# THE CHANGING PATTERNS OF DRUG USE AMONG AMERICAN INDIAN STUDENTS OVER THE PAST THIRTY YEARS

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*Abstract: Drug use among American Indian (AI) youth continues at higher levels than those found among other youth. While the rates are higher, the patterns of increases and decreases over the past 30-year period have been similar, indicating that AI youth are part of the larger adolescent culture. There is a set of secular influences that affect the rates of drug use in both groups in the same manner. The major implication of these findings is that effective interventions in non-AI groups may also be effective among AI adolescents. Intervention activities, however, must be adapted to be culturally congruent. Despite rising concern over methamphetamine use on reservations, the data presented here indicate that, with the exception of two points in time, the rates have not increased substantially for AI youth who remain in school. School dropouts and young adults/adults may be more vulnerable to the abuse of methamphetamines and the rates of use may be higher in these groups.*

## INTRODUCTION

Over the past three decades, the authors have been following the trends in drug use among American Indian (AI) youth living on reservations in the U.S. (Goldstein, Oetting, Edwards & Garcia-Mason, 1979; Beauvais, Oetting, & Edwards,1985; Beauvais, Oetting, Wolf & Edwards,1989; Beauvais,1996; Beauvais, Jumper-Thurman, Helm, Plested & Burnside, 2004). In that period of time, we have been able to discern

distinct patterns of increases and decreases in drug use that have proven to be very similar to those seen among non-AI youth. Our methodology parallels that of the Monitoring the Future project conducted among non-AI youth across the country, thus providing us the opportunity to make comparisons with a national sample (Johnston, O'Malley, Bachman & Schulenberg, 2007). At the broadest level, we have been able to conclude that the trends in use of a variety of drugs are highly similar between AI and non-AI youth with corresponding increases and decreases across time. At our last reporting it was clear that both AI and non-AI youth experienced a general increase in drug use through the 1990s, with a possible leveling off and perhaps a drop for non-AI youth (Beauvais et al., 2004). What was not clear at that time was whether or not the pattern of leveling off, and possible decreases found in non-AI youth, would be mirrored by AI youth. We can now present data to clarify that point.

## METHOD

Each year anonymous surveys are administered to AI youth attending reservation or near-reservation schools. The sample is selected to represent the major AI language and cultural groups in the U.S. The sample sizes per year are noted in Table 1 (The sample sizes are different from year to year depending on the size of tribes surveyed). It is recognized that there may be some variation in drug use rates from tribe to tribe, but in our past work this variation has not proven to be substantial. In order to provide stable samples, data are aggregated and reported over two to three years depending on the size of the yearly samples. After tribal and school approval is obtained, the schools are provided with copies of the survey for administration in a normal classroom period by the teacher. Parents are given the opportunity to remove their child from the survey administration. They are notified by first-class mail of the survey date and they can decline to have their child participate by signing and returning the form, or they may call the school or stop by the school to decline. Additionally, the school survey is announced in at least one local media outlet. Students are also given the opportunity to decline participation or to not respond to any questions with which they are uncomfortable. This study was approved by the Colorado State University Institutional Review Board.

The survey that is used contains drug use items as well as a wide variety of psychosocial items related to drug use (The American Drug and Alcohol Survey ™). This survey has been refined for use with AI youth

over the course of this project, and has been shown to have excellent psychometric properties (Oetting & Beauvais, 1990).

For the purposes of this article we will report the trends in lifetime use for a series of drugs. (Other prevalence measures, such as last year and last 30 days, generally rise or fall in concordance with lifetime prevalence.) The question yielding this data is of the form "Have you ever tried_____?" Lifetime prevalence is a very general measure of drug use and does not provide information on frequency or intensity of use. It is, however, a good measure of exposure to drugs in a population and is sensitive enough to provide an estimate of the levels of this exposure over time. The question is not complex and has essentially the same meaning at any point in time. Street names are often used to provide examples of the classes of drugs, and these are periodically changed to correspond to street nomenclature. The basic questions, however, remain unaltered over time.

## RESULTS AND DISCUSSION

Figure 1 uses the lifetime marijuana data to illustrate the general correspondence of drug use patterns for both AI and non-AI youth over time. The figure makes two important points. First, it is clear that AI youth have been using marijuana at higher rates than non-AI youth since 1980. This pattern has been found to be generally true for other drugs (Beauvais et al., 2004). Note that the AI data in Figure 1 are for 7$^{th}$-12$^{th}$ graders combined, while the non-AI data are for 12$^{th}$ graders only, (Technical problems prevent desegregation of the AI data by grade prior to 1993.) The data for non-AI youth are from the Monitoring the Future study (Johnston et al., 2007). Even though the AI youth are a younger group on average, their use of marijuana is still quite a bit higher (with the exception of 1980, the differences in rates are statistically significant; $p<.05$). Second, it is clear that the trends over time are highly similar, indicating that whatever the conditions are that shape marijuana use at any particular time, they are affecting both AI and non-AI youth similarly. One factor that has been shown to be related to shifts in marijuana and other drug use over time is the perceived risk of harm from use of a drug. The Monitoring the Future project has shown convincingly that, as young people perceive marijuana as being more harmful, their level of use declines (Johnston et al., 2007). Conversely, as perceived risk declines, use increases. There is no single explanation for the changes in perceived risk, although Johnston (1991) discusses a number of societal forces that may influence it.

**Figure 1**
**Percent of Indian and Non-Indian Youth who have Ever Used Marijuana**

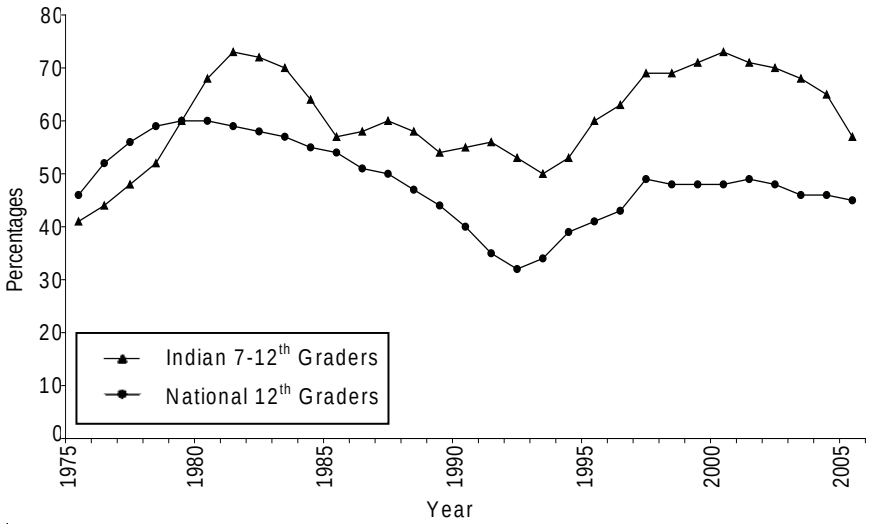



Table 1 provides the long-term patterns for other drugs. For simplicity, comparison with non-AI data are not presented, although, as mentioned above, the rates for AI youth have been generally shown to be higher. Inspection of these figures shows a mixed pattern. We have already noted the decrease in marijuana exposure (Figure1). Stimulants, sedatives, PCP and psychedelics are showing similar decreases. The use of alcohol and "getting drunk" fluctuate somewhat from year to year, but remain at basically the same level over time.

**Table 1**
**Lifetime Prevalence of Drug Use for Indian 7th-12th Graders**

| | 1975 n = 1235 | 1977/79 n = 3105 | 1980/82 n = 2159 | 1982/84 n = 1411 | 1984/86 n = 1510 | 1986/88 n = 2683 | 1988/90 n = 5300 |
|---|---|---|---|---|---|---|---|
| Any alcohol | 76 | 79* | 85* | 81** | 79 | 81 | 75** |
| Alcohol intoxication[a] | - | - | - | - | 46 | 49 | 55** |
| Marijuana | 41 | 53** | 74** | 70** | 57** | 61* | 55** |
| Inhalants | 16 | 26** | 30* | 31 | 21** | 24* | 24 |
| Cocaine | 6 | 7 | 11** | 6** | 7 | 8 | 9 |
| Stimulants[b] | 10 | 15** | 24** | 22 | 21 | 25** | 17** |
| Legal stimulants | - | - | - | - | 14 | 15 | 13* |
| Sedatives | 6 | 10** | 9 | 7* | 10** | 11 | 7** |
| Heroin | 3 | 4 | 5 | 2** | 5** | 5 | 4* |
| Psychedelics | 7 | 9* | 9 | 6** | 9** | 10 | 13** |
| Tranquilizers[a,b] | - | 9 | 6** | 3** | 7** | 7 | 3* |
| PCP | - | - | - | - | 10 | 10 | 7* |
| Cigarettes[a] | - | - | - | - | 79 | 78 | 71** |
| Smokeless tobacco[b] | - | - | - | - | - | 58 | 56 |

**Table 1, Continued**

| | 1990/92 n = 1710 | 1992/94 n = 2096 | 1996/98 n = 1848 | 1998/00 n = 2331 | 2001/02 n = 1520 | 2003/04 n = 1733 | 2005/06 n = 1720 |
|---|---|---|---|---|---|---|---|
| Any alcohol | 75 | 68** | 68 | 77** | 68** | 61** | 76** |
| Alcohol intoxication[a] | 62** | 51** | 52 | 61** | 52** | 45** | 54** |
| Marijuana | 56 | 50** | 69** | 75** | 70** | 65** | 57** |
| Inhalants | 25 | 21** | 15** | 23** | 16** | 11** | 14** |
| Cocaine | 12** | 9** | 13** | 14 | 12 | 17** | 9** |
| Stimulants[b] | 18 | 13** | 18** | 17 | 10** | 6** | 7 |
| Legal stimulants | 15* | 14 | 18** | 19 | 13** | 8** | 10* |
| Sedatives | 6 | 4** | 5 | 5 | 6 | 4** | 5 |
| Heroin | 3 | 3 | 4 | 3* | 4 | 3 | 3 |
| Psychedelics | 22** | 19* | 21 | 22 | 14** | 14 | 7** |
| Tranquilizers[a,b] | 2* | 2 | 2 | 3* | 2 | 2 | 4 |
| PCP | 3** | 3 | 5** | 4 | 4 | 3 | 2 |
| Cigarettes[a] | 74* | 71* | 76** | 79* | 70** | 63** | 56** |
| Smokeless tobacco[b] | 52** | 45** | 39** | 40 | 33** | 25** | 36** |

[a]Data not available for earlier years
[b]Only illicit, or nonprescribed, use is included
*$p < .05$; **$p < .01$ (A difference in proportion test was used to compare each data point with the previous year)

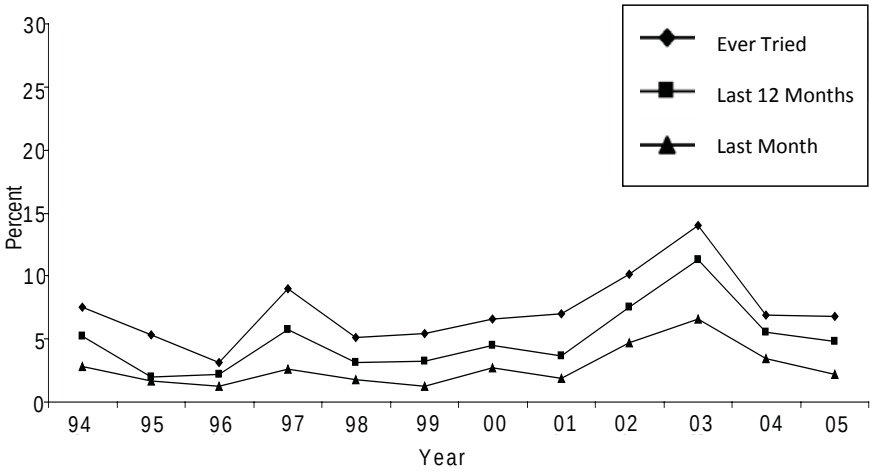
With the exception of brief spikes in 1999 and 2006, use of inhalants has been on a persistent downward trend since 1985. This is a significant finding. As we have reported elsewhere, inhalants have always been seen as particularly troublesome drugs for AI communities, but they are now used at levels comparable to those in non-AI communities (Beauvais et al., 2004). This is an important finding because we believe that the reductions in inhalant use among AI youth came as a result of concerted efforts at prevention in AI communities. It has been our observation that these communities were well aware that they had a serious inhalant problem and took strong measures to counteract it. Over the past two decades there have been numerous conferences devoted specifically to AI adolescent inhalant use, as well as national and regional training sessions providing information for counselors and community members about inhalant abuse treatment and prevention. Despite our finding that inhalant use is declining, there continues to be a belief that AI youth are at higher risk than non-AI youth. It may take time to overcome this belief.

Cocaine use is down significantly over the past several years, but it will take more data to see if this trend continues. Tobacco use (both smoking and smokeless) is down significantly over the period of time we have included it on the survey. Note, however, the spike in 1999 that seems to parallel the higher use in that period for other drugs. We have noted elsewhere that not only are there declines in lifetime prevalence for tobacco use, but that daily levels of use have dropped by nearly half for AI youth, similar to what is found in Monitoring the Future study (Beauvais, Jumper-Thurman, Burnside, & Plested, 2007; Johnston et al., 2007).

## Methamphetamines

Recently there has been rising concern over methamphetamine use in AI communities. One national survey reports that AIs and Alaska Natives have the highest rates of use among all ethnic groups in the U.S. (Kronk & Thompson, 2007). Further, data from the Indian Health Service records (National Drug Intelligence Center, 2008) show a 60% increase in treatment admissions for methamphetamine abuse between 2001 and 2007. Figure 2 shows lifetime, annual, and past 30-day prevalence rates for AI 7$^{th}$-12$^{th}$ graders for methamphetamine use since 1994.

**Figure 2**
**Percent of Indian Youth who have Ever Used Methamphetamines**




With the exception of two spikes in use, one in 1997 and the other in 2002/2003, the rates of use of methamphetamines remain essentially unchanged. This is in sharp contrast to what other surveys have found and to anecdotal reports from clinicians in the field who indicate that methamphetamine use is increasing and becoming extremely problematic in AI communities. It must be remembered, however, that these data are from AI youth who have remained in school. It is quite possible that rates of methamphetamine use have increased among school dropouts. Another possibility, corroborated by field personnel, is that methamphetamine use is more of a young adult/adult problem and has not penetrated down to the school level. It will take further data collection to see if use will spread to in-school youth. There is no immediate explanation for the spikes in use, although they could well be related to major influxes on the reservations we surveyed in those years. While the distribution patterns of methamphetamines on reservations are not well understood, it is likely that methamphetamines come from off-reservation areas and are subject to very volatile availability and "marketing" patterns.

## Limitations

There has been concern in the literature that self-report of negative behaviors on school-administered surveys can be inaccurate, leading to underreporting. Johnston and O'Malley (1985) discussed this issue in some detail and concluded that when confidentiality is assured, both at the school level and during the research process, students will respond with reasonable accuracy. Furthermore, there is internal consistency between reported drug use and other psychosocial variables. For instance, students who report higher drug use will report that they have more friends who use drugs and that their friends encourage them to use drugs. Due to the complex demographic nature of AI reservations and communities, it is difficult to ensure a representative sample of AI youth. We do attempt, every year, to include locations with varying linguistic, cultural, and demographic characteristics. A further possible limitation is that, because we report data that are aggregated across locations, it is not possible to discuss possible differences between schools, communities, or reservations. However, when we have disaggregated the data in the past we have found only minor variation. Finally, these data are from reservation AI youth and are not generalizable to AI youth who are living in off-reservation communities. (There are various estimates, but approximately one-half of AI youth are living in non-reservation communities.)

## Conclusions

The similarity in drug use patterns between AI and non-AI youth has important implications for drug abuse prevention with AI youth. It would appear that, to a large extent, AI youth are responding to influences in their environments in ways that are similar to those of non-AI youth. Most prevention programs are designed either to change these environments or to change the ways in which youth respond to them. Rather than design wholly new prevention programs for AI youth, it would seem reasonable to identify programs that have been proven to be effective with non-AI youth and to modify them for use with AI youth. For instance, Hawkins, Cummins and Marlatt (2004) discuss in some detail the validated concepts that have been included in effective prevention programs. They then describe a prevention program, "Journeys of the Circle," which overlays these concepts on a culturally congruent metaphor of the canoe journey, which is a journey of life requiring adherence to certain traditional ways of believing and behaving. The emphasis is

on abstinence from drugs and alcohol. This approach allows for the combining of adolescent development with a cultural base that will not only take advantage of the strengths of the culture, but will make the program more acceptable in the community.

Tracking trends in drug use is also important to help target certain drugs that are shown to be of particular concern to communities. For example, the data have shown that marijuana is a particular target for AI adolescents and needs strong attention in prevention programs. Future research should address the reasons why marijuana has become nearly normative among AI youth. Conversely, while vigilance must be maintained through future surveying, methamphetamines have not yet become a serious problem among AI adolescents, and intervention needs to focus instead on young adults and adults. Continued surveillance may reveal other patterns requiring attention.

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## Authors' Note

This research was supported by a grant from the National Institute on Drug Abuse of the National Institutes of Health (#R01 DA03371).