

Chapter Ten

DRUG USE AMONG HIGH SCHOOL STUDENTS

REGINALD G. SMART

CURRENT PUBLIC OPINION seems agreed that the use of non-alcoholic drugs has increased rapidly over the past five or six years. Certainly, arrests for possession and trafficking in marihuana have increased greatly since 1963. In 1963 there was one arrest for marihuana possession in Toronto, but this number changed to 360 in 1967 and to 569 by 1968. Some people have wondered whether this change is really due to better police surveillance or to their resources having been freed from a concern with heroin addiction. Some of the change may be accounted for in this way, but probably very little. Aside from police records and certain unsystematic and anecdotal information from teachers and youth workers, there is no solid evidence to support these assertions of change. Until very recently, too, there was no information whatever on the *extent* of nonalcoholic drug use in Canada, so of course trends could not be described at all. My aims in this paper are to indicate what knowledge exists of the extent of drug use in high school and college populations, and to indicate briefly what educational or preventative steps are possible.

In 1968 we began an epidemiological study which attempted to describe the nature and extent of drug use in schools in Metropolitan Toronto. This survey was an effort to determine the frequency of use of all commonly available drugs such as alcohol, tobacco, marihuana, LSD, barbiturates, tranquilizers, and stimulants. This study looked at the distribution of drug use

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in various grades and for each sex separately; it also looked at various social and behavioral variables associated with drug use. The study was concerned with drug use and not with abuse, addiction, or dependency.

The methods used in this survey were group discussions and anonymous questionnaires. We employed two methods of gathering data for several reasons. First, we wanted to have more than one method of estimating the prevalence of drug use; and second, we used the discussions to provide questions for the questionnaire. At present, no one is certain how reliable data on drug use can be obtained. Questionnaires are typically used, but one is never sure how accurate the information obtained can be. In this study we asked students in the group discussions to estimate the number of drug users among their friends, and in the questionnaires we asked people about their own drug use.

METHODS

Subjects

The subjects in this study were drawn from all areas of Metropolitan Toronto. They were students in grades seven, nine, eleven, and thirteen; both males and females were included. We left out the even-numbered grades chiefly because of the trouble and expense of including everyone. We thought that the odd-numbered grades would be sufficient to cope with.

All six boroughs of Metropolitan Toronto cooperated in this study, as did the Separate School Board and several private Roman Catholic high schools. The schools used in the survey were randomly selected from the total number of high school districts for each borough, and each borough contributed study districts in proportion to their part of the total. We used twenty districts in all. Within each school classes were selected at random from each of the grades seven, nine, eleven, and thirteen until 120 students were obtained. All students who participated did so voluntarily and with the consent of their parents. These students were asked to fill out the questionnaires; however, group discussions were held first.

Group Discussions

Before we began the collection of questionnaire data, we held group discussions, each with six to eight high school students from the same grade. In all, 147 group discussions were held. We hoped to have one group for males and one for females for each grade in each high school district in which we worked, although in a few districts we did not have time for groups. For these groups one half of the students were chosen by their own classmates and one half were chosen at random, out of class lists.

The purpose of the groups was to have students talk freely about their attitudes, feelings, and behavior related to drug use. We hoped to gain valuable information which would allow us to construct a useful questionnaire containing all of the relevant questions about drug use and its associated characteristics. We also hoped that the members of these groups would come to value the research and would convince their classmates to cooperate in completing the questionnaire as carefully as possible. Our last purpose in having group discussions was to have another method of estimating the prevalence of drug use. At the end of the group discussions, each participant was asked to say how many persons of his *own sex*, in his *own class* he knew had used various drugs. In this study, then, we asked people about other persons' drug use and about their own. We thought that this would provide a very good check on the accuracy of the data obtained from the questionnaires.

The group discussions were entirely confidential, no schools or persons were identified during the discussions, and it was made very clear that only the researchers would have access to the material. It was stressed that Addiction Research Association had no connection with school or teachers or police. No teachers attended the group discussions, and most of them were held outside of the school—in community centers for most.

The groups selected by popular vote proved to be more animated than those randomly constructed. In general, the elected groups were more active, sophisticated, and controversial. Most groups were affairs in which members involved themselves

intelligently and actively in discussion about drug use among high school students.

All group discussions were taped with the permission of the group members. No individuals or schools were identified in the tape. The leader attempted to remain passive and have the members lead and maintain the discussion. A nonjudgmental approach was taken by the leaders, and anyone was allowed to say what he pleased, except that names could not be mentioned.

Questionnaires

After the group discussions were completed, questionnaires concerning all types of drug use were given out to students in each of the selected classes; of these, 6,447 were completed. These questionnaires were completed in each school on the same day so as to minimize contact between students. Questionnaires were all voluntary, and only students who had the consent of their parents participated. Almost no one who had parental consent refused a questionnaire. The questionnaire covered the following topics:

1. Demographic characteristics, such as age, sex, occupation of parents, etc.
2. Frequency of usage of drugs such as alcohol, tobacco, marihuana, LSD, barbiturates, stimulants, tranquilizers, and opiates.
3. Various attitudes toward drug use and drug users.
4. Sources of information about drugs.

The questionnaires were administered by a member of the research group. No teachers or principals were present, and students were asked not to sign their names so as to retain anonymity.

RESULTS

This study is the largest ever attempted for drug use among high school students. It is the only published study for this age group. The first result of importance is that the two methods of estimation gave almost identical results for marihuana use and, hence, one can have considerable confidence in the data.

Drug Use Rates for the Total Sample

Table 10-I shows the average frequency of drug use for the total sample. The rates are for use during the six months prior

TABLE 10-I

INCIDENCE OF DRUG USE BY GRADE

Percentage of Students Using Drug at Least Once in Last Six Months

<i>Grade</i>	<i>Tobacco</i>	<i>Alcohol</i>	<i>Mari- huana</i>	<i>Glue</i>	<i>Barbi- turates</i>	<i>Opiates</i>	<i>Stimu- lants</i>	<i>Tranquil- lizers</i>	<i>LSD</i>
7	24.6	22.9	2.6	7.2	1.3	1.1	4.3	4.8	1.1
9	44.3	41.6	10.8	9.4	3.9	3.0	9.4	11.4	3.9
11	46.6	59.7	8.9	2.6	4.4	1.8	7.8	11.6	2.1
13	39.7	70.9	7.5	0.7	3.8	1.0	5.6	14.6	3.8
Total	46.3	37.6	6.7	5.7	3.3	1.9	7.3	9.5	2.6

to the investigation. It can be seen that alcohol and tobacco are the most frequently used substances (46.3% and 37.6%), respectively, and that the use of all other drugs is less than 10 percent. Of the illicit drugs, marihuana was used by 6.7 percent of the grade seven to thirteen population and LSD by only 2.6 percent. It should be pointed out, too, that the variation in drug use across the high school districts was very large. Marihuana use varied from 3.19 percent to 11.8 percent, glue sniffing from 1.8 percent to 14.2 percent, LSD from 0.4 percent to 5.3 percent. The smallest variation by district was found for alcohol (40.1% to 60.0%) and tobacco (27.9% to 47.2%). It is clear that rates of illicit drug use vary markedly from one area to another, in a manner quite unlike that of the socially acceptable drugs.

Drug Use Rates by Grade

An expected finding was that rates of drug use would vary substantially by grade. Table 10-I also shows the distribution of drug use by grade. Smoking involves 46.6 percent in grade eleven, and drinking as many as 70.9 percent in grade thirteen. The use of illicit drugs is less frequent, but marihuana use goes as high as 10.8 percent in grade nine and glue use as high as 9.4 percent in grade nine. Opiates, barbiturates, and LSD are used by small minorities of the students.

It can be seen that all types of drug use are less frequent in grade seven than in the other grades. Only glue use is relatively high in grade seven, and even with glue grade nine is the peak. There are several patterns which can be more easily seen from Table 10-I. Use of marihuana, stimulants, opiates, glue, and other hallucinogens (other than LSD and marihuana) is relatively low in grade seven; this usage reaches a peak in grade nine and declines in grades eleven and thirteen. It can be seen, too, that tranquilizers and alcohol are least frequently used in grade seven and increase steadily over the grades to reach a peak in grade thirteen. However, tobacco and, less strikingly, barbiturates show a sort of inverted J curve with the peak at grade eleven, less frequent use in grades nine and thirteen, and very little use in grade seven.

Frequency of Drug Use Among Users

The frequency with which various drugs are used suggests that some are associated with chronic use and others primarily with experimentation. Among all drinkers (Table 10-II) more

TABLE 10-II
FREQUENCY OF ALCOHOL USE

Percent of Students (All Grades)	0	<1	<i>Frequency (Times per Month)</i>			Blank	Total
			~2	~3	4+		
	53.7	24.5	9.3	5.0	7.5	0.0	100.0

than twice as many (33.8%) drank only once or twice per month as drank more than three times per month (12.5%). This is also true for students in all grades, even grade thirteen, where most students drink. A similar but less striking relationship holds for smoking (Table 10-III), as only 14.5 percent smoke as many as

TABLE 10-III
FREQUENCY OF CIGARETTE SMOKING

Percent of Students (All Grades)	0	1-5	<i>Frequency (Cigarettes per Week)</i>			Blank	Total
			6-10	11-20	20+		
	62.2	14.9	4.1	4.1	14.5	0.2	100.0

twenty cigarettes per day and 23.1 percent smoke fewer than twenty per week.

For the drugs other than alcohol and tobacco, those who have used them only once or twice could be called "curious experimenters" and the remainder "regular users." For drugs such as opiates, LSD, other hallucinogens, and barbiturates, the curious experimenters and regular users are similar in number, although not over 2 percent for any drug (Table 10-IV). For

TABLE 10-IV
FREQUENCY OF DRUG USE

	0	<i>Frequency (Times per 6 Months Period)</i>					Total
		1-2	3-4	5-6	7+	Blank	
Tranquilizers	90.3	6.1	1.4	0.5	1.5	0.2	100.0
Stimulants	92.6	4.4	1.1	0.5	1.3	0.1	100.0
Marihuana	93.1	2.8	1.3	0.7	1.9	0.2	100.0
Glue	94.0	3.7	0.6	0.3	1.1	0.3	100.0
Barbiturates	96.1	1.9	0.4	0.2	0.8	0.6	100.0
LSD	97.4	1.2	0.4	0.3	0.6	0.3	100.0
Other Hallucinogens	97.4	1.1	0.4	0.1	0.4	0.6	100.0
Opiates	97.9	1.2	0.3	0.1	0.3	0.2	100.0

tranquilizers, stimulants, and glue, the experimenters are considerably more numerous than the regular users (Table 10-V). It is only for marihuana that regular users (3.9%) outnumber experimenters (2.8%). This is portrayed in Figure 10-1.

Drug Use Rates by Sex

Table 10-V shows the frequencies of different types of drug use for male and female students separately. It can be readily seen that fewer girls use all types of drugs than boys, with the exception of tranquilizers, which involve slightly more girls than boys (10.4% compared to 8.1%). Also, the ratio of male to female users varies considerably for different drugs. For the more socially acceptable drugs, such as alcohol and tobacco, there are almost as many girls as boys (40.4% and 31.1% compared to 51.7% and 42.9%). The sex ratio is also close to 1 to 1 for psychoactive drugs likely to be given on a prescription basis, such as barbiturates, stimulants, and tranquilizers. However, for the

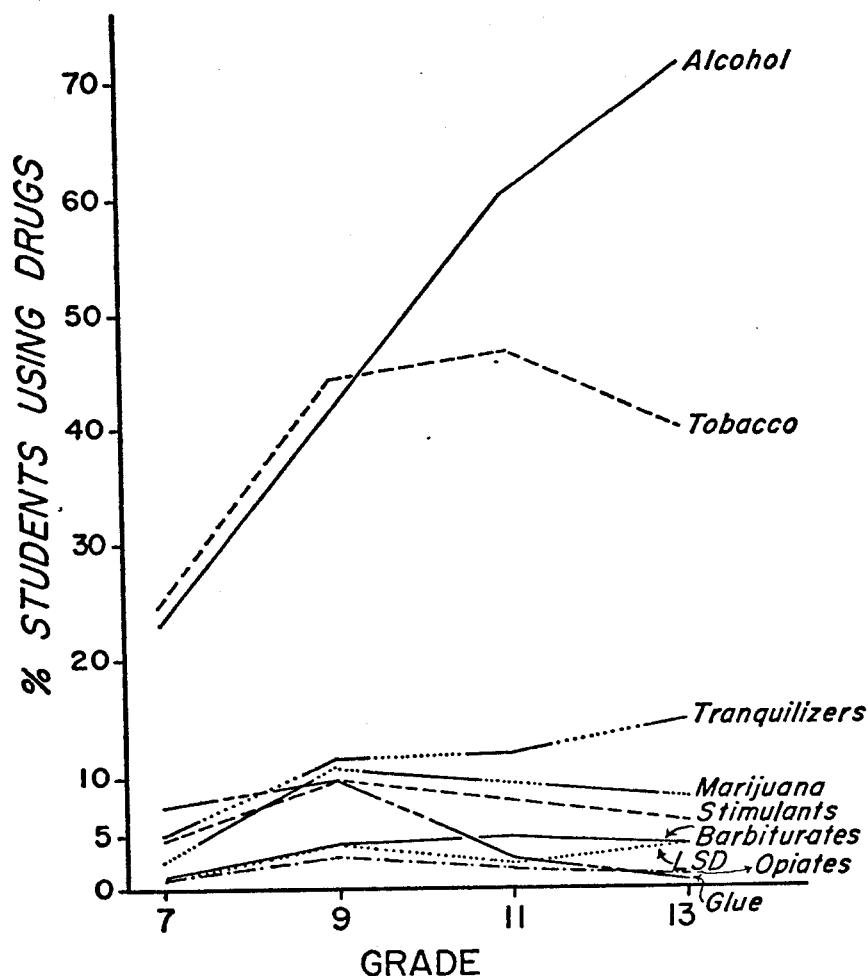


FIGURE 10-1.

newer and more dangerous drugs such as marihuana, glue, and opiates, there are about twice as many boy users as girls; for LSD there are almost three times more male than female users.

The same female caution is also reflected in the frequency of drug use among female users. It was found that female users of alcohol, tobacco, glue, other hallucinogens, and opiates use less of all these drugs than do male users. However, female users of tranquilizers, stimulants, marihuana, barbiturates, and

LSD do not show less frequent use. There is no drug for which female users show heavier consumption than do male users.

TABLE 10-V
INCIDENCE OF DRUG USE BY SEX

Percentage of Either Sex Using Drug at Least Once in Last Six Months

<i>Sex</i>	<i>Tobacco</i>	<i>Alcohol</i>	<i>Mari- huana</i>	<i>Glue</i>	<i>Barbi- turates</i>	<i>Opiates</i>	<i>Stimu- lants</i>	<i>Tranquil- izers</i>	<i>LSD</i>	<i>Other</i>
Boys	42.9	51.7	8.6	7.4	3.3	2.2	8.4	8.1	3.4	2.6
Girls	31.1	40.4	4.0	4.2	2.8	0.9	5.3	10.4	1.2	0.7

Group Discussions

The analysis of the group discussion tapes was done in terms of conflicts and catalysts. A conflict unit was defined as a stated perception by some person of a barrier to personal gratification. A catalyst was defined as the vehicle used to discuss the conflict. Barriers were the perceived blocks to personal gratification. The common catalysts were drugs, smoking, alcohol, sex, the future, religion, hippies, school, "what bugs you," clothes, and lastly, love, marriage, and dating. The most important barriers were self, peers, home (parents), school, the law, mass media, experts, society, and pushers. Of course, the most common topic of conversation and catalyst was drugs. The groups were structured in this way and many of the leaders' questions concerned drug use.

Most of the barriers creating conflict are internal or connected with the self, and this general statement is particularly true of drug-taking conflicts. As students move from grade seven to thirteen, discussions about drugs are less concerned with parents and more concerned with peers. That is, the locus of control over drug taking probably shifts from parents to peers, with most of this shift occurring between grades seven and nine for males and somewhat later (9 and 11) for females. This is an interesting finding, of course, when we remember that grade nine is the peak age for most types of nonalcoholic drugs.

Related Characteristics

As well as determining the basic rates of drug use, we wished to find out what social characteristics were associated with drug

use. At present, analyses of these characteristics are available only for users of marihuana and LSD. We hope that further analyses will allow us to describe all types of users, e.g. solvent sniffers, drinkers, and various types of psychoactive drug users.

Age and Sex

Age and sex have been mentioned already. For most drugs other than alcohol and tobacco, the peak usage occurs at grade nine. For all drugs but tranquilizers, girls use less than boys. The sex difference is very large for marihuana, LSD, and glue; much smaller for tobacco and alcohol.

Social Class

When the rates of drug use were compared for each high school district with the social class variables for the district, there was no relationship. Also, comparisons of drug use by occupation of father showed no relationship—children of professionals and proprietors did not use more marihuana and LSD than those of semiskilled fathers.

School Activities

Several variables connected with school performance were related to drug use. More *nonusers* reported A grades than did users; users more often reported failing grades of D or E. Non-users were also involved in significantly more extracurricular activities, but drug users were also absent in them.

Peers

Most smoking, drinking, and drug-taking activities occur in social groups, and there is little solitary drug use. Peer groups are the most important single source of drug information for users, but not for nonusers, who depend more on family and experts. Drugs and alcohol are usually obtained from friends, and drug users tend to have more friends and associates who are also drug users. Social contact, social influence and peer control are important variables in explaining drug use.

Parental and Familial Variables

Numerous factors associated with drug use are outside of the control of the drug user, and they reside entirely in the

family. For example, drug users more often had parents born in the British Isles and less often in Eastern or Western Europe. Language, too, made a difference, so that if parents spoke Italian, Portuguese, or Spanish, the child was more often than expected a nonuser. Other languages, such as English, seemed to make little difference in drug use. As one would expect from the language differences, religion also made a difference; Catholics were underrepresented, but Jews and those uncommitted were overrepresented among users. More than twice as many Jews and religiously uncommitted students were drug users than Catholics.

Drug use in the family is also an important variable, and the importance of modeling is obvious. More users than expected reported that parents used *both* alcohol and tobacco, although the use of tobacco or alcohol was not significant. It is clear, too, that drug use runs in families and that a drug user is likely to have siblings who are also users. Drug purchasing is probably easier for drug users as they have more money to spend. Significantly more users than nonusers have five dollars or more to spend each week.

Family structure and stability are different for drug users and nonusers. For example, more drug users were living with only one parent or less; however, the sex of the missing parent is significant. Only when the mother is missing is this variable important. Fathers are more important than mothers with regard to employment. If the father is unemployed, the student tends more often to be a drug user, but it does not seem to matter whether the mother was employed. Of course, one-parent families create more difficulties in parental control; it is more difficult for one parent, especially the father, to know what children are doing and who they are associating with.

General Conclusions

It is clear from these findings that *nonalcoholic* drug use is a frequent activity among high school students. However, alcohol and tobacco are *still* the most important drugs. Drugs such as marihuana, LSD, glue, and others, are consumed by a *minority* of the school population; they have not taken over from the older drugs, and there is little reason to see a "drug epidemic" or

"drug rampage." Everybody is not doing it—yet, and those who do are rather different from those who do not. This sort of study helps to define the target population for rehabilitative or educational measures. The target population here, of course, should be Protestant males who are failing in the early grades of high school—one could further specify the population, but this could leave out many potential and actual drug users.

WHAT IS STILL UNKNOWN?

A single study, of course, cannot answer all the relevant questions about the extent of drug use; many questions remain to be answered. We now know about drug use in grades seven to thirteen, but we know little about the use before that. It seems clear that some students are initiated to drug use as early as grade five or six; this is particularly the case with solvents. Also, we know little about the way in which students stop using drugs, or about what enables so many students to refuse or avoid nonalcoholic drugs.

It should also be made clear that we know very little about college drug use in the Toronto area. So far, there has been no extensive study of drug use in Canadian colleges or universities. The studies made in the United States suggest a wide variation from college to college. For example, Eells¹ found that at California Institute of Technology 13.7 percent of the students had used marihuana, and 5.5 percent had used LSD. However, Pearlman⁴ found in Brooklyn College that fewer than 6 percent had used LSD or marihuana during their college careers. Imperi, Kleber, and David² found that 18 percent of the students at Yale and 20 percent at Wesleyan University had tried marihuana or LSD. These results should lead us to expect considerable variation in rate of usage in universities—rates should be highest in nonsectarian colleges with large residence facilities.

To date, we have no study of nonalcoholic drug use in the adult population in Canada. But a study done in the United States by Parry³ is suggestive for Canada. He has reported that 14 percent of all prescriptions are for psychoactive drugs and that one out of every four persons in the American adult population is currently using a sedative, tranquilizer, or stimulant.

Psychotropic drugs are more heavily used by women than men, by Jewish persons than Catholics and Protestants, and by those in managerial positions (or their wives). It is probable that more parents are using mood-modifying drugs than are their children. Of course, one can immediately see parallels with the usage patterns in the high school study, and one has to wonder whether youthful drug use is partially modeled on parental drug use. Is it really a type of ten-age protest or is it merely mimicking of an adult pattern with different drugs, i.e. marihuana and LSD rather than tranquilizers and barbiturates? Parry also found an interesting generational difference; there was a continuing decline in the use of stimulants with age. The "down" drugs (sedatives and tranquilizers) were more popular than the "up" drugs (stimulants), but not for persons aged eighteen to twenty; they were most likely to be stimulant users. Young people, then, wish to *wake up* rather than go to sleep, while the opposite is true for older people.

Educational Implications

This study of high school drug use suggests some approaches to education about drugs. The first major concern is at what age drug education should begin. This study indicates that some experimentation with drugs, especially tobacco and glue, is beginning before the student enters high school (in grade 7). It is clear, then, that drug education should start early. In Ontario it now starts at grade ten but, as mentioned previously, the peak rate for most drugs was grade nine. Students, themselves, also expressed the view that drug education was begun too late to offset drug usage.

The *type* of instruction which will be most beneficial and effective appears to be one in which the student plays an active role. Students became rapidly and easily involved in the discussion group part of this study, and there was a free exchange of valuable information. Of course, open discussion is not all that is needed; authoritative reference material and some formal instruction is very necessary. We found that students have also acquired a good deal of inaccurate and misleading information. But it was clear from the tapes of group discussions that, at

present, there are communication barriers between teachers and students on the topic of drugs. Students felt that teachers were too opinionated and there was considerable distrust of information given by teachers. A basic principle, then, seems to be that teachers should steer away from a strictly didactic approach to drugs and drug use. Students should have a controlling hand in organizing and carrying out programs on this topic.

Unfortunately, there is little information, at present, on which an effective influence program can be built. Our attitudes towards drugs and even our laws regarding drugs contain much contradiction and confusion. What is needed is some sort of educational program about artificial euphoria—the need to produce euphoria out of effective living rather than out of novel drug experiences. However, the society as a whole is not agreed on this, as alcohol and tranquilizers are often used to create artificial euphorias. As long as they are so used, it will be difficult to convince all young people that they should not smoke marihuana or use other sorts of drugs.

To many adults, the use of marihuana and the use of alcohol are considered to be distinctly separate types of phenomena, the first deviant and completely unacceptable and the second normal and socially acceptable—even desirable. But some students do not feel this way, and an educational program based entirely on this rationale will not be beneficial to them. Students often feel that patterns of alcohol and marihuana use have basic similarities. For example, alcohol is often taken at social gatherings, as is marihuana. Both types of usage may stem from a desire to be part of the group or result from peer pressure. Some people say a cocktail makes them feel more relaxed and sociable, and most experienced marihuana users report the same types of feelings. It is important, then, to emphasize to students that *neither* pattern is completely normal or essential and *not* that one is normal and the other abnormal.

Attention must also be given to parents in an educational approach to drugs. In the discussion sessions some students said they felt that they could not discuss drugs at home. Their parents became disgusted at the mention of marihuana and other drugs, and they typically adopted an attitude that they

did not want to hear about such things. Another student complaint was that when they mentioned drugs at home, their parents became suspicious and began "firing" questions: "Have you tried it?" followed by "Are you sure?" Many parents feel unable to answer questions about "grass," "speed," or "mary jane;" to some the words do not mean anything. Material should be made available to parents through libraries or through parent-teachers associations. If parents are unwilling or unable to adopt a "Let's discuss it" approach to drugs, then *the student* must turn to other sources, often less concerned with his well-being for his information on drugs.

The effects of drugs, both physical and psychological, their pharmacological properties and their medicinal uses, are all very important dimensions of drug education. But there is another area which is less often stressed and sometimes neglected; that is the legal aspect. Despite the publicity given to arrests for drug offences, students' knowledge of the laws governing drug possession and sale are vague. An extreme example occurred in a taped discussion with grade eleven boys; there was a general consensus reached in this discussion that the possession of marihuana was not illegal but that its sale was illegal. This is not true and, in Canada, a person convicted of marihuana possession is liable to have a criminal record for life and perhaps a jail term.

Some students are not sufficiently aware of the legal risks taken for playful or recreational drug use. In many areas drug users are expelled or suspended from schools. There are indications that forcing drug users out of school is an ineffective approach to this kind of deviance. In fact, it may make their deviance far worse and increase their drug taking. These are the individuals most in need of information and counselling and are much less likely to get it outside of school. A model of drug-taking behavior proposed by Wilkens⁵ is essentially based on concepts of social deviance. This model states that certain kinds of systems and certain types of information lead to acts being defined as deviant to the extent that the individual is "cut off" from the values and control of the parent system. This definition of deviance leads to more action being taken against the deviants,

and individuals so labelled begin to feel themselves as deviant. The deviant groups then develop their own values running counter to those of the parent group. This group's cohesiveness leads to more deviant acts by the alienated groups. However, the increased deviance by the deviant group results in more forceful action by the conformists. This makes the deviant groups more alienated, and the process is repeated. It seems to me that by defining high school drug users as bad, immoral, dirty, lazy or ineffectual hippies is very likely to initiate this process by which they just drop out of school, then out of society, form their own (hippie) groups, attack the larger society, be set upon by the larger society (as in hippie subcultures), then become more deviant. It is just this circular process whereby deviants are made more deviant and more alienated by definitions of deviance. Somehow, high schools and parents have to create a place for drug users, a place where they can be understood and encouraged to change, rather than arranging that they become more and more alienated. We can help to create this place by talking to drug users and understanding their problems and potentialities—not by rejecting them as beyond the pale of respectability and giving up on them.

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