

Cultural Models of Inhalant Abuse Among Navajo Youth

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SUMMARY. Drug abuse prevention among adolescents can be more effective if it is based on an accurate knowledge of the cultural context and of how young people actually think about the drugs that are commonly used. A study was undertaken among Navajo adolescents to query their perceptions of using drugs, what the social context of their drug use is and, in particular, their perceptions of inhalants as substances that are used to induce intoxication. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworth.com]

There is increasing concern over the extent of inhalant and other forms of substance abuse among American Indian school age children. Getting, Goldstein and Garcia-Mason (1980) found that adolescents sampled from 5 different tribes showed a higher experimentation rate with drugs than adolescents from a national sample, comparing statistics for alcohol, inhalants, and illegal drugs. More recent studies (e.g., Beauvais et al. 1989) not

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only confirm these trends, they call for intervention strategies that begin in elementary school. As many as 22 percent of American Indian students may have used inhalants regularly (Coulehan et al. 1983; May, 1986). Our own survey of inhalant use among 8th grade Navajo students (1991-92) in the western part of the Navajo reservation, indicates that almost one fourth (24.4%) have tried inhalants at some time, and that 12.2 percent have used inhalants in the past month. The most frequently abused inhalants, such as gasoline, glue, and aerosols, are so accessible that they are the substances of choice for large numbers of American Indian children. This preference creates unique problems for drug abuse prevention, and suggests that it will be necessary to specifically target inhalants for special efforts. Unlike alcohol and illegal drugs, it is extremely difficult to even partially control access to these substances through legislation, and it is clearly impractical to attack their use through law enforcement efforts. Coincidentally, inhalants tend to be far more toxic (per use) than alcohol and other drugs. They cause physical damage at much lower doses and with far less length of use. In spite of these statistics and pragmatic conditions, the majority of drug prevention programs available to Indian youth focus on alcohol and illicit drugs, ignoring common household substances.

These special characteristics of inhalants create a serious need to systematically explore the nature of inhalant abuse among American Indian children to provide base line data on the types of inhalants used, the extent of their use, and to identify basic cultural themes that will be useful in assisting prevention efforts. This paper provides a model of inhalant use for one such group, the "Dine," or Navajo.

General substance abuse poses a substantial problem for the Navajo, as well as other American Indian groups. About 50% of American Indian youth are considered at high risk for some form of alcohol and drug abuse (Beauvais, Getting & Edwards, 1985), with alcohol being the most commonly abused drug, and marijuana the second most common. However, for Navajo youth, there is growing concern by Tribal leaders and health officials over the abuse of inhalants. Therefore we have set a priority in this paper of providing evidence for the ways that inhalant abuse can be investigated within the context of the overall substance abuse problem of Navajo teenagers. It should be noted, that like alcohol and other drug use, there will be significant variation in inhalant use patterns for American Indian groups, based on geographic location, tribal affiliation, and within tribes (Heath 1985), especially since urban-rural substance abuse differences have been clearly documented (Weibel-Orlando, 1985; 1986/87), with abuse rates varying by group, setting, and for individuals between settings. Therefore, this paper presents baseline data for one group, which

can then be tested in other groups before Pan-Tribal generalizations are made about inhalant abuse for other American Indian groups.

NAVAJO CULTURAL BACKGROUND

The *Navajo*, or "Dine," are the largest American Indian tribe in the United States. Approximately 180,000 Navajo live on the Navajo Nation, while an additional 65,000 live outside the reservation in adjacent towns or in larger urban centers such as Denver, Los Angeles and Phoenix. The majority live on a 25,000 square mile reservation occupying the northeastern corner of Arizona and extending into parts of southern Utah and western New Mexico. The reservation is characterized by an arid climate and by the varied vegetation of the Colorado Plateau.

Navajo traditional culture involved pastoralism (primarily sheep and horses) from the 1800's well into the present. Living on scattered homesteads has been the norm for most of this century. The Navajo lifestyle has included an emphasis on the development of individual autonomy within the context of extended family units that can be counted on for assistance in time of need. Navajo philosophy embraces change wherever it can be incorporated into Navajo tradition. Consequently, the Navajo have modified both their language and their lifestyles through the generations in order to survive. In the recent past, the Navajo have adapted to the overall socioeconomic changes in the Southwestern United States by accepting new employment patterns and lifestyles, while continuing to maintain strong linguistic and cultural traditions. These economic changes have only marginally improved the socioeconomic condition of most Navajo. The isolation of the Navajo Nation, combined with high drop out rates and the need to travel off reservation for most employment opportunities, has severely restricted economic development for most tribal members. Unemployment rates on the reservation are extremely high at all times, and the overall level of income makes the area amongst the poorest in the United States.

The classic ethnographies of Kluckhohn and Leighton (1946) and Underhill (1956) offer comprehensive descriptions of the Navajo traditions, including historical sketches, notes on ceremonialism, language, and world view. Other literature covers specific facets of Navajo culture (e.g., Downs, 1972), a description of Navajo sheep herding (Reichard, 1974), treatise on religion (Witherspoon, 1975), and a detailed and extensive examinations of Navajo kinship and social structure (Lamphere, 1977). Correll's (1979) reexamination of Navajo history is noteworthy for its attempt to redress biases that have clouded European accounts of the

Navajo past. Overall, these works present a picture of a dynamic and adaptive traditional culture. While the Navajo have suffered from a long history of discrimination and neglect, their culture allows them to consistently succeed as an intact cultural group in the United States.

METHOD

Implementing a culturally appropriate substance abuse program for Navajo teenagers requires a culturally competent understanding of their health beliefs, their models of substance abuse, and their culturally distinct behaviors. The authors have thus created a multidisciplinary and multi-method approach for exploring substance abuse risks for Navajo teenagers on the western portion of the Navajo reservation. The core of our project¹ is an in-school intervention program conducted as a sequence of in-class curriculum sessions in the 8th grade, followed a year later by a class program in the 9th grade. The curriculum is designed to improve American Indian teenagers' knowledge of HIV and other risks related to alcohol, drug abuse, and unsafe sexual practices. It is also designed to improve the teenagers' skills in avoiding or reducing risky behavior and to improve their skills in communicating with family, elders and peers. While much of this curriculum is not directly related to inhalant use, the lessons learned can be directly applied to any school based prevention effort, including inhalants.

This article reports findings from baseline ethnographic research obtained during the start up phase of the project. The ethnographic research concentrated on investigating three general cultural domains that were central to the development of the project curriculum. These are: (1) Navajo cultural models of adolescent alcohol use, (2) models of Navajo adolescents' use of other substances for getting high, and (3) their emerging attitudes and beliefs about HIV infection and AIDS. The majority of the data were collected during the first year of a four year collaborative research project. The research approach combines baseline quantitative data collection with ethnographic interviews, observations, and advanced ethnographic methods.

The data reported in this article are derived from open-ended, semi-structured focus groups and key informant interviews, supplemented by other systematic ethnographic methods (e.g., free listings, pile sorts, sentence frame completion, etc.). During the first six months of the project we conducted a total of 14 focus groups: three with adolescent females in three different high schools, three with adolescent males at the same schools, and eight with adults (Indian Health Service Health Advisory

Board members, dorm counselors, teachers, and parents), in the communities where the project was conducted. Two of the schools where interviews were conducted were in small towns located on the Navajo Reservation. The other school was in a nearby border town. In all but one instance, the moderator for each of the 14 focus groups was a Navajo interviewer. Female moderators facilitated the all female groups, while male moderators facilitated the all male groups. One of the male teenage groups was moderated by a Hispanic male who has field work experience with Native Americans locally. Each focus group utilized 4 focal questions, supplemented by six to eight major probes for each primary question. We also used multiple minor probes to assure comparable coverage of information between groups. The focus groups averaged two hours in length. They have been transcribed verbatim for computer based ethnographic analysis.

The transcripts were initially created as WordPerfect files and converted to ASCII files. The textual files were analyzed with the assistance of TALLY 3.0, which is a text-based content and ethnographic analysis program. Names have not been used in this article to protect the confidentiality of our informants. The data were analyzed using a multi-level coding scheme which addressed cultural domains, content, and processes of interest to researchers (*a priori* codes), as well as content areas which were embedded in the text itself (cmic codes). Analysis and interpretation of the data from the transcripts were carried out collectively by the investigators with the help of community representatives. Subsequent analysis utilizing other software programs has allowed us to accomplish content analysis, domain and thematic evaluation, multidimensional scaling and cluster analysis of ethnographic data sets. These programs include CONCORD (a concordance program) and ANTHROPAC 4.0 (a data processing package for systematic ethnographic data analysis).

In addition to qualitative interviewing, the authors created free-listing exercises embedded in a questionnaire with open and closed-ended questions, which were administered just prior to the focus group interviews, or to representative groups at other times. The free-listing exercise uses questions that allow people to provide an unconstrained list of all the things that are important about a particular cultural domain (cf., Bernard, 1988; Weller & Romney, 1988). These questions act as a preliminary example of the types and content of the questions that will be addressed by the focus groups, and they provide an opportunity for privately expressing an opinion on the topic.

This technique permitted the use of questions that were specifically designed to elicit ideas, knowledge, and opinions about events while also protecting Navajo cultural values. This approach can also reduce the dis-

tress members of a group might feel about discussing intimate topics by giving them the opportunity to think about the questions in advance. It also allowed us to cross check some of the answers given privately with each individual's responses in the focus group session.

In order to create a comparative data base for the free listings from Navajo adolescents and adults, we conducted two sessions of free listings on "alcoholic beverages" and "things, other than alcohol, that people use to get high" with American Indian and Anglo² students from three introductory anthropology classes at Northern Arizona University. This data provided comparative data which allowed us to check the range and rank order of the free listings provided by the Navajo youth and adults.

The advantage of utilizing the American Indian college students as a comparative base is that they are living in the same sociocultural region, are fairly close in age to the Navajo teenagers, have similar access to alcohol and drug resources, and experience similar media exposure to alcohol, drugs and AIDS. As college students, they are older and have more education than the high school students, which may cause them to differ in terms of motivation, orientation toward success, educational expectations, and perhaps even family values. These variables, however, are not directly at issue in developing simple free listings on alcohol and drugs.

RESULTS

The results of our ethnographic interviews and free listings are organized into two sections: cultural themes relevant to prevention efforts and models of inhalant abuse.

General Cultural Themes

Our research objectives were predominantly action oriented; they were aimed at enhancing the project's curriculum content, producing evaluation instruments, and providing process evaluation information. We asked Navajo teenagers and adults to identify the cultural barriers or the resistance points that need to be overcome to change substance abuse problems. Their recommendations indicate that there are at least four primary cultural themes that confirm a need for a culturally sensitive approach to drug prevention efforts for Navajo adolescents. The first theme is *the high level of positive regard for individual autonomy expressed in Navajo culture*; the second is *the existence of a serious generation gap between Navajo*

youth and adults; the third is *a general respect for authority*, and the fourth is *the strength of cultural norms about modesty in relation to the discussion of intimate topics by Navajo*.

Autonomy. There is a strong Navajo cultural value to respect the autonomy of the individual. This is most commonly expressed in the comment that once someone has been given proper knowledge or information, then what that person does with the information is "up to them." Over the course of the focus group sessions this attitude manifested itself on a number of occasions and clearly effects the way in which inhalant abuse prevention and education must be approached. Navajo teenage boy commenting on intervention in an alcohol problem:

If I was trying to help a friend it depends up to him, if he wanted to stop he can stop. I can help. If he doesn't want to, his own choice. Can't do nothing about it.

Navajo teenage girl discussing preventing risks:

Well, um, . . . [you] can tell [them] about things, perhaps you could encourage them to get seen, but that would fall back on the individual themselves.

The Generation Gap. One of the purposes of the current project is to identify the proper channels of communication for prevention messages directed at youth and adults in Navajo communities. This is no simple task because the program deals with sensitive topics, especially sexual issues. Navajo youth, as a rule, have a great deal of respect for their elders and for knowledgeable authorities. It may be ironic that this respect can produce difficulty in communication about risky behavior or problems in school. When we asked, "What member in your family, your relatives, would you talk with the most about difficult subjects?" the teenagers replied that they would talk to their sisters, cousins and brothers more often than they would talk to anyone else. Another family member that was frequently mentioned was their aunt. This resistance to talking with most adults is similar to that found in other adolescent populations. A preference for seeking advice from siblings has been noted in many other studies. Navajo parents were occasionally asked for advice about intimate subjects such as sex, drugs, difficulties in school, or other teenage problems, but more commonly they were not approached.

I'm more comfortable talking with my sister about my personal stuff, and you're asking me who I'm not very comfortable with . . . ?

My mom. every time I ask her something she say "you're not grown up enough to ask that question." (Navajo Teenage Girl)

The following response is typical of the teenagers who have difficulty in communicating with their parents.

Some things are hard to tell your parents 'cause you never know what they could do to you. Some things they'll say, like if you tell them you have done this, just tried it, they'll get real mad. I've known some girls' parents are like that. (Navajo Teenage Girl)

While this generation gap persists, there is also a countervailing trend of keeping intimate conversations and details within the extended family.

Respect for Authority. Knowledge and experience are generally respected by Navajo teenagers. They respond to the authority of publicly acknowledged leaders (elders, physicians, teachers, etc.), at least in terms of the people they say that they would seek to advise them about drug abuse. The Navajo kinship pattern is a matrilineal descent system, in which membership in and identification with a particular clan is a very important social process, especially for the more traditional families. This means that the primary individuals who would be parent surrogates for drug abuse intervention and any type of family based prevention discussions, would normally be people who were a part of these extended family systems. The following exchange demonstrates that while parents are difficult to approach, there is a preference for talking with trusted seniors, especially within the extended family. When asked who the students could talk to, one replied:

Respondent: The one who understands when you talk to them. The one you're most like comfortable talking to. The one mostly you really get along with.

Interviewer: So does it matter on age?

Respondent: Yeah.

Interviewer: What age do you think you'd feel more comfortable with? Same age, or someone older?

Respondent: Someone older.

Modesty and Discussions of Sex or Other Intimacies. Among Navajo traditional people, intimate topics are not openly discussed. Adolescents

feel serious discomfort in talking about alcoholism, drug abuse and AIDS with their parents, especially if the parents are traditional. In addition, the results of our adult focus groups indicate that parents, even if they are health professionals, often have an equally difficult time discussing sexuality and AIDS with their children.

The focus groups and other interview methods all indicate that sex was the most difficult subject for individuals to discuss. Alcohol topics were easiest to approach, other drug topics a little harder, and sexual subjects the most difficult of all. Discussion of sex was avoided by both adults and teenagers, and by both males and females, with somewhat less reticence evident among the teenage girls. Every time we first mentioned the subject in focus group interviews, everyone stared at the floor and did not say anything for quite a while. Fortunately, our interviewers were able to develop sufficient rapport to eventually gain information in this area. The following interchange was similar to our overall experiences in exploring any subject that dealt with sexual activities:

Respondent: Teenagers, it's really hard for them to talk about drugs, sex and alcohol, bring it up with any parent or any adult.

Interviewer: Okay, let's say you want to talk about alcohol with your parent or your guardian. What makes it hard for you to talk about them?

Respondent: Too embarrassed.

In our adult focus groups there was overwhelming consensus that schools, not the parents and certainly not the traditional parents, were the proper forum for sex education. They felt that the parents simply could not overcome their modesty to discuss this subject effectively. In many cases, this recommendation extended to other intimate topics, such as substance abuse, family problems, school problems, and the like. This condition suggests that the traditional parents are not the appropriate target for recommendations for behavioral changes in at least some of these areas, contrary to the recommendations of the more conservative political elements in the United States.

Cultural Models of Substance Abuse by Navajo Adolescents

We divided our investigations of the teenager's exposure to substance abuse into two complimentary research foci. The first was an exploration of their knowledge, beliefs, and behaviors relating to alcohol use, and the

other was their cultural models of other types of substance abuse. This division overlaps with the Navajo teenager's own discussion of substance abuse problems but is also somewhat different from it. The teenagers discuss alcohol related problems as one clearly defined area of substance abuse and tended to lump the other types of abuse together. However, it is also clear from our analysis of the focus group, and other ethnographic data, that these adolescents sub-divide "other substance abuse" into illegal drugs and inhalants. They discuss inhalant abuse as a very important third category of substance abuse that is highly prevalent on the reservation.

Adolescent and Adult Views of Reservation Inhalant Use. Navajo adolescents experiment with a wide variety of substances that can make them "high." Our adolescent respondents mentioned more names for "drugs," and more types of substances that their peers used than types and brand names of alcoholic beverages. The free listing in Table 1 "drugs" was created by requesting our informants to list all of the drugs, except alcohol, used by Navajo youth. This exercise provides a good example of the prevalence of inhalants in the drug repertoire of these teenagers.

The importance of inhalants in the overall drug abuse exposure of Navajo teenagers is obvious from this listing. A total of 15 of the listed substances were inhalants (34.9% of the items listed). Equally important is that inhalants constitute more than 50 percent of the ten most frequently named substances, especially when three of the top ten are synonyms for marijuana (marijuana, pot, weed).³ Since a free listing produces the most salient items in a cultural domain, the common inhalants identified as being used by these students are petroleum products (gasoline and kerosene), glue, white out, nail polish, and paint products.

We collected a parallel free listing data set from the parents of some of the teenagers, as well as some of their teachers and local Navajo health officials (Table 2). This data set provides a complimentary view of substance abuse for Navajo youth. The results provide an interesting triangulation of the types of drugs that the teenagers are exposed to on the reservation. The results indicate that the adults see the prevalence of inhalant abuse in much the same way as the teenagers themselves.

The adult drug listing items include 37.0 percent—that are inhalants, including the top 5 items listed. The most commonly used substances in the two groups show significant overlap, with the most salient substances listed by adults being petroleum products, white out, glue, hair spray, and paint products.

We ran an additional comparison on the listings given by students who lived on the reservations and those that lived in nearby border towns

TABLE 1. Free Listing of Drugs Used by Navajo Teenage Respondents

| ITEM | | FREQUENCY | RESP PCT |
|--|-----------------------------|-----------|----------|
| 1 | MARIJUANA | 12 | 46 |
| 2 | COCAINE | 10 | 38 |
| 3 | GASOLINE | 7 | 27 |
| 4 | WEED | 5 | 19 |
| 5 | GLUE | 4 | 15 |
| 6 | NAIL POLISH | 4 | 15 |
| 7 | WHITE OUT | 3 | 12 |
| 8 | HAIR SPRAY | 3 | 12 |
| 9 | ALCOHOL | 3 | 12 |
| 10 | POT | 3 | 12 |
| 11 | DON'T KNOW | 3 | 12 |
| 12 | ACID | 2 | 8 |
| 13 | LSA | 2 | 8 |
| 14 | COKE | 2 | 8 |
| 15 | PILLS | 2 | 8 |
| 16 | ANGEL DUST | 2 | 8 |
| 17 | HEROIN | 2 | 8 |
| 18 | CRACK | 2 | 8 |
| 19 | CRYSTAL | 2 | 8 |
| 20 | CIGARETTES | 2 | 8 |
| 21 | KEROSENE | 2 | 8 |
| 22 | OIL | 2 | 8 |
| 23 | PAINT | 2 | 8 |
| 24 | RUBBER CEMENT | 2 | 8 |
| 25 | SPRAY PAINT | 1 | 4 |
| 26 | MAGIC MARKERS | 1 | 4 |
| 27 | UNDER ARM DEODORANT | 1 | 4 |
| 28 | SUPER GLUE | 1 | 4 |
| 29 | ANYTHING THAT SMELLS STRONG | 1 | 4 |
| 30 | SLEEPING PILLS | 1 | 4 |
| 31 | SPEED | 1 | 4 |
| 32 | SNIFF | 1 | 4 |
| 33 | ROACH | 1 | 4 |
| 34 | PEYOTE | 1 | 4 |
| 35 | DOWNERS | 1 | 4 |
| 36 | SKOAL | 1 | 4 |
| 37 | HALLUCINOGENS | 1 | 4 |
| 38 | PCP | 1 | 4 |
| 39 | GRASS | 1 | 4 |
| 40 | TOBACCO | 1 | 4 |
| 41 | RUBBING ALCOHOL | 1 | 4 |
| 42 | DRUGS | 1 | 4 |
| 43 | UPPERS | 1 | 4 |
| Total mentions; mentions per respondent N = 26 (12 male, 14 female) | | 102 | 3.92 |

TABLE 2. Free Listing of Drugs Used by Navajo Adolescents According to Navajo Adult Respondents

| ITEM | | FREQUENCY | RESP PCT |
|--|-----------------|-----------|-------------|
| 1 | WHITE OUT | 7 | 41 |
| 2 | PAINTS | 6 | 35 |
| 3 | HAIR SPRAY | 4 | 24 |
| 4 | GASOLINE | 4 | 24 |
| 5 | GLUE | 4 | 24 |
| 6 | NO RESPONSE | 3 | 18 |
| 7 | NAIL POLISH | 3 | 18 |
| 8 | MAGIC MARKER | 3 | 18 |
| 9 | COCAINE | 2 | 12 |
| 10 | MARIJUANA | 2 | 12 |
| 11 | SPRAY PAINT | 2 | 12 |
| 12 | DON'T KNOW | 2 | 12 |
| 13 | HEROIN | 1 | 6 |
| 14 | CODEINE | 1 | 6 |
| 15 | COKE | 1 | 6 |
| 16 | WEED | 1 | 6 |
| 17 | INK | 1 | 6 |
| 18 | CIGARETTE | 1 | 6 |
| 19 | TOBACCO | 1 | 6 |
| 20 | SCOUT | 1 | 6 |
| 21 | LOVEWEAKER | 1 | 6 |
| 22 | COUGH SYRUP | 1 | 6 |
| 23 | NONE | 1 | 6 |
| 24 | POT | 1 | 6 |
| 25 | MOUTHWASH | 1 | 6 |
| 26 | RUBBING ALCOHOL | 1 | 6 |
| 27 | CROP OUTS | 1 | 6 |
| Mentions; mentions per respondent | | 57 | 3.35 |
| N = 17 (males = 6, females = 11) | | | |

(comparing the two reservation schools with the border town school). There were no significant differences in terms of the types of drugs listed when comparing the border town students with the adolescents from reservation schools. We originally hypothesized that greater availability of illegal drugs in the border towns might have an effect on the most frequently mentioned items (assuming a greater variety of drugs being available, and more being known in the border towns), which could result in a differential in the number of responses per student and the total variety of responses by location. This hypothesized differential was not supported by the data.

Comparative Data from College Students. We collected a parallel data set from Navajo college students, using the free listing technique (Table 3).

However, through a serendipitous mistake, the question we used with the college students was, "please name all of the things, except alcohol, you know of that people use to get high," as opposed to the question we used with the school students, which was "please name all of the drugs, except alcohol, that people use to get high."

The Navajo college student free listings provide several contrasts with the high school data. There appears to be a significant increase in these students' awareness of the different things that make people high. They provide an average of almost 12 items in each of their lists, compared with an average of about 4 items per respondent in the high school students' lists. The importance of inhalants is diminished in this group, representing only 20.5 percent of the total items mentioned, although some new items, such as Xerox correction fluid and finger nail polish remover, are added to the overall list. The college student list has only 3 inhalants in the top ten listings as opposed to the higher percentage for the high school students and the adults. The listings from the Anglo college students, not presented here, list even fewer inhalants and, as one consistent cross-cultural difference, include frequent mention of nitrous oxide, laughing gas (from whipping cream cartridges), which is missing from all of the American Indian free-listings.

At least some of these differences were probably produced by the different wording in the basic question for the free listing task. Due to the more generic wording, the college version of the question produced a list of behaviors, in addition to substances, as ways of getting high. These behaviors include sex, exercise, thrill seeking, and mystic experiences, some of which could be considered as possible positive alternatives to inhalants and dings. They represent 22.9 percent of the total items listed. Without their inclusion (assuming the same lists minus these behaviors), inhalants would have accounted for 26.4 percent of the listings, which is lower than but closer to the percentages suggested by the high school students.

The change in wording was accidental, resulting from a need to immediately get a scan of drugs being used, but the difference in responses is salient from two perspectives. First, the broader wording provides a more comprehensive and realistic inventory of the risks that are found in this community. Second, it includes some conditions that do not necessarily have socially negative consequences. One notable gender difference in this data is that more females than males provided the non-drug behavioral responses in the college student free listings. We are following up on the implications of their answers.

This list also includes several examples of Navajo humor as exemplified by the answers "elevators" and "flying," as things that get a person high. This type of joking and putting-on has been common throughout our

TABLE 3. Free Listing of All Things People Use to Get High, Except Alcohol by American Indian College Students

| ITEM | | FREQUENCY | RESP PCT |
|------|----------------------------|-----------|----------|
| 1 | PEYOTE | 10 | 59 |
| 2 | CRACK | 10 | 59 |
| 3 | COCAINE | 10 | 59 |
| 4 | MARIJUANA | 9 | 53 |
| 5 | GLUE | 9 | 53 |
| 6 | ACID | 8 | 47 |
| 7 | GASOLINE | 8 | 47 |
| 8 | COKE | 7 | 41 |
| 9 | PAINT | 7 | 41 |
| 10 | HEROIN | 6 | 35 |
| 11 | LSD | 5 | 29 |
| 12 | CIGARETTES | 5 | 29 |
| 13 | SPEED | 5 | 29 |
| 14 | POT | 5 | 29 |
| 15 | MUSHROOMS | 4 | 24 |
| 16 | WEED | 4 | 24 |
| 17 | SEX | 4 | 24 |
| 18 | HAIR SPRAY | 3 | 18 |
| 19 | PCP | 3 | 18 |
| 20 | PAINT THINNER | 3 | 18 |
| 21 | WHITE OUT | 3 | 18 |
| 22 | CAFFEINE | 3 | 18 |
| 23 | DOWNERS | 3 | 18 |
| 24 | UPPERS | 3 | 18 |
| 25 | OVER THE COUNTER DRUGS | 2 | 12 |
| 26 | SPRAY PAINT | 2 | 12 |
| 27 | PAINT AND SOCKS | 2 | 12 |
| 28 | ANGEL DUST | 2 | 12 |
| 29 | HASH | 2 | 12 |
| 30 | LISTERINE | 2 | 12 |
| 31 | CRYSTAL | 1 | 6 |
| 32 | STIMULANTS | 1 | 6 |
| 33 | ORAL MEDICATION | 1 | 6 |
| 34 | PRESCRIPTION DRUGS | 1 | 6 |
| 35 | HALLUCINOGENS | 1 | 6 |
| 36 | JOINT | 1 | 6 |
| 37 | FINGER NAIL POLISH REMOVER | 1 | 6 |
| 38 | XEROX CORRECTION FLUID | 1 | 6 |
| 39 | NATURAL HIGH | 1 | 6 |
| 40 | DOPE | 1 | 6 |
| 41 | TOBACCO | 1 | 6 |
| 42 | MONEY | 1 | 6 |
| 43 | SPRAYS | 1 | 6 |
| 44 | ELEVATOR | 1 | 6 |
| 45 | FLYING | 1 | 6 |
| 46 | BIRTH OF BABY | 1 | 6 |
| 47 | SKY DIVING | 1 | 6 |
| 48 | ANYTHING THRILLING | 1 | 6 |

| ITEM | | FREQUENCY | RESP PCT |
|---|-----------------------|-----------|----------|
| 49 | ANYTHING DARING | 1 | 6 |
| 50 | CLEANING PRODUCTS | 1 | 6 |
| 51 | AA MEETINGS | 1 | 6 |
| 52 | COMBINATIONS | 1 | 6 |
| 53 | ICE | 1 | 6 |
| 54 | JOY RIDING | 1 | 6 |
| 55 | CAR RACING | 1 | 6 |
| 56 | ASPIRIN | 1 | 6 |
| 57 | INDULGING IN FOOD | 1 | 6 |
| 58 | IV DRUGS | 1 | 6 |
| 59 | SHAVING LOTION | 1 | 6 |
| 60 | SHERM SMOKED WITH PCP | 1 | 6 |
| 61 | DEPRESSANTS | 1 | 6 |
| 62 | COOL BREEZE | 1 | 6 |
| 63 | HANG UPSIDE DOWN | 1 | 6 |
| 64 | SELF SATISFACTION | 1 | 6 |
| 65 | DRUGS | 1 | 6 |
| 66 | NAIL POLISH | 1 | 6 |
| 67 | EXERCISE | 1 | 6 |
| 68 | QUAALUDES | 1 | 6 |
| 69 | FREEBASE | 1 | 6 |
| 70 | MUSIC | 1 | 6 |
| 71 | JOGGING | 1 | 6 |
| 72 | OPIUM | 1 | 6 |
| 73 | KEROSENE | 1 | 6 |
| 74 | TOBACCO JUICE | 1 | 6 |
| 75 | RUBBER CEMENT | 1 | 6 |
| 76 | SELF RIGHTEOUSNESS | 1 | 6 |
| 77 | PILLS | 1 | 6 |
| 78 | ECSTASY | 1 | 6 |
| 79 | AEROSOL SPRAY CAN | 1 | 6 |
| 80 | PURE VANILLA | 1 | 6 |
| 81 | SOBRIETY | 1 | 6 |
| 82 | ANYTHING TOXIC | 1 | 6 |
| 83 | INHALANTS | 1 | 6 |
| Total mentions; mentions per respondent | | 202 | 11.882 |
| N = 17 (2 male, 15 female) | | | |

interviews, and it is an important element in the relationship between the teenagers and anyone who wants to have effective interactions with them. It is a reminder that it is important to keep one's sense of humor when providing educational materials to any group of teenagers, and to Navajo teenagers in particular.

Focus Group Data on Other Substance Use and Abuse

We discovered three basic elements in a Navajo teenage cultural model of inhalant abuse which can be presented through the excerpts from focus

group transcripts created by our questions to Navajo teenagers. We explored the types of drugs in use, the reasons for their use, and the consequences of use as seen by adolescents. All of these issues were relevant to developing our prevention programs. We felt it was important to allow the teenagers to tell us which factors were present on the Navajo reservation and what the level of importance for each factor was, from their perspective instead of ours.

Kinds of Drugs in Use on the Reservation. Our focus group interviews produced a very long list of drugs in use, which closely parallel the data from our separate free listing data collection. The following is a summary listing created by one of the teenage focus groups when they were asked to name all of the drugs in use in their schools and communities:

Alcohol, marijuana, pills, inhalants, glue, hash, acid, ice, spray can, gasoline, white out, nail polish, listcrine, speed, dope, weeds, peyotc, heroin, PCP, LSD, uppers, downers, angel dust, homemade drugs, inhalants, mouthwash, speedballs, rubber cement, spray paint, lysol, crack crystal, hair spray, nitrous oxide, anything that has alcohol in it.

Inhalants, once again, are among the most commonly listed drugs that students use to get high, representing 28.6 percent of the items in this consensual list. The others break down into alcohol abuse (alcohol, listerine, mouthwash, and anything that has alcohol in it) and illicit drugs. Older teenagers attribute the highest use of inhalants to the younger teens. There is an incredible variety of inhalants available, most of which are everyday household items. Inhalant abuse ranges from putting gasoline or spray paint in milk cartons and closing the top of the carton around your mouth and nose to inhaling spray paint that is imbedded in socks. When asked about people using some of these household intoxicants, we received the following information during our focus group interviews.

Navajo male on spray paint:

Yeah. He had one of those, and he put some of that spray paint in that carton of milk and he was getting high on it.

It also appears that inhalant use can sometimes be combined with drinking items from the aerosols, after sniffing them. The liquid left over after the propellant is gone may contain alcohol or another intoxicant.

Navajo female on drinking hair spray:

And now the people on the Res are starting to drink hair spray. They poke the bottom of it, I saw a couple of friends in (reservation town),

and you poke the bottom of it and the air all inflates out and then they take the top off. I don't know how they took it off. And they just drank [sic] it. They took, like, 5 bottles of Aquanet. In an hour they all passed out.

One difference that we encountered regarding the use of inhalants, as compared to alcohol use, and to some extent drug use, is that the teenagers had very definite negative views of the "sniffers" compared with other users. They were considered to look and even smell different than the other kids. Their eyes were kind of "crazy" or weird looking, and they often were thought to have physical evidence of abuse such as paint around their nose or mouth, or the distinct smell of gasoline on their clothes. If there is a hierarchy of drug users among Navajo teenagers, the ones who do inhalants regularly are thought to be at the bottom of the social ladder. For prevention efforts, this means that these individuals tend to be marginalized and consequently are harder to reach, may be less effected by changing the norms of their peer group, and may have far less social support and reason to change their behavior than other teenagers.

Reasons for Using Drugs. The reasons the teenagers gave for using drugs did not differ significantly when they were talking specifically about inhalants as 'opposed to other types of drugs. The most common reasons were to stay with their friends, because of curiosity, to escape unhappiness or harsh realities, to get high and forget problems, and to feel good. One teenager gave the following example that includes these reasons:

They probably like how they feel when they're high, like, all laughing and giggling. I have a friend who does that, when she gets high all I hear is laughing and giggling. I guess they like how they feel.

The teenagers also talked of doing drugs because of older relatives, especially siblings, doing them, and of wanting to stay in a particular group of friends. They also commonly added "being cool" as one of the reasons for doing drugs.

Urn. You do it just to feel good and be cool, and once you do the drugs you get addicted.

The Consequences of Drug Use. The teenagers recognize that there are serious consequences for substance abuse. When we asked if people were more likely to do dangerous or risky things while they are high, the students not only came up with types of things that people do, they gave specific examples from their own family and friends. Some of the things

they mentioned included jumping from cliffs, crashing a car, suicide, killing relatives while they were high, other forms of interpersonal violence, and acting crazy. They also included accidents in their list. One teenager told the story of a younger sister who was into gasoline sniffing. She would walk around with her nose in a milk carton, to stay high. One day she walked out into a road and was killed by a passing car. Virtually everyone else in the focus group could recount a similar story about a relative or someone they knew, with the inhalant varying from paint to kerosene to glue. Not everyone was killed in these stories, but all of them suffered serious accidents. Yet, while they recognize the consequences of inhalant and other drug use, many still become involved with this type of risk.

CONCLUSIONS

We have begun to describe the model of adolescent inhalant abuse that is present on the Western Agency of the Navajo Nation. These teenagers have a somewhat differing but overlapping cultural model of substance abuse when compared with Anglo American teenagers. The responses of the Navajo teenagers are similar to other adolescents in such issues as having difficulty in talking with parents and their response to peer pressure (c.f., Chilman, 1983; Offer, 1986; and Hayes, 1987). Navajo teenagers' responses differ in other ways, however, especially concerning the importance of the autonomy of the individual, the importance of inhalants as drugs, the importance of the extended family in determining positive and negative behaviors, and trouble talking about sex due to specific Navajo cultural prohibitions. The Navajo inhalant abuse model includes a realistic view of the processes and consequences of inhalant use, coupled with a continuation of deleterious consumption patterns for some youth.

The cultural information provided by Navajo youth and adults has been incorporated into our in-school prevention program. This includes recognition of the importance of individual autonomy as well as the extended family in Navajo tradition and modern life. The research has also pointed out the importance of incorporating Navajo traditional beliefs and values in the revised curriculum. We feel that school-based prevention programs can become more powerful if they are effectively linked with family practices and values that are familiar and culturally congruent for the students. These beliefs and practices include using appropriate communication channels incorporating both positive and negative modeling from parents, siblings, and extended family members.

The risk prevention package for school-aged youth combines the follow-

ing components which are adapted for cultural appropriateness: (1) teen-parent/parent-surrogate communications to encourage preventive attitudes in extended family contexts, (2) community-directed communication to adults, tribal elders and opinion leaders for acceptance of prevention programs, (3) educational curricula for school contexts, and (4) social skill training for peer contexts. Some of the social skill training is generic and would be appropriate for any teenage population. It emphasizes self-efficacy by providing opportunities for students to observe others effectively responding to pressure situations and by reinforcing resistance skills through role playing exercises.

This entire process of "localizing" prevention efforts through the type of research effort presented in this paper, combined with applicable psychosocial and cultural theories, appears to be highly desirable. Our evaluation strategies indicate that this type of intervention is successful in increasing the level of knowledge about risks and reducing risk-taking behavior among Navajo teenagers on the reservation.

NOTES

1. The project from which the data was partially derived, the Native American Prevention Project of AIDS and Substance Abuse (NAPPSASA), funded by and NIAAA grant R01-AA08578 (J. Rolf and C. Alexander, P.I.'s) is a preventive intervention study involving school and community programs. It is designed to reduce the future incidents of HIV infection, alcoholism and drug abuse in American Indian adolescents. The project's prevention programs are being developed and evaluated by combining culturally sensitive, qualitative and quantitative research methods applied by a consortium of persons from Johns Hopkins University Department of Maternal and Child Health and Northern Arizona University's Department of Anthropology, in cooperation with Navajo experts from public schools and community organizations. Following common anthropological ethical guidelines, the schools, community organizations and individuals are not being identified, to protect the confidentiality preferences of our informants. However, it should be noted that this project was conducted on the Western Agency of the Navajo Nation and that the results should not be taken as necessarily representative of the Navajo Nation as a whole, since there are well-documented linguistic, cultural, social and economic variation between regions of the Navajo Nation.

2. We are using the term "Anglo" congruently with the Southwestern U.S. practice of labeling people Anglo if they are members of the dominant U.S. cultural system and are not Hispanic, American Indian, African American or Asian.

3. The synonyms found in the free listing exercise (e.g., marijuana, pot, roach and weed) have been deliberately combined into a single category. They have been kept separate where the same respondent provided more than one label for the substances being used and where combining them would give a false impres-

sion of the percentage of informants who mentioned a particular substance. We also felt that it was important to keep the full range of variation in the listing in order to identify the regional linguistic variation in the names of these substances. These variants can then be used in localizing prevention and education efforts, using the adolescents' own terminology for these substances.

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