

# Culture and Tobacco Among American Indian Adolescents



**Final Report  
November 2009**



University of Southern California



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Urban and Rural California Schools

Urban Youth Programs

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# Culture and Tobacco Among American Indian Adolescents: Final Report

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## Tobacco and American Indian Youth

American Indian (AI) adolescents have a higher smoking prevalence than any other ethnic or racial group in the U.S. According to the National Survey on Drug Use and Health from 2006 and 2007, on average 17.3% of American Indian adolescents ages 12-17 reported cigarette smoking in the past month, compared with 12.3% of Whites, 7.5% of Hispanics, 6.1% of Blacks, and 4.3% of Asians. Efforts to reduce these rates should be continued and supported with tobacco prevention, interventions, and cessation programs.



### What can we do about the problem of commercial tobacco use among AI youth?

One potential way to help curb the high rates of smoking among AI adolescents is to develop interventions and policies that are designed specifically to address the needs of Native youth. Many anti-tobacco media messages may not resonate with AI youth because of the traditional or sacred role of tobacco in many AI cultures; many youth know to respect tobacco and understand the positive ways in which it is used. Therefore, it is especially important to be cognizant of the sacred role of tobacco in many traditional AI cultures and to develop tobacco prevention messages that help preserve traditional ways while preventing harmful effects of recreational tobacco use. It is also important to understand youth's knowledge of traditional tobacco and incorporate this information into educational messages for our youth.



### How are we trying to address the problem of commercial tobacco use among AI youth?

To take on Native-specific tobacco cessation and prevention efforts, including funding and program development, our team developed a survey study entitled "Culture and Tobacco Among American Indian Adolescents" to assess AI youth's feelings, attitudes, and use of tobacco. The study was informed by input from Native youth during focus groups and with direction from an advisory committee that included six members - two each from northern, central, and southern California. We also collaborated with several consultants to develop a comprehensive tobacco survey. The survey encompassed smoking behavior, quitting smoking, participation in cultural activities, knowledge of ceremonial or traditional tobacco, historical trauma, smoking behavior of friends and families, feelings about culture, and other topics.

### Pilot Tested Survey Instrument

In 2007, the questionnaire was pilot tested with 100 AI youth at seven different urban and rural locations throughout California. Students who participated in this phase were asked about their reactions to the survey, and their comments were subsequently incorporated in the final draft.

### What can we do about the problem of commercial tobacco use among AI youth?

In 2008, we conducted the final survey with over 1000 youth across several American Indian Education Centers, other American Indian organizations, cultural events, and schools. We strove to reach both urban and rural communities, and those living on and off reservations. In total we visited over 40 different locations, from campsites to pow wows to high schools, in an effort to gather representative data and work towards identifying general and culturally specific risk and protective factors for adolescents' tobacco use.

**Smoking  
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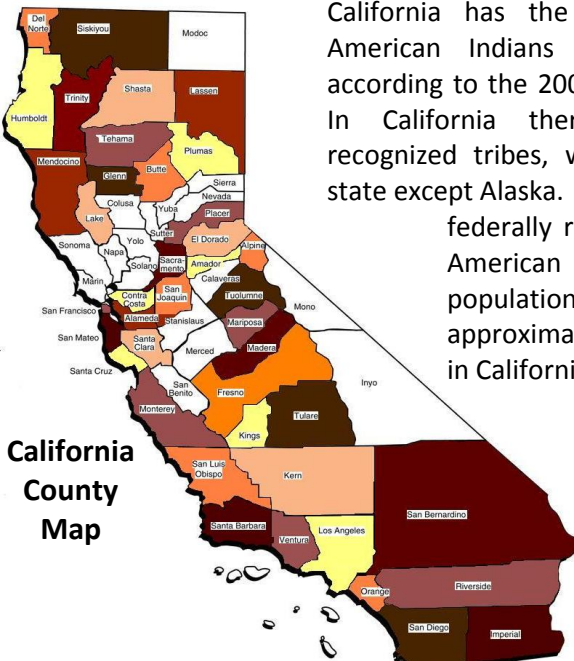
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## American Indian Adolescents in California

Because California is such a large state with a multitude of different American Indian tribes, there is a vast array of traditions, opinions, and attitudes among California AI adolescents in terms of tobacco use. Therefore, it was important to visit as many regions as possible. To give depth to our analysis, we not only looked at overall results for the entire state, but also compared data between northern and southern California.

California has the highest population of American Indians in the United States according to the 2005 U.S. Census (696,600). In California there are 107 federally recognized tribes, which is more than any state except Alaska. There are many non-federally recognized tribes as well. American Indian and Alaska Native populations account for approximately 2% of the population in California according to the 2006 Census. Los Angeles County in particular has the highest number of American Indians and Alaska Natives of any county in the U.S.



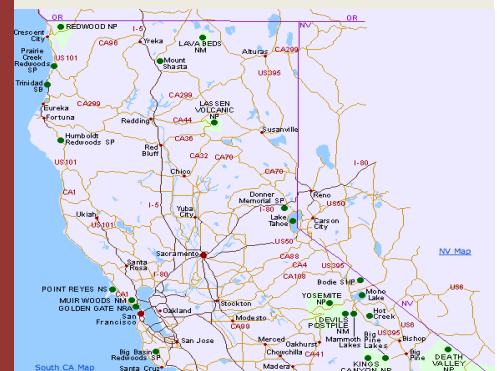
*Of the 58 counties in California, this map reflects the 41 counties in which survey participants reside, according to the zip codes they provided on the survey. The respondents were asked, "What is the zip code where you live most of the time?"*

## Tobacco in the National News

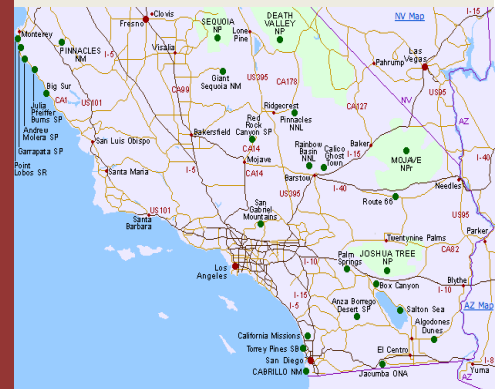
Recently, there has been national attention to tobacco issues as evidenced by the passage of the Family Smoking Prevention and Tobacco Control Act. Among other requirements, according to the federal government website, it requires larger, more prominent warning labels on tobacco products, orders a health study to look at implications of raising the age to purchase tobacco products, and bans companies from promoting products as low-risk alternatives unless the FDA deems that their sale is likely to improve public health. For more details about this, you can visit: <http://www.govtrack.us/congress/bill.xpd?bill=h111-1256>.

The maps below represent the delineation between Northern California and Southern California for this study's analyses (Santa Cruz and Fresno are the cutoff cities, respectively).

### NORTHERN CA = 26 sites



### SOUTHERN CA = 22 sites



### DATA COLLECTIONS:

48 data collection sites:  
Youth Groups (22 sites)  
Cultural Groups (20 sites)\*  
Schools (6 sites)

\*includes pow wows, conferences, and other gatherings

# Culture and Tobacco Among American Indian Adolescents: Final Report

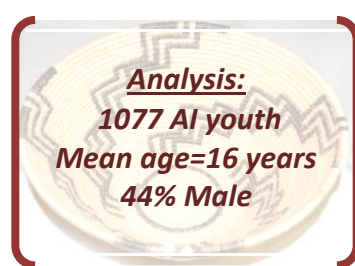
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## What were the results of the survey?

The following results were based on the responses of 1077 respondents who self-identified as American Indian, Native American, or Alaska Native and who completed the entire tobacco survey. The demographic breakdown can be seen at the right. Overall, the mean age of youth was 15-16 years of age and most students were in the 10<sup>th</sup> – 12<sup>th</sup> grade at the time they took the



survey. There were more female than male respondents in both northern and southern California. Most youth lived outside of reservation/ rancheria tribal land; however this

does not necessarily indicate a city residence; for example San Jacinto, one survey location, is just outside Soboba reservation but is not an urban area.

## DEMOGRAPHICS

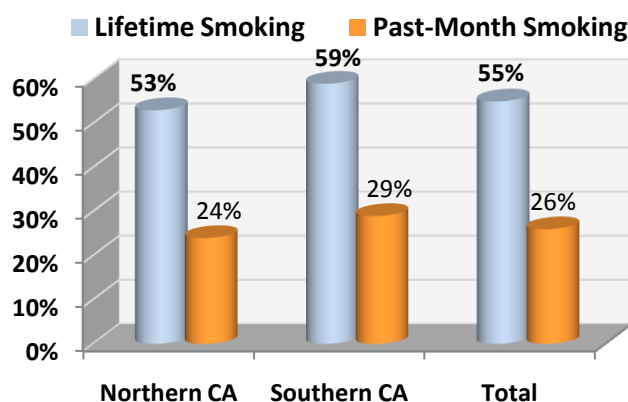
Variable	Northern CA (%)	Southern CA (%)	Total
# youth	61	39	1077
<b>AGE (years)</b>			
13-14	31	34	32
15-16	39	32	36
17-19	30	33	32
<b>GENDER</b>			
Female	57	55	56
Male	43	45	44
<b>GRADE</b>			
6 <sup>th</sup> -7 <sup>th</sup>	6	9	6
8 <sup>th</sup> -9 <sup>th</sup>	35	38	36
10 <sup>th</sup> -12 <sup>th</sup>	59	53	57
<b>RESIDENCE</b>			
On Reservation	42	34	39
Off Reservation	58	66	61

## Cigarette Smoking Behaviors

### What questions were asked?

Several sections of the survey assessed youth's cigarette smoking behavior; their experience with, and knowledge of, commercial and traditional/wild tobacco; their participation in cultural activities; and use of other tobacco products (i.e., chew, cigar, blunts). Significantly, we did not provide definitions for terms such as "ceremonial" and "non-ceremonial" so that youth would answer based on their own knowledge and understanding of these terms.

### Smoking Rates for Northern and Southern CA



### Lifetime Smoking

We assessed lifetime and past-month cigarette smoking, and these rates were consistent with those of previous research from the 2006-2007 National Survey on Drug Use and Health.

Lifetime smoking was measured with the question, "Have you ever tried or experimented with cigarette smoking, even a few puffs?" More than 50% of those who participated in the survey reported that they have tried or experimented with cigarettes in their lifetime.

### Past-Month Smoking

Past-month smoking was measured with the question, "In the last 30 days, on how many of these days did you smoke cigarettes?" While there are slightly higher rates in southern California than Northern California, the rates of both lifetime and past-month smoking are fairly consistent between northern and southern California. These high rates highlight the need for continued prevention and intervention cessation services for youth.

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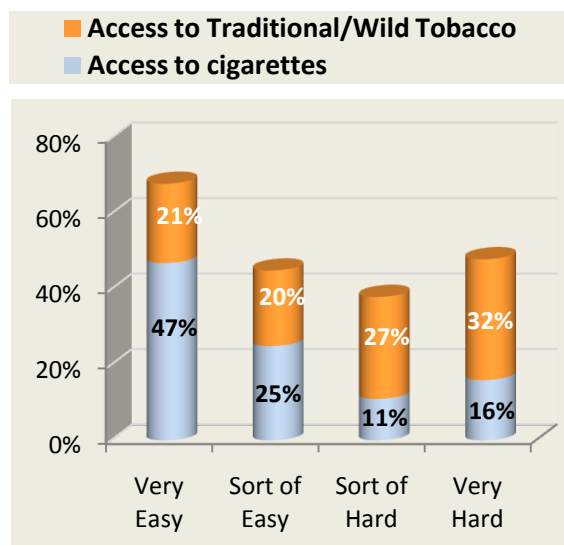
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## Access to Tobacco

Youth were also asked how easy or hard it would be to access cigarettes versus traditional or wild tobacco. The chart below shows rates of access to traditional/wild tobacco versus access to cigarettes. As shown, more than 70% of the overall sample reported “very easy” or “sort of easy” access to cigarettes.

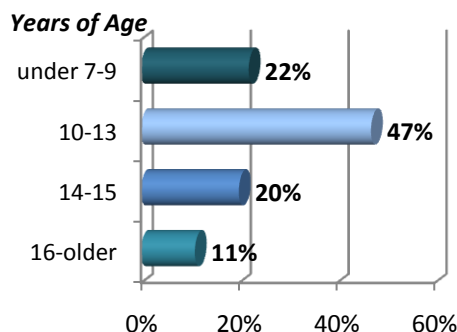
Because access to cigarettes is likely a risk factor to AI youth smoking behavior, AI youth with easy access to tobacco may be more inclined to try smoking or continue smoking.



The results of access to traditional tobacco are the reverse of cigarette access; over half of the overall sample reported that it would be “sort of hard” or “very hard” to access traditional tobacco. Therefore, depending on tribal tradition and the ways in which youth are taught to use traditional tobacco, one potentially useful strategy may be to educate youth about how to obtain and use traditional tobacco. However, we must keep in mind that not all tribes use traditional tobacco.

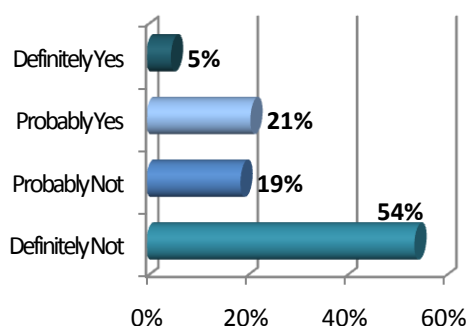
Lack of access to traditional tobacco could also explain why cigarettes are being used or bought for traditional or ceremonial reasons.

## AGE AT FIRST PUFF



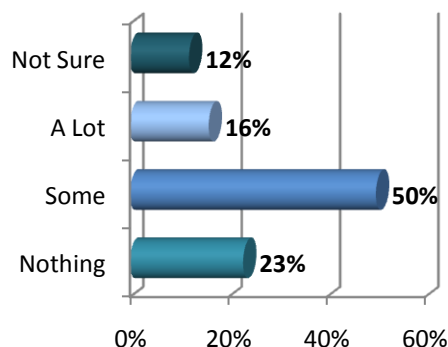
*Of the youth who ever reported taking a puff on a cigarette, 47% were between 10-13 years old. This is more than double compared to other ages. Therefore, it is important to begin prevention efforts when AI youth are in middle school.*

## WILL SMOKE IN THE NEXT YEAR



*It is a bit comforting to see that over half of the students in the overall sample reported that they will “definitely not” smoke in the next year. It is important to teach the harmful effects of smoking cigarettes and to respect traditional tobacco to keep the students from using tobacco recreationally.*

## KNOWLEDGE OF CEREMONIAL USES OF TOBACCO



*50% of the students reported having some knowledge of ceremonial tobacco use, where 23% knew “nothing”. Efforts should be continued to teach students to respect tobacco and how it is used in a traditional manner.*

*There are individuals and AI organizations that grow tobacco to be used for traditional/ceremonial purposes. However, there are generally few of them, and commercial tobacco is sometimes bought at the store to replace wild or homegrown tobacco. Teaching others how to grow and harvest tobacco may help increase access to traditional or wild tobacco.*

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## Commercial Tobacco Products

Youth also answered questions about commercial tobacco products other than cigarettes, if any, that they used in the last 30 days. The chart to the right lists commercial tobacco products used and their rates of use in the last 30 days.

Rates of other tobacco product use by AI youth were much lower than cigarette use (26%) with the exception of blunts (21%). The frequency of use of other tobacco products was 10% or more for several tobacco types. According to the responses, blunts were most commonly used (21%).

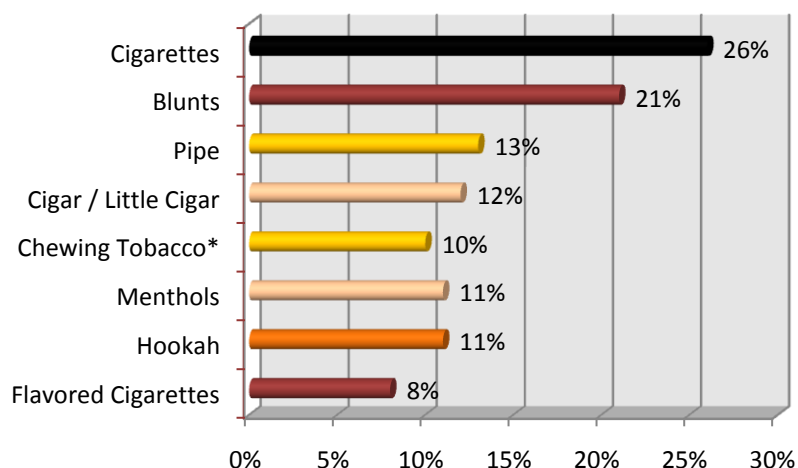
### Ever Used Commercial Tobacco Products Other than Cigarettes?

**NORTHERN CA – 27%**  
**SOUTHERN CA – 29%**  
**TOTAL – 28%**

However, the survey did not specify if “blunt” implied a type of cigar or a cigar stripped of tobacco and replaced with

marijuana. Marijuana was not specifically addressed in the survey, but the high response rate to “blunt” may allude to possible marijuana use by AI youth. Therefore, further attention to understand marijuana use among AIs is encouraged and should be addressed in prevention efforts along with other tobacco products usage.

### USE OF COMMERCIAL TOBACCO PRODUCTS IN THE LAST 30 DAYS



\*Includes chewing tobacco, snuff, smokeless tobacco, and dip

The next most commonly used tobacco product was a pipe, but the survey did not inquire what is being put in the pipe. The frequency of chewing tobacco use was 10%, and this category included snuff, dip, and smokeless tobacco. Interestingly, though, in a separate question that asks, “On how many of the last 30 days did you use chewing tobacco or snuff?” only 7% of participants reported use. Overall, it is evident that while the survey questions get at some aspects of commercial tobacco use, there is some unknown information. Other, perhaps more detailed questions could be asked in the future to further elucidate these issues.

## American Indian Events

### CULTURAL EVENTS

Event	Ever Attended Event	Tobacco was used in a <u>traditional</u> way at the event <sup>a</sup>	Tobacco was used in a <u>non-traditional</u> way at the event <sup>a</sup>
Pow Wow	85%	33%	13%
Sweat Lodge	44%	55%	7%
Drum Group	28%	52%	9%
Funeral or Wake	61%	37%	9%
Roundhouse	24%	43%	8%

<sup>a</sup> Youth were asked, in general, if tobacco was used traditionally or non-traditionally at the event.

Participants were asked a series of questions about participation in and use of commercial and/or traditional tobacco at different cultural events. While there is a multitude of different AI events, these were derived from guidance and suggestions from our advisory committee and from focus group input during a previous TRDRP grant with 96 AI adolescents in California.

Traditional and non-traditional tobacco use was reported at all cultural events, with higher reported rates of traditional use. Pow wows were the most frequently attended event (85%), but had the lowest traditional tobacco use (33%). The highest reported rate of traditional tobacco use was at a sweat lodge (55%). It is heartening that youth reported tobacco being used in a traditional way more than a non-traditional way at these events.



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## RISK FACTORS for Cigarette Smoking

An important part of this study was looking at who or what influences AI youth to smoke, otherwise known as “risk factors” for smoking. We examined several things that may influence American Indian adolescents to smoke cigarettes. These include friends and family who smoke (interpersonal influences) and exposure to secondhand smoke. Specifically, we asked students whether friends, parents, siblings, cousins, grandparents, or teachers smoked. Another possible risk factor was whether youth had been in the same room, same car, or outdoor area with a smoker in the past 7 days.

### How do we analyze risk factors?

We conducted statistical analyses using logistic regression to show if and how interpersonal influences and secondhand smoke influence the smoking behavior of youth.

**What is logistic regression?** The chart to the right is a result of using logistic regression, which is a statistical test to measure the direction and strength of **association** between two variables. This test requires that we have **independent variables** (interpersonal influences and secondhand smoke) and **dependent variables** (lifetime and past-month smoking). In other words, do the rates of lifetime and past-month smoking *depend* on interpersonal influences and secondhand smoke?

Specifically, logistic regression computes the relative probability that a youth smokes given each independent variable. The output is called an **odds ratio** (OR). An odds ratio shows how likely it is that

RISK FACTORS:				
ODDS RATIOS (OR) AND CONFIDENCE INTERVALS (CI)				
Variable	Lifetime Smoking n=994 <sup>a</sup>		Past-Month Smoking n=982 <sup>a</sup>	
Interpersonal Influences	OR	CI	OR	CI
Friend	3.08**	2.26, 4.20	5.46**	3.48, 8.56
Parent	1.28	0.94, 1.73	1.45*	1.02, 2.07
Sibling	1.49*	1.04, 2.13	1.00	0.68, 1.46
Cousin	1.37 <sup>†</sup>	1.00, 1.87	1.44*	1.004, 2.07
Grandparent	0.71*	0.51, 1.00	0.64*	0.43, 0.96
Teacher	0.68	0.38, 1.20	1.01	0.56, 1.79
Secondhand Smoke	OR	CI	OR	CI
Same Room	1.17	0.81, 1.69	1.81*	1.17, 2.79
In Car	1.27	0.90, 1.81	1.62*	1.10, 2.38
Outdoor Area	1.12	0.78, 1.62	1.37	0.83, 2.26
	These numbers indicate that AI youth who had friend(s) who smoke had about a 3 times higher chance of smoking in their lifetime and an almost 5 ½ times higher chance of smoking in the past month.			
	“1.45” indicates that AI youth who had parent(s) who smoke had a 1 ½ times higher chance of smoking in their past-month.			
	“1.49” indicates that AI youth who had sibling(s) who smoke had a 1 ½ times higher chance of smoking in their lifetime.			
	These numbers indicate that AI youth who had cousin(s) who smoke had about a 1.37 times higher chance of smoking in their lifetime and an almost 1.5 times higher chance of smoking in the past month.			
	These numbers indicate that AI youth who grandparent(s) who smoked were 0.71 times <b>less likely</b> to smoke in their lifetime and 0.64 times <b>less likely</b> to smoke in the past-month.			
	These numbers indicate that AI youth who had been in the same car with a smoker in the past week were 1.81 times more likely to smoke in their lifetime and 1.62 times more likely to smoke in the past month.			
<sup>a</sup> The analyses here are based on 994 and 982 youth, respectively, who provided complete data on the survey.				
If the p-value is < .05, this means that it is statistically significant.				
* p-value <.05.				
** p-value < .001.				
<sup>†</sup> p-value = .05; marginally significant				

### Definitions:

- **Association:** A relationship between two measurements; they depend on each other
- **Confidence Interval:** We can say with 95% confidence that the real number falls between these two numbers
- **Dependent variable:** a variable whose value depends on changes in the other variable(s)
- **Independent variable:** a variable whose values do not depend on changes in the other variable(s)
- **Odds Ratio:** A way of comparing whether the likelihood of an event is the same for two groups or items
- **Significant:** Something that is unlikely to have occurred by chance; this refers to statistical significance
- **Variable:** Something that can change or vary; a construct measured on the survey that can either be one question or a scale computed from several questions





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## How do we analyze risk factors?, cont.

one event will happen given another event. For instance, an odds ratio of “3.08” in the chart indicates that AI adolescents who reported that their friend(s) smoke had more than a 3 times higher chance of smoking than those

who had no friends that smoked. The **significant** odds ratios, or the significant relationships between AI youth smoking behavior and different risk factors, are highlighted in the table above.

## Protective Factors for Cigarette Smoking

We also examined what influences youth **not** to smoke, or things that make youth less likely to smoke. These are called “protective factors”.

Some protective factors that were hypothesized to protect youth from smoking include:

- having knowledge of ceremonial tobacco
- having used natural/wild tobacco for traditional or ceremonial reasons
- having positive beliefs about natural/ceremonial tobacco
- attending cultural events
- good academic standing

The **significant** protective factors are highlighted in the table to the right.

While most of these items were based on a single question in the survey, having positive beliefs was based on the following questions and computed into a scale:

*“Do you think that using tobacco in a ceremonial way can help a person communicate with the Creator?”*

*“Do you think that using tobacco in a ceremonial way is a way to strengthen ties to your culture?”*

*“Do you think that using tobacco in a ceremonial will promote good health and well-being?”*

<b>PROTECTIVE FACTORS: ODDS RATIOS (OR) AND CONFIDENCE INTERVALS (CI)</b>				
Variable	Lifetime Smoking n=779 <sup>a</sup>		Past-Month Smoking n=733 <sup>a</sup>	
Natural/Ceremonial Tobacco	OR	CI	OR	CI
Knowledge of Ceremonial Tobacco	0.96	0.72, 1.28	0.88	0.64, 1.22
Used Natural Tobacco for Ceremonial Reasons	<b>1.64*</b>	<b>1.09, 2.49</b>	<b>2.02*</b>	<b>1.31, 3.12</b>
Positive beliefs about Natural/ Ceremonial Tobacco	<b>0.73*</b>	<b>0.61, 0.89</b>	0.94	0.76, 1.16
American Indian Events	OR	CI	OR	CI
Attended Pow Wow	1.04	0.66, 1.66	1.21	0.68, 2.17
Attended Sweat Lodge	1.06	0.74, 1.50	1.15	0.78, 1.71
Attended Drum Group	1.22	0.83, 1.79	1.40	0.93, 2.09
Attended Funeral	0.94	0.66, 1.34	1.10	0.74, 1.64
Attended Roundhouse	1.10	0.75, 1.63	1.21	0.80, 1.83
Academics	OR	CI	OR	CI
Grades in School Last Year	<b>0.82**</b>	<b>0.75, 0.89</b>	<b>0.87*</b>	<b>0.80, 0.95</b>
<p>These numbers indicate that AI youth who reported using natural tobacco for ceremonial reasons were 1.61 times <b>more likely</b> to smoke in their lifetime and almost 2 times <b>more likely</b> to smoke in the past month.</p> <p>“0.74” indicates that AI youth who reported positive beliefs about natural/ceremonial tobacco were .74 times less likely to smoke in their lifetime.</p> <p>These numbers indicate that AI youth who had <u>higher grades in the last school year</u> were 1.23 times less likely to smoke in their lifetime and 1.13 times less likely to smoke in the past month.</p> <p><sup>a</sup> The analyses here are based on 779 and 733 youth, respectively, who provided complete data on the survey.</p> <p>If the p-value is &lt; .05, this means that it is statistically significant.</p> <p>* p-value &lt; .05</p> <p>** p-value &lt; .001</p>				

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## Protective Factors for Cigarette Smoking, cont.

Academic performance was assessed with the question, "What grades did you get in school last year?" Research has shown that students who are in good academic standing are less likely to initiate or engage in smoking behaviors.

For this analysis, we hypothesized that use of natural tobacco for traditional reasons would be a protective factor for both lifetime and past-month smoking. However, as shown in the chart above, we found that students who reported this type of tobacco use were **more likely** to report cigarette smoking in the past-month and during their lifetime.



Fig. 443. A—C *Bauerntabak (Nicotiana rustica)*.  
A Blühende Pflanze. B Blüte. C Diefelbe im Längsschnitt.  
D—J *Gewöhnlicher Tabak (N. Tabacum)*.  
D Blühende Pflanze. E Blüte. F Frucht. G Same. H Diefelbe im Längsschnitt. J Narbe.  
(Nach Engler-Prantl.)

## Interpreting the Results

Overall, the results from our analyses show that interpersonal influences, environmental factors, positive beliefs about natural tobacco, and academic performance play a role in tobacco use behavior among American Indian adolescents in California.

As stated in our hypotheses, youth who report that siblings, friends, parents, and cousins who smoke were more likely themselves to have smoked cigarettes in the past-month (friends, siblings, cousins) and during their lifetime (friends, siblings, parents, grandparents, and cousins). One possible interpretation is that AI youth model the behavior of family members and friends who smoke. If family members and/or friends smoke, youth may be more likely to have access to cigarettes and be offered cigarettes by an older sibling, cousin, and/or

friend. We also hypothesized that having grandparents who smoke would influence youth to smoke. However, it was shown that youth who reported grandparent smoking were **less likely** to have smoked cigarettes during their lifetime and in the past month. Therefore, youth may be dissuaded from smoking because they see the harmful, long-term effects from smoking cigarettes on their grandparents, like a severe cough or deadly illness. Additionally, grandparents may discuss the negative consequences, harmful effects, and addictive nature of smoking with their grandchildren. They may also teach youth medicinal and ceremonial purposes of tobacco and reinforce respect for traditional tobacco.

Certain types of exposure to secondhand smoke also influenced youth smoking behaviors. Specifically, youth were more likely to have smoked cigarettes in the past month when they reported being in the same car or room with a smoker in the past week. Perhaps youth who are confined to an area with someone who is smoking may lead to modeling that behavior.

As we anticipated, youth who reported positive beliefs (*protective factor*) about using tobacco in a ceremonial



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## Interpreting the Results, cont.

way (*communicate with the Creator, strengthen ties to their culture, and to promote good health and well-being*) were less likely to report smoking cigarettes. One interpretation of this result is that having positive beliefs about ceremonial uses of tobacco may influence their choice to not use commercial tobacco recreationally and habitually; they may understand that tobacco should be respected. Furthermore, perhaps positive beliefs about ceremonial tobacco are linked with a strong cultural identity, which may be a protective factor for commercial tobacco use.

It is also encouraging that American Indian youth who reported good academic performance in their last year of school were less likely to report past-month or lifetime smoking.

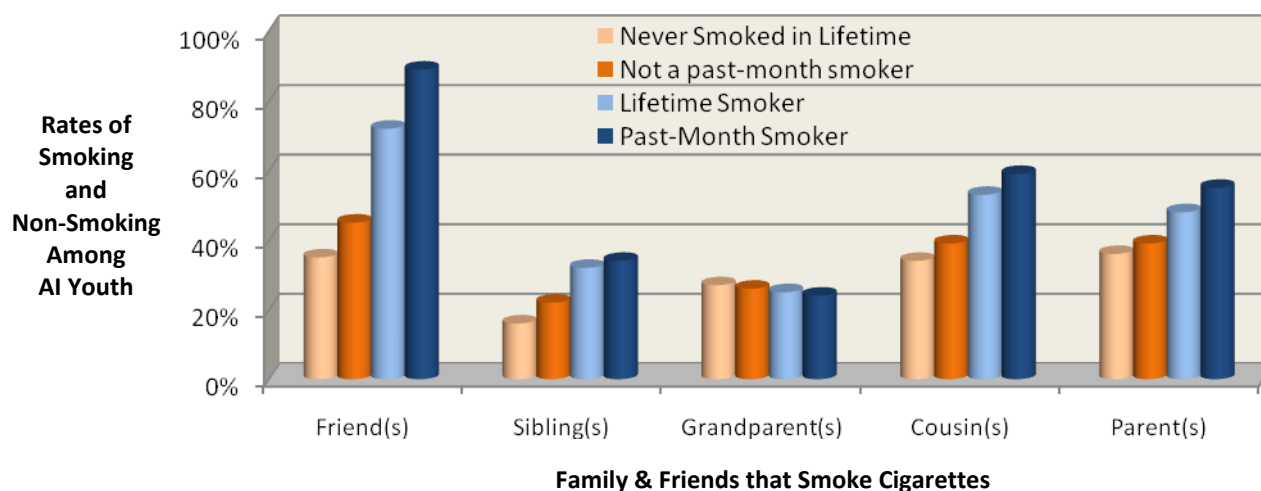
We also hypothesized that AI youth who used natural tobacco (not store bought) for ceremonial/traditional reasons would be less likely to report cigarette smoking. Contrary to our hypothesis, however, it was shown that youth reported higher lifetime and past-month smoking rates when using natural tobacco for ceremonial/traditional reasons. It is difficult to speculate why AI youth are more likely to smoke when using natural tobacco for ceremonies.

Perhaps, for these youth, there is a blurred line between ceremonial vs. recreational tobacco use, or between natural vs. commercial tobacco. Additionally, maybe youth do not receive clear messages to not smoke cigarettes, or typical anti-tobacco messages do not resonate with youth who utilize tobacco for ceremonies. In any case, more research is needed to understand this association, and more education may be needed to clarify for youth the difference between traditional and commercial tobacco use.

There was no significant relationship between knowledge of ceremonial tobacco use and AI youth smoking behavior. Therefore, AI youth's knowledge of ceremonial tobacco use cannot explain their smoking behavior.

Lastly, it was hypothesized that attending or participating in cultural events including pow wow, sweat lodge, roundhouse, funeral/wake, or drum group would act as a protective factor for cigarette smoking. However, the survey results indicate that there is no significant association between attending these cultural events and youth smoking behavior; involvement in cultural events, according to this survey, does not shed light on youth's smoking behavior.

## **RATES OF SMOKING AND NON-SMOKING WHEN AI YOUTH REPORTED HAVING FAMILY AND/OR FRIENDS WHO SMOKED CIGARETTES**



# Culture and Tobacco Among American Indian Adolescents: Final Report

University of Southern California

Keck School of Medicine

Institute for Health Promotion &amp; Disease Prevention Research

## Conclusions

From this tobacco study we obtained substantial information about the culturally-specific risk and protective factors of tobacco use among American Indian adolescents (n=1077) living in rural and urban areas of California. This unique study captured their beliefs, knowledge, and perspectives about commercial and traditional tobacco. The findings of this study can support existing tobacco programs, fund future programs in prevention, education, and/or cessation, increase awareness of commercial and traditional tobacco use among California AI youth, and to other AI communities and non-AI communities.

Overall, it was found that interpersonal influences (friends, siblings, cousins, parents, and grandparents) and exposure to secondhand smoke (in car, same room, or outdoors) were risk factors of cigarette smoking. This calls for more attention to, or creation of, smoke-free policies in the home, car and outdoor areas to reduce exposure to secondhand smoke.

Additionally, more culturally-specific cessation services are needed in various California regions for AI adults and youth. This could reduce smoking rates and help family members to quit smoking. Additionally, AI youth may be less likely to initiate smoking if they have lower exposure rates to secondhand smoke and if their family members or friends quit. For more information on AI-specific tobacco education and cessation services, please see the resources section below.

We hypothesized several protective factors that would influence youth to have low or non-existent smoking rates. However, the survey results indicated that only positive beliefs about using natural tobacco for ceremonial purposes and good academic standing were protective factors. Contrary to our hypotheses, use of natural tobacco for ceremonial reasons was a risk factor of smoking behavior.

We can only speculate as to why youth who are using tobacco for traditional purposes are more likely to smoke. It could be that youth do not fully understand the harmful effects of smoking a cigarette in a non-ceremonial way. Continued efforts to educate the youth about the difference between traditional use and commercial tobacco use are recommended.

Future research is needed to understand why youth who are using natural tobacco for ceremonial purposes are more likely to smoke. Do they know the difference between natural tobacco and commercial tobacco when used in ceremonies? If loose tobacco is being used, do they know if it is store bought or natural? While over half of the AI youth who completed the tobacco survey had "some" (50%) or "a lot" (16%) of "knowledge of ceremonial uses of tobacco," it is encouraging that many of the youth know that tobacco is used for traditional and ceremonial reasons. Continued efforts are encouraged to clarify the difference between traditional and recreational tobacco use.





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## Conclusions

When research studies are conducted, there are inevitably some limitations. This cross-sectional study collected information from AI youth at a single point in time. Therefore, this type of “snapshot” data can be used to assess the prevalence of smoking among AI youth sampled in California. However, this analysis cannot infer causal relationships between the independent and dependent variables used in our hypotheses. They can only show the correlation or an association between the independent and dependent variables. Future research to detect causal relationships may be performed using longitudinal studies where the same youth are followed over a period of time. Also, this study gathered self-reported data by each AI youth; therefore this can introduce bias toward a desired response. Lastly, this study’s data cannot be generalized to all American Indian populations.

It is with great hope that the results of this tobacco survey study will encourage others to continue to educate AI communities about the harmful effects of commercial tobacco use while preserving the traditional aspects of tobacco. This data is available to all participating tribes and tribal organizations and other AI tribes and organizations involved in tobacco control. It can support existing tobacco programs and support future programs like prevention and cessations services for youth and adults. This unique data can help create and design culturally-specific tobacco programs and cessation services to reduce the smoking rates and initiation rates of our AI communities.

## Resources for Tobacco Education, Prevention, and Cessation Services



The California Rural Indian Health Board, Inc.  
Tobacco Education & Prevention Technical Support Center (TEPTS)  
Kathalena K. Avendano, TEPTS Program Manager  
4400 Auburn Blvd., 2<sup>nd</sup> Floor  
Sacramento, CA 95841  
Phone: (916) 929-9761 Fax: (916) 929-0207



The Northern California Indian Development Council, Inc.  
Lou Moerner, Tobacco Programs Director  
241 F. Street  
Eureka, CA 95501  
Phone: (707) 445-8451 x 27 Fax: (707) 445-8479



The United Indian Health Services  
Elizabeth Lara-O'Rourke, Health Promotion and Education Manager  
Potawot Health Village  
1600 Weeot Way  
Arcata, CA 95521  
Phone: (707) 825-5070 Fax: (707) 825-5055



California  
Smokers'  
Helpline

California Smokers' Helpline  
1-800-NO-BUTTS (1-800-662-8887)

California Tobacco Chewers' Helpline  
1-800-844-CHEW (1-800-844-2439)