined in detail the peak and present levels of the use of both drugs. Our questionnaire distinguished between two types of ethanol use. There were questions concerning the respondents use of hard liquor and his pattern of use of beer and wine. Again we determined who in each group was abusing the drug, applying our previously stated definition for abuse. First the respondents use of hard liquor was compared to his use of marijuana.

Because there was a small sample of hard liquor abusers (12), it was difficult to show any statistical trend about the abuser's use of marijuana. However, a few isolated trends stood out which began to confirm our impression that in this population a high level of marijuana use is associated with a low level of hard liquor use. For instance, among the female occasional user of marijuana, a significantly higher percentage (20.0 ± 15.7) used hard liquor in an abusive pattern than in any other groups of marijuana users, the regular or habitual user. And among the female habitual users of marijuana, their use of hard liquor was quite low. The lowest percentage of hard liquor abuse was among the habitual users of marijuana, although because of the small sample, this was only a trend.

There was much suggestion in the data to show that people who had abused hard liquor previously were now at a low level of liquor use but presently sustained a high level of marijuana use. A specific example is among a sample of males who had abused liquor at a previous peak use period. Of these 26 males, 20 or 76.9 ± 16.1 percent had a very minimal use of hard liquor during the month that this survey was conducted while their use of marijuana in the same time period was almost completely (95%) in the regular-habitual use level. All of the 20 had used the psychedelic drugs. These 20 who were not at a low level of hard liquor use did, on the rare occasions when they did use hard liquor, use the drug in excessive quantities; that is, two-thirds (66.7%) used it to get drunk, sick, or passed out with the drug on these occasions. Three quarters of these past abusers of hard liquor state that they didn't plan to continue using hard liquor, all planned to continue using marijuana, and practically all (17 or 85%) attribute the change in their hard liquor use to having taken marijuana and/or LSD.

There were 309 of the total sample of 413 who had decreased or stopped their hard liquor use. $79.3 \pm 4.5\%$ attributed this change to their having taken marijuana and/or LSD. Again (90.4%) were regular or habitual users of marijuana, among a community which condones marijuana use much as the middle class does alcohol. Certainly it is dangerous to allude to a cause and effect relationship between taking marijuana and decreasing alcohol consumption, and to underscore this point we would point out that when asked about their preferred drug, or drug of choice so to speak, 61.8% of these 269 preferred the psychedelics and not marijuana as first choice; however, marijuana as a second choice drug was quite commonly preferred (56.6%).

B. Marijuana-LSD correlates

There is a high degree of association in our sample between the use of the psychedelics and the use of marijuana. And it is our impression, supported by statistics from this survey and in agreement with the impressions of others, that in this community in the summer and fall of 1967 the use of LSD and the use of marijuana were practically inseparable. One must remember that in the summer of 1967 this community consisted of people who primarily used the psychedelics and marijuana. In fact the "hippie ethic" and the New Community had part of its basis in the use of the psychedelics and only secondarily used marijuana.

Unwilling to accept established conceptions about drugs and for other reasons, this population experiments a great deal with a variety of drugs. And as we began to look at the abusers of each drug included in our survey, it became clear that the abuse of one drug was often associated with the abuse of another drug, often within the same time period.

We were able to distinguish an "abuser group" as well as a group who used drugs but infrequently abused them. This second group of users use primarily the psychedelics and marijuana.

There were the experimenters, only $27.4 \pm 4.3\%$ of the total sample who have presently no significant use of any of the illegal drugs but only $14.5 \pm 3.4\%$ of others who never have had more than an occasional use of any illegal drug, except marijuana. Then there are the persons who regularly use marijuana and one or another of the psychedelics but have no abusive pattern of use of any drug (amphetamines, heroin, liquor, psychedelics) and these persons make up one-third ($35.4 \pm 4.6\%$ of the sample) of the community. Among the marijuana-LSD users only 9.0% had abused another drug during the same time period while among the abuser group a full $31.77 \pm 11.8\%$ had abused another drug. Finally there are those who are drug abusers, ($19.4 \pm 3.8\%$ of the sample) most commonly of the psychedelics, and whose use of other drugs is commonly in the abusive levels. This we may know as the abuser group. Our analysis of these three groups of users will be expanded upon in other papers dealing with patterns of the use of the amphetamines and the psychedelics, but a few pertinent statistics should be given to support these observations.

The drug most commonly used in the Haight-Ashbury aside from the almost universal use of marijuana, is the class of psychedelics. And it is the drug most commonly abused. $84.0 \pm 3.5\%$ of the total sample has tried one of the psychedelics at least once (usually, 96.8% , LSD) and $66.8 \pm 4.5\%$ had used the drugs at least once during the month of September 1967. It is the drug most commonly abused. $74.1 \pm 9.5\%$ of those who have abused any illegal drug except marijuana have abused LSD, or another of the psychedelics. By contrast only $9.9 \pm 6.5\%$ of this group abuse heroin. The next most commonly abused drug is the intravenous amphetamines, commonly methamphetamine. A significant $44.4 \pm 10.8\%$ of the sample of abusers abuse only the psychedelics, and these persons have an associated habitual use (86%) of marijuana. And of the persons who only used the psychedelics but did not abuse them, 75% abused no other drug, although marijuana was used by one-half habitually.

The habitual use of marijuana was significantly more frequently associated with the abuse of the psychedelics than with the abuse of any other drug (Table IV.) 85.0% of the psychedelic abusers also use marijuana habitually and this is significantly higher ($p=.05$) than the frequency of habitual marijuana use in any other of the abuser groups. By contrast, among the regular users of the psychedelics, that is those who use the psychedelics and marijuana almost exclusively, only $52.0 \pm 7.4\%$ used marijuana habitually. The abuse of the intravenous amphetamines was negligible in this group of regular LSD users; only 11 of 175 or 7% had abused the intravenous amphetamines. But among abusers of the psychedelics, $23.3 \pm 10.7\%$ also abused methedrine i.v. in the same time period as their abuse of LSD.

It is interesting to compare the age for first trying marijuana and hard liquor, between the abusers and regular users of the psychedelics. The mean age of the psychedelic abuser (19.8 ± 0.4 years) was significantly younger than the LSD-marijuana user. Likewise, among psychedelic abusers, the mean age of first trying marijuana was younger (15.2 ± 0.4 years) than among the LSD-marijuana (regular LSD users) user group (16.8 ± 0.2 years).

But the difference between the mean ages of first trying marijuana and their present age differs by only one year. The mean age for first trying hard liquor is significantly younger among the abuser group than among the LSD-marijuana user group. We do not believe that the age for first trying marijuana and the level of use of drugs is causally related, but the significantly younger age for trying hard liquor and marijuana among abusers may reflect early conditions which predispose one to abuse drugs. Certainly the high level of abuse of one drug associated with the abuse of other drugs supports the multiple drug abuse theory.

C. Marijuana-Amphetamine Correlates.

Because a second paper will focus specifically upon the use and abuse of the amphetamines in our population, we will only briefly summarize the use of marijuana among the abusers of the intravenous amphetamines.

34.1 $\pm$ 4.6% of the total sample of 413 respondents had tried using amphetamines by intravenous administration at least once. 21.3 $\pm$ 6.7% of these (7.3 $\pm$ 2.5% of the total sample) were presently abusing the drug. The intravenous amphetamines are the second most commonly abused drug within our sample. Among the various levels of marijuana use (occasional, regular, habitual) there was no significant differences between the percentages of intravenous amphetamine abusers in each group: a range of from five percent of the occasional users to 11% of the habitual marijuana users. However among the habitual users of marijuana there was a significantly greater frequency ($p < .10$) of experimental and periodic use of intravenous amphetamine than in the occasional or regular marijuana use categories. This simply reflects a greater frequency of drug use among those who have extensive acquaintance with drugs and who are frequently experimenters with various drugs and routes of administration.

Apparently the level of i.v. amphetamine use has no relationship to the level of marijuana use, for the percent distribution of the various levels of marijuana use was statistically the same whether among experimental, periodic, or abuser of the intravenous amphetamines (Table V). From 8 to 13% were occasional users of marijuana; 22-34% were regular users of marijuana; and 56-63% were habitual users of marijuana. The habitual level of marijuana use is the most frequent pattern of use within the various levels of i.v. amphetamine use and abuse as it is among the total sample of 413. It is true that habitual marijuana use is significantly more frequent among respondents who presently have any use of i.v. amphetamines at all than among the total sample of 413. But other patterns of marijuana use, namely occasional and regular use, are no more frequent among users or abusers of i.v. amphetamines than among the sample as a whole.

If we consider only the abusers of the various drugs we find that the frequency of habitual marijuana use is statistically significantly greater among the abusers of the psychedelics than among any other abuser group. Although the frequency of habitual marijuana use is greater among the abusers of the i.v. amphetamines than among the general population of the Haight, it cannot be considered significantly greater than the other abuser groups, namely oral amphetamines or heroin, due to the small sample in these groups.

Originally it was our impression that the frequency of marijuana use among abusers of the i.v. amphetamines would be quite high because of observations that marijuana was

being used to aid the person who was coming down from i.v. amphetamine intoxication, much as a sedative would be used. Apparently this practice may account for the significantly greater frequency of habitual marijuana use among the i.v. amphetamine abusers than among the sample as a whole.

It is, however, difficult to account for the high association of habitual marijuana use and abuse of the psychedelics except to explain that these are the most "socially acceptable" drugs within this subculture, and their association may simply reflect the social preference. It may also be true that marijuana is being used to modulate the psychedelic experience either as a "downer" or in an attempt to heighten the experience.

D. Summary of Drug Preference.

Certain questions in the survey concerned a respondent's drug preferences. His drug of choice was that drug which he considered to best fulfill the goals which he associated with taking drugs. A unique feature of this drug using subculture is their preference for the psychedelics as their first choice. 46.8% of the sample listed LSD as their first choice, and 25.5% listed marijuana first. And although 8% of the sample were abusing i.v. amphetamines only 3% listed that drug as first choice. And the preference for LSD as a drug of choice existed among practically all groups of users and abusers within this community. Marijuana was listed by 53.9% of the respondents as second choice, and LSD was listed by 19.4% second.

Discussion:

A few concepts and definitions must be reviewed before discussing the problems of multiple drug use and the inverse or direct relation between the use of one drug and another. Why, for example, was the inverse relationship between hard liquor use and marijuana use just described in this population not repeated when the use of beer and wine by the marijuana users was considered?

Classification of drugs subject to misuse. - Psychoactive drugs may be classified into several groups according to their mode of action. We have discussed hard liquor which is a sedative-hypnotic drug. Other members of this general classification of sedative drugs include the other ethanol-containing drugs (in our survey beer and wine), the barbiturates, and drugs formerly termed "minor tranquilizers" but now known to be sedatives, such as meprobamate (Miltown), chlordiazepoxide (Librium) and diazepam (Valium). Furthermore, there is evidence to classify marijuana as a sedative drug.² A second group of drugs is the opiate derivatives: heroin, morphine, crude opium, and narcotic synthetics. It is generally agreed that marijuana is not a member of this class of drugs. A third group of drugs are those with selective central nervous system stimulating properties, conventionally termed the psychedelic or hallucinogenic type drugs, such as LSD-25, STP (DOM), MDA, mescaline, psilocybin, etc. Marijuana is said by some to be a "mild hallucinogen" and was compared in some studies to peyote or mescaline in its effects,³ implying its inclusion in this class of drugs. It must be remembered that the occurrence of hallucinations or what has been termed pseudo-hallucinations⁴ with a particular drug does not automatically

place it in the class of psychedelic drugs. Nitrous oxide, ethanol, and amphetamine may produce hallucinations at certain stages of intoxication or withdrawal. The authors of this paper prefer its classification as a sedative and have assembled evidence in support of this hypothesis.² A fourth group of drugs are the general central nervous system stimulants, drugs of the amphetamine type, including oral and intravenous amphetamine ("speed"), and nicotine and caffeine. In passing we should note how similar are the psychedelic drugs and the amphetamines in pharmacologic action and chemical structure, and differentiation of these 2 groups may be culturally rather than pharmacologically determined by the "psychedelic community."

Multiple drug abuse - There are several theories about drug abuse and the drug abuser, but a particularly useful one, and one which is supported by our data from this drug centered community, is the "multiple drug abuse theory." The person who has an abusive pattern of use of one drug is more likely to abuse another drug, either concomitantly or when the first drug is not as available. This theory implies an "abuser personality" who is prone to abuse any drug used, although one drug may be said to be preferred over another for its effect, lack of side effects, etc. Such a theory should not be applied to the social or ritual use of drugs - e.g., marijuana by the youthful subculture or LSD by an indoctrinated hippie - nor should its emphasis on individual susceptibility obscure group factors that are acting.

The multiple drug abuse theory assumes that abuse of drugs by a person may extend beyond a single class of drugs, for instance the amphetamines, into another group with different properties such as alcohol, a sedative drug. This type of abuse - abuse of drugs in differing classes - may be known as horizontal abuse. An example would be the speed (amphetamine) abuser who also abuses the psychedelic type drugs, or the narcotics such as heroin. A different pattern of abuse may be known as vertical abuse, that is the abuse of different drugs within the same drug classification. An example of this form of abuse would be the alcoholic who also abuses another drug which is a sedative, for instance, meprobamate.

The use of drugs within the same class may lead to an additive effect of the two drugs being used together in the same time period; that is, the effect of one drug adds its effect to the effect of the other drug. This result is twice that of other drugs used alone in the same dosage.

Interchangeable use of marijuana and alcohol - Now these concepts may be applied to our study, in particular to the use of beer and wine and marijuana by this population. We noted that our data tended to support our impression that marijuana is being used as an alcohol substitute within this subculture, and that the use of alcohol has declined for many of the respondents while their use of marijuana is quite high. To suggest any cause for such a change or the exact nature of that cause would be highly speculative, but we should mention that 80 to 90% of a given sample attribute their decrease in alcohol consumption to their having taken marijuana and/or LSD, and agree with the implication in the question that their use of marijuana and LSD came before the decline in their use of alcohol. The role LSD has played in such a change is difficult to evaluate, but certainly a greater percentage prefer LSD to marijuana as a drug of choice.

Nevertheless, if we look at the group of persons whose use of hard liquor has decreased or stopped, we find that while their use of beer and wine also for the most part has decreased, significantly fewer of these persons have discontinued their use of beer and wine and more plan to continue their use of beer and wine in the future. Only $22.98 \pm 4.7\%$ of this sample of persons whose use of hard liquor has decreased or stopped plan to continue their use of hard liquor, but $57.9 \pm 5.5\%$ plan to continue their use of beer and wine; however, objective evidence indicates that it is usually at a lower level of use.

There were 31 persons who had abused ethanol in any form (hard liquor or beer and wine) and 9 had discontinued their use of hard liquor altogether. All were habitual users of marijuana and all had continued their use of beer and wine but at a level below an abusive pattern. Why don't attitudes and practices of beer and wine follow the decreased use of liquor among the marijuana users in this population?

There are many possible explanations and probably not any single explanation will suffice. But we have on several occasions talked to members of this community who spoke of their concurrent use of marijuana and wine. A group would smoke several "joints" of marijuana and then purchase and consume a bottle of wine. They insisted that this practice led to becoming much more "stoned", and the experience of marijuana and wine together was subjectively said to be better than the use of either drug alone. Similarly one of the authors has seen attempts in the midwest at "curing" marijuana in wine, presumably to try to reproduce such an effect. The occurrence of such a practice would explain the statistics; moreover, it would be an example of the additive effect of two drugs being used together. It is known that alcoholics will try to get sedative drugs to decrease their consumption of alcohol, and certainly this is the practice in the medical treatment of alcoholic withdraw - to substitute one safer, longer active sedative drug for ethanol, a short-acting sedative with a low therapeutic index. And if you consider marijuana a sedative drug like ethanol or the barbiturates, then this is an example of vertical abuse. Heroin abusers at times will abuse a barbiturate in order to decrease their heroin habit - an example of horizontal abuse, and the contamination of LSD with methedrine to increase the subjective effects aims at a similar effect.

Marijuana use and the sequential theory of drug abuse - The habitual use of marijuana is often associated with the abuse of other drugs not in the same pharmacologic class. The habitual use of marijuana is frequently associated with the use of the psychedelic drugs for example, which is an example of vertical abuse if marijuana is considered to be a psychedelic or an example of horizontal abuse if it is considered a sedative. In any case there are many examples of high levels of marijuana use being associated with high levels of use or abuse of other drugs within this community. Marijuana is involved in both horizontal and vertical use within this drug-using subculture as a social drug, a spree drug, and a depressant to antagonize stimulant drugs.

The sequential theory of drug abuse, that the use of marijuana will lead to the abuse of heroin in particular, has been the subject of debate in the past. Most authorities now agree that there is little basis in fact for such a statement.³ And our data supports its refutation.

Only 8 of the total sample of 415 respondents were heroin abusers. However the percentage of heroin abusers presently using marijuana habitually is significantly lower than the high percentage of habitual marijuana use among the abusers of the psychedelics, and tends to be lower than the frequency of habitual marijuana use among any other abuser group. Only 50.0% of the heroin abusers are habitually using marijuana, while 85.0% of the abusers of the psychedelics are habitually using marijuana. The levels of marijuana use among the abusers of the various drugs is shown in Table IV.

The data of this survey suggests a surprisingly high incidence of experience with opium. For reasons mentioned below, we believe that the questions as used did not provide a valid measure of the amount of opium actually used. 58.3% of our sample admitted to having tried opium at some time, and $36.3 \pm 4.6\%$ stated that they had used opium while in the Haight-Ashbury neighborhood.

However, more detailed interviews with residents and dealers suggest that their answers were based on the very doubtful assumption that they had used "opium-cured grass" at one time or another. The small amount of opium brought into the community in the past was used in small amounts and in a group very much as marijuana was used.

As alluded to above and as explained in other papers⁶, the selling of drugs on the street in this community involves what might be termed a "Madison Avenue approach." Drugs are being sold under constantly changing guises, fantastic claims are made about each drug, and the user has a preconception about the expected effect of a particular drug sold to him even before he has the experience. Many drugs are billed as containing one ingredient when in fact they contain something else.

There have been actual attempts at the "curing" of marijuana in solutions of such drugs as DMT or cocaine, but they are hardly frequent enough to account for the often heard patter of the seller about "opium, DMT, or cocaine-cured grass." The differing effects one may experience with marijuana purchased in the Haight is more rationally explained in terms of the amount of active ingredient, rather than attributing it to a contaminant in the marijuana as the community often does. It is known that attempts at curing marijuana in sugar have been successful, and stories of DMT or opium curing should not be dismissed as mere fiction.

TABLE 1. AGES OF MARIJUANA USERS. (95% confidence limits are given.)

(1) Males (222)	Occasional Users	Regular Users	Habitual Users	Total Males
Number	26	75	104	222
Age Range	16-26	15-30	15-34	15-34
Mean Age	21.4 $\pm$.6	20.8 $\pm$.3	20.99 $\pm$.3	21.0 $\pm$.2
(2) Females (191)	25	86	73	191
Age Range	15-34	9-37	13-29	9-37
Mean Age	21.7 $\pm$.8	20.4 $\pm$.3	19.4 $\pm$.3	20.2 $\pm$.2

TABLE II. AGE FOR FIRST TRYING MARIJUANA. (95% confidence limits are given.)

Males (222)	Occasional User	Regular User	Habitual User	Total Males
(1). Present Mean Age	21.4 $\pm$.6	20.8 $\pm$.3	20.99 $\pm$.3	21.0 $\pm$.2
(2). Mean Age For First Trying MJ.	18.5 $\pm$.6	17.4 $\pm$.4	16.4 $\pm$.3	17.1 $\pm$.2
(3) Difference Between Row 1 & 2	2.9	3.4	4.6	3.9
Females (191)	Occasional User	Regular User	Habitual User	Total Females
(1) Present Mean Age	21.7 $\pm$.8	20.4 $\pm$.3	19.4 $\pm$.3	20.2 $\pm$.2
(2) Mean Age For First Trying MJ.	18.7 $\pm$.7	17.4 $\pm$.3	16.0 $\pm$.3	17.1 $\pm$.2
(3) Difference Between Row 1 & 2.	3.0	3.0	3.4	3.1

TABLE III. USERS BY AGE GROUPS. (95% confidence limits are given.)

Males and Females

Age Range:	16-20 Years	21-25 Years	26-30 Years	Total Sample
(1) Number	112	86	16	413
(2) Mean Age	18.8	22.6	27.4	20.7
(3) Age First Tried MJ.	15.8 $\pm$.2	18.2 $\pm$.4	20.4 $\pm$.1	17.1 $\pm$.2
(4) Difference Between 2 & 3.	3.0	4.4	7.0	3.6
(5) Percent Habitual MJ Users.	49.6 $\pm$ 6.5	33.3 $\pm$ 7.8	35.7 $\pm$ 17.7	42.9 $\pm$ 4.8

TABLE IV. ABUSER GROUPS AND MARIJUANA USE. (95% confidence limits are given.)

Males and Females

Abusers of:	Psychedelics	Intravenous Amphetamines	Oral Amphetamines	Heroin	Total Sample
Number of Abusers.	60	30	9	8	413
Percent Habitual MJ Users.	85.0 $\pm$ 11.9	63.3 $\pm$ 17.2	55.6 $\pm$ 32.6	50.0 $\pm$ 34.6	42.9 $\pm$ 4.8

TABLE V. MARIJUANA USE AMONG i.v. AMPHETAMINE USERS AND ABUSERS.
(95% confidence limits are given.)

Males and Females

i.v. Amphetamine Pattern of Use:	EXPERIMENTAL	PERIODIC	ABUSER	TOTAL SAMPLE
Number in Group	74	37	30	413
Marijuana Use Pattern (Percent)				
Occasional	8.2 $\pm$ 6.3	5.4 $\pm$ 6.1	13.3 $\pm$ 12.2	12.4 $\pm$ 3.2
Regular	34.3 $\pm$ 10.9	21.6 $\pm$ 13.3	23.3 $\pm$ 15.1	39.0 $\pm$ 4.7
Habitual	54.2 $\pm$ 11.4	59.5 $\pm$ 15.8	63.3 $\pm$ 17.2	42.9 $\pm$ 4.8
No response	1.3	13.5	0.1	5.7

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