

**Report on the
Asian American Youth Against
Tobacco (AAYAT™)
Youth Tobacco Survey**

**Presented to
Asian Services In Action (ASIA)
and the
Ohio Tobacco Use Prevention and
Control Foundation (TUPCF)**

Data Analyzed and Presented by

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EXECUTIVE SUMMARY

The Asian American Youth Against Tobacco (AAYAT) Youth Tobacco Survey (AYTS) was conducted to provide baseline information about the nature and extent of tobacco use among Ohio's AAPI youth, as well as their knowledge, attitudes and perceptions regarding tobacco use. The survey included a total of 1,364 respondents from the following metropolitan areas: (1) Akron, (2) Cincinnati, (3) Cleveland, (4) Columbus, and (5) Dayton.

While approximately 16% of the respondents reported having smoked one or more times during the past 30 days, the incidence of such smoking varied across ethnic communities. The smoking prevalence rates were higher among Cambodian (40%), Laotian (32%), Hmong (29%), and Korean (23%) respondents than among their counterparts from other Asian communities. In contrast, lower rates of smoking were obtained among Asian Indian (9%) and Chinese (9%) youth.

The prevalence of smoking increased from 2% among 5th through 8th graders to 6% among 9th through 12th graders, to 22% among college students. Smoking is more prevalent (35%) among 18 to 22 year old youth not in college than among college students. Similarly, there is greater use of smokeless tobacco among 18 to 22 year olds not in college (18%) than among college students of the same age (8%).

Besides ethnic background and educational status, smoking is associated with the following variables: (1) percentage of friends who smoke, (2) percentage of peers who smoke, (3) number of siblings who smoke, (4) father's smoking, and (5) mother's smoking. The strongest predictor of current smoking is the percentage of friends who smoke, a finding that underscores the importance of work to change the social climate of youth by encouraging and supporting activities that tend to preclude smoking.

Current smokers feel more strongly than do non-smokers that "Young people who smoke cigarettes have more friends," that "Smoking helps people cope better with frustration and stress," and that "Smoking cigarettes makes young people look cool or fit in." In contrast, non-smokers are more likely to feel that "NOT smoking is a way to express my independence." These results are also consistent with the view that a change in peer climate by encouraging activities that generate respect and camaraderie among non-smoking peers can increase the resistance of youth to begin smoking or can increase their resolve to quit once they have started.

Non-smokers reported greater agreement than did smokers with the statement, "Secondhand smoke is more toxic than the same amount of smoke directly drawn from cigarettes." While these results are correlational in nature, they are consistent with the view that knowledge about harmful effects of smoking upon others who breathe second-hand smoke can encourage people to refrain from smoking.

Smokers are more likely to have been exposed to secondhand smoke, both indoors and while riding in a car, and these results are true even among youth whose parents and siblings do not smoke.

Eighty-eight percent of smokers reported having recently used cigarettes. Other types of smoking include cigars (used by 23%), Swisher Sweets (10%), pipes (6%), bidis (5%), and kreteks (2%). Sixty percent of cigarette smokers usually smoke Marlboros, with Camels (14%), Parliament (8%), Newport (6%), Kool (5%) accounting for 93% of preferences. Youth who typically smoke Marlboros agree more strongly than those who prefer some other brand that “Smoking cigarettes makes young people look cool or fit in.” Perhaps tobacco use control and prevention programs should include curricula specifically designed to counteract advertising that conveys images of smokers as being particularly self-assured and socially well adjusted.

Approximately 59% of smokers currently report symptoms of addiction, and 49% of these youth had tried to quit. Among these individuals, 26% had made one attempt to quit, 27% had made two attempts, 26% had made three attempts, and 20% had attempted to quit four or more times. However, even unsuccessful attempts to quit smoking could have beneficial effects, as smokers who had made one or more previous attempts to quit smoking reported a greater desire to quit than did those who had not made any previous attempt to quit.

The statement, “Smoking helps people cope better with frustration and stress,” appears to be a myth that presents a major obstacle that participants must overcome before developing a resolve to quit smoking. In addition, knowledge about the harmful effects of secondhand smoke also has major, unique value in predicting expectations of successful quitting.

In sum, both attitudes and perceptions about smoking and knowledge about the harmful effects of smoking upon others are associated with greater motivation and expectations to quit smoking. Therefore, the general tobacco use control and prevention strategies that would be expected to have the greatest benefits are those that (1) help youth understand the social dynamics that could influence smoking, (2) empower youth to control their social environments, and (3) convey an understanding of the hazards of smoking to others’ health.

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INTRODUCTION

The present survey has been a major component of the Asian American Youth Against Tobacco (AAYAT) project since its early conception in the fall of 2002. At that time, May Chen, MA, LPCC, Executive Director, Asian Services In Action, Inc. (ASIA), convened a group of leaders from the Akron, Cleveland, Columbus, and Dayton areas to discuss opportunities to examine the nature and extent of tobacco use among Asian American/Pacific Islander (AAPI) youth in their areas and to develop initiatives for the prevention and cessation of tobacco use.

This survey was designed to provide baseline information about the incidence of tobacco use and the knowledge, attitudes and perceptions regarding tobacco use among AAPI youth across five regions of Ohio, including the metropolitan areas of Akron, Cincinnati, Cleveland, Columbus, and Dayton.

To our knowledge, this is the first comprehensive survey of AAPI youth in the Midwest. We hope that information from this survey will assist educators, health practitioners, community leaders, and parents, alike, in recognizing the nature and extent of the problem of tobacco use among youth in these populations, thereby facilitating the development and continuation of tobacco control and cessation programs.

Asian Services In Action, Inc. (ASIA) contracted with the Wright State University (WSU) to print and scan questionnaire forms and to manage data collection with the University of Dayton Research Institute (UDRI) to provide data analyses and interpretation of the results.

METHOD

Questionnaire

A copy of the questionnaire used in this survey is contained in the Appendix. As can be seen from inspection of this questionnaire, the first page consists of items pertaining to respondents' backgrounds.

The second page contains items pertaining to experiences with smoking. The third page contains items pertaining to perceptions of a respondent's tobacco addiction, past attempts to quit, and current motivation to quit. Questions regarding the type of smoking and usual brand of cigarettes used are also included.

The final page consists of two items related to the perceived need to smoke (among current smokers), four items related to attitudes about smokers and about smoking, two "knowledge" questions about the harmful effects of tobacco use, one item about the likelihood of smoking five years from now, and two items asking about exposure to second hand smoke.

Procedure

Questionnaires were distributed across ethnic, religious, and educational organizations or at events (such as festivals) in each of the following five regions: Akron (16 organizations/events; n = 166 respondents), Cincinnati (13 organizations/events; n = 332 respondents), Cleveland (6 organizations/events; n = 247 respondents), Columbus (5 organizations/events; n = 337 respondents), and Dayton (8 organizations/events; n = 282 respondents).

Fifteen of the organizations or events involved in the survey were exclusively, or almost exclusively, restricted to college age youth. Slightly more than one-half of the respondents (n = 694 or 51%) are associated with these organizations or events. Very few respondents (n = 22) were recruited from public schools. (The two schools involved are both in Cincinnati.) The remaining respondents (n = 648 or 48%) were obtained from community religious, educational, or cultural organizations. Each organization that supported the survey administration received a cash award of \$5 per completed questionnaire.

The survey was conducted between the late summer and early winter 2003-2004.

RESULTS AND DISCUSSION

Demographic Variables

Ethnic Background

A total of 1,364 completed questionnaires were returned. These included youth affiliated with Asian Indian (13%), Cambodian (3%), Chinese (28%), Filipino (6%), Hmong (5%), Japanese (4%), Korean (14%), Laotian (3%), Vietnamese (18%), and Other (1%) ethnicities. An additional 4% reported a multi-ethnic, multi-cultural, or multi-racial affiliation. Table 1 presents the distribution of respondents according to ethnic background, student grade level, and non-student age group.

Other Demographic Variables

The respondents were about evenly divided between males ($n = 641$) and females ($n = 638$).¹ Ninety percent of the respondents reported that they are students, and their grades ranged from 5th through college seniors. Seventeen percent of the students were in the 5th through 8th grades (which corresponds to middle school), 26% were in the 9th through 12th grades (which corresponds to many high schools), and 57% were in a college or university.

The Mean age of students is 18 years (Median = 19 years). Sixty percent of the respondents were born in the USA. Among the immigrants, the Mean length of USA residence is approximately 14 years.²

As would be expected, non-students were older than students (Mean ages = 21.2 and 17.8 years, respectively). A slightly higher percent of students than non-students were born in the USA (61% vs. 52%), a trend that approaches, but does not attain statistical significance. While we did not ask students about their employment status, a large majority of non-students are employed either full-time (80%) or part-time (6%).

Sixty percent of respondents are native born U.S. citizens, while the remaining 40% are immigrants. Overall, 27% of immigrants arrived in the USA as an infant (5 years of age or less).

Smoking Prevalence Rate According to Ethnic Background

For purposes of this report, a respondent is classified as a “current smoker” if he or she reported having smoked one or more times during the past 30 days.³ While approx-

¹ A total of 85 respondents did not answer the item requesting sex and, therefore, responses from these individuals are omitted from analyses involving this variable. For purposes of this report, missing data due to absence of a response are not included in analyses, figures, and tables.

² The exact figure is not available from our data, as the response range was limited by the choice “more than 18 years.” Therefore, an estimate was derived for those selecting this choice as follows: Estimated length of USA residence = 18 years + [(Age – 18) / 2].

³ This definition of “current smoker” was selected because of its similarity to the definition of “current smoker” used on the Youth Risk Behavior Survey, National Youth Tobacco Survey and the Ohio Youth Tobacco Survey. These surveys all defined “current smoker” as “someone who has smoked one or more cigarettes in the past 30 days.”

Table 1. Distribution of Respondents According to Ethnic Community, Grade Level, or Age Group.

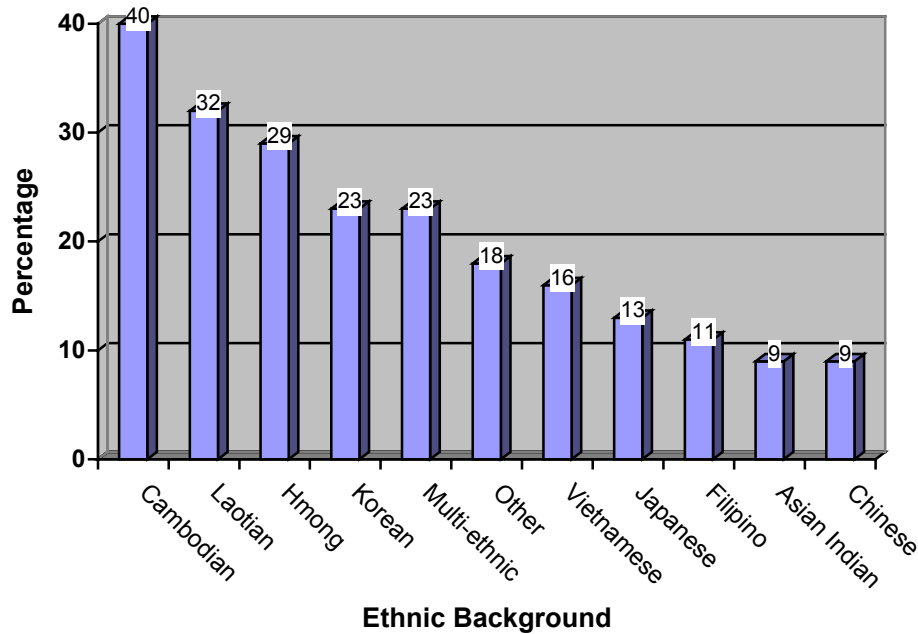
Ethnic Community	Student Status	Middle School /Under 15 Yrs.		High School /15 to 18 Yrs.		College /18 to 22 Yrs.		College /Over 22 Yrs.		Total	
		N	%	N	%	N	%	N	%	N	%
Asian Indian	Student	33	22	31	20	77	51	11	7	152	97
	Non-Student	1		0		3		1		5	3
Cambodian	Student	4	14	12	43	11	39	1	4	28	70
	Non-Student	0		0		7		5		12	30
Chinese (including Taiwanese)	Student	61	19	93	29	144	45	25	8	323	93
	Non-Student	2		4		10		9		25	7
Filipino	Student	6	10	13	22	34	59	5	9	58	88
	Non-Student	0		5		1		2		8	12
Hmong	Student	3	10	8	27	17	57	2	7	30	67
	Non-Student	0		1		14		0		15	33
Japanese	Student	5	11	6	14	28	64	5	11	44	96
	Non-Student	0		0		2		0		2	4
Korean	Student	30	18	38	23	80	49	15	9	163	96
	Non-Student	0		1		4		2		7	4
Laotian	Student	2	8	8	32	14	56	1	4	25	78
	Non-Student	0		0		2		5		7	22
Vietnamese	Student	27	15	44	25	92	53	12	7	175	87
	Non-Student	0		2		9		16		27	13
Multi-ethnic	Student	7	14	12	24	30	61	0	0	49	88
	Non-Student	0		1		2		4		7	12
Other	Student	2	20	6	60	2	20	0	0	10	100
	Non-Student	0		0		0		0		0	0
Total	Student	180	17	271	26	529	50	77	7	1057	90
	Non-Student	3	2	14	11	54	43	44	43	115	10

*Note: A total of 115 survey participants did not indicate their student status, 58 students did not specify their grade, 10 non-students did not specify their age, and 17 respondents did not indicate their ethnic identity; information about these individuals are not included in this table.

imately 16% of our respondents are smokers,⁴ there are substantial differences in the percentages of smokers according to ethnic background.

As can be seen from inspection of Figure 1, the prevalence of smoking is highest among Cambodian (40%), Laotian (32%), and Hmong (29%) respondents. Intermediate prevalence rates are obtained among Korean (23%) and Multi-ethnic (23%) respondents. In contrast, Asian Indian (9%), and Chinese (9%) respondents have the lowest smoking prevalence rates, closely followed by Filipino (11%), Japanese (13%), Vietnamese (16%), and Other Asians (18%).⁵

Figure 1. Percentage of Smokers According to Ethnic Background.



⁴ The smoking prevalence estimate of 16% was obtained by including those who reported smoking one or more times in the past 30 days ($n = 192$) with those who skipped this question but answered the first question on the last page of the questionnaire ($n = 22$), one that should only have been answered by smokers. (Note: A total of 251 of our respondents apparently failed to answer the critical question pertaining to smoking during the past 30 days due to a confusing, and inappropriately placed instruction, “Skip to page 4” following the question “Have you used smokeless tobacco in the past 30 days?” Unfortunately, this inappropriate instruction, which occurred on 76% of the questionnaires, preceded the critical questions pertaining to smoking behaviors. Nevertheless, we believe that the correction described above permits a reasonably accurate estimate of the smoking prevalence rates.)

⁵ The smoking prevalence rates were higher among Cambodian, Laotian, Hmong, and Korean respondents than among their counterparts from other Asian communities, $ps < .01$. (That is, the likelihood that such results are due strictly to random variability is quite low.) In contrast, the smoking rates were lower among Asian Indian and Chinese respondents, $ps < .01$. (Note: Corresponding statistically significant differences were not obtained for other groups. In some cases the absence of such findings are due to the relatively small sample sizes. For example, the relatively small sample sizes of Multi-ethnic and “Other” respondents precluded obtaining statistically significant differences between each of their smoking rates and the composite Mean obtained from respondents belonging to groups with lower Means.)

Smoking Incidence Rate

The extent of smoking (i.e., smoking incidence rate) is ascertained from a combination of questions, “During the past 30 days, on how many days did you smoke?” and “During the past 30 days, on the days that you smoked, about how many cigarettes did you smoke per day?”

The Mean number of “smoking days” is 21.2 days. (Because 56% of smokers reported that they smoked on each of the past 30 days, the Median = 30 days.) On smoking days the Mean number of cigarettes smoked is 9.3 (Median = 7). A “smoking incidence score” was obtained for each smoker by multiplying the number of smoking days by the number of cigarettes per day. The Mean incidence score is 253 (Median = 7). (It should be noted that such scores are highly variable, ranging from 1 to 900, with a standard deviation of 254.)

It is interesting to note that although the smoking prevalence rates vary across ethnic groups (see Figure 1), there are no such significant differences in rates of smoking incidence. Hence, once youth begin to smoke, the estimated numbers of cigarettes they smoke are not associated with their ethnic backgrounds.

Smoking Prevalence Among Middle School Students, High School Students, College Students, and Non-Student Youth

Retaining our definition of “smoker” as one who had smoked one or more times in the past 30 days, only 2% of 5th through 8th grade (typically middle-school) students are smokers; the prevalence increases to 6% among high school students and to 22% among college students. The prevalence of smoking among non-students over 17 years of age (35%) is higher than among their college student counterparts. Table 2 presents these findings. Table 3 presents the prevalence of smoking according to ethnic community, grade level (for students), and age (for non-students).

Predictors of Smoking Behaviors

Predicting the Occurrence of Smoking

A series of analyses examined the relationships between each of several variables and smoking prevalence (i.e., whether respondents had smoked on one or more day during the past 30 days).

Current smoking status is not related to the age at which respondents had their first cigarette (Means = 14.6 and 15.0 years for smokers and non-smokers, respectively), nor is it related to the strength of ethnic identity⁶ (Means = 7.4 and 7.2 for smokers and non-smokers, respectively).

However, in comparison with non-smokers, smokers have a higher percentage of friends who smoke (57% vs. 17%), have a higher percentage of peers who smoke (56% vs. 35%), have more siblings who smoke (1.1 vs. 0.2), are more likely to have a father

⁶ The failure to obtain a significant relationship between strength of cultural identity and smoking incidence could, in part, be attributed to the highly skewed distribution of identity scores. For example, 56% of the scores were 8, 9, or 10 on a 0-10 scale.

Table 2. Prevalence of Smoking According to Student Status and Grade or Age.

Elementary and Middle School Students	Smokers	Non-Smokers	Total
5th	0 0%	44 100%	44
6th	1 2.6%	38 97.4%	39
7th	0 0%	46 100%	46
8th	2 2.7%	72 97.3%	74
Total	3 1.5%	200 98.5%	203
High School Students	Smokers	Non-Smokers	Total
9th	2 2.2%	88 97.8%	90
10th	3 3.9%	73 96.1%	76
11th	6 9.4%	58 90.6%	64
12th	7 8.4%	76 91.6%	83
Total	18 5.8%	295 94.2%	313

College Students	Smokers	Non-Smokers	Total
1st	32 18.3%	143 81.7%	175
2nd	35 19.6%	144 80.4%	179
3rd	38 25.5%	111 74.5%	149
4th	38 24.4%	118 75.6%	156
Total	143 21.7%	516 78.3%	659
Non-Students	Smokers	Non-Smokers	Total
Under 18 Years	1 6.7%	19 95.0%	20
18 – 22 Years	19 35.2%	35 64.8%	54
Over 22 Years	16 34.8%	30 65.2%	46
Total	36 30.0%	84 70.0%	120
Overall Total	200 15.4%	1095 80.5%	1295*
*Note: The smoking status of 69 respondents could not be unequivocally determined and, therefore, is not included in this table.			

Table 3. Prevalence of Smoking According to Ethnic Community, Grade Level, or Age Group.

Ethnic Community	High School 14 to 17 Yrs.		College Over 17 Yrs.		Non-Student 14 to 17 Yrs.		Non-Student Over 17 Yrs.		Total	
	N	%	N	%	N	%	N	%	N	%
Asian Indian	1/20	5	10/83	12	--	--	2/3	--	13/106	12
Cambodian	3/11	27	4/9	44	--	--	7/12	58	14/32	44
Chinese (including Taiwanese)	1/75	1	29/150	19	0/4	--	2/17	12	32/246	13
Filipino	1/12	8	6/33	18	0/3	--	2/3	--	9/51	18
Hmong	1/5	20	6/17	35	1/1	--	8/13	62	16/36	44
Japanese	0/6	0	6/31	19	--	--	0/2	--	6/39	15
Korean	4/33	12	38/89	43	0/1	--	0/4	--	42/127	33
Laotian	4/9	44	4/15	27	--	--	2/6	33	10/30	33
Vietnamese	1/48	2	26/92	28	--	--	8/22	36	35/162	22
Multi-ethnic	1/10	10	10/28	36	0/1	--	3/5	60	14/44	32
Other	0/3	--	1/2	--	--	--	--	--	1/5	20
Total	17/232	7	140/549	26	1/10	10	34/87	39	192/878	22

*Notes: A total of 115 survey participants did not indicate their student status, 58 students did not specify their grade, 10 non-students did not specify their age, and 17 respondents did not indicate their ethnic identity; information about these individuals are not included in this table. Because the number of respondents represented in this table is less than the numbers used to compute entries in Figure 1, estimates of smoking prevalence according to ethnic group will differ slightly. Blanks are entered when there are fewer than 5 cases.

who smokes (43% vs. 18%), are more likely to have a mother who smokes (14% vs. 2%) and, as previously discussed, are more likely to be affiliated with the Cambodian, Laotian, Hmong, or Korean communities than with the Asian Indian or Chinese communities.

A (discriminant) analysis was performed to determine the variables that uniquely predict smoking. The percentage of friends who smoke and the percentage of peers who smoke are the only variables that provide such unique predictive value. While these findings are strictly correlational, nevertheless, it is consistent with the view that changes in peer culture can strengthen young people's resistance to regular tobacco use.

Predicting the Extent of Smoking

A series of analyses were conducted to identify variables that are significantly related to the extent (incidence) of smoking. The following variables were considered: (1) percentage of friends who smoke, (2) percentage of peers who smoke, (3) number of siblings who smoke, (4) age at time of first whole cigarette, (5) father's smoking, (6) mother's smoking, (7) ethnic background, (8) strength of ethnic identity.

The strength of ethnic identity is not significantly related to smoking incidence. Similarly, immigrant and non-immigrant youth do not differ in the incidence of smoking. However, the length of U.S. residency among the former group is directly associated with the number of smoking days per month. The reason for this finding is unclear.⁷

All of the other variables (1-7 above) are significantly related to smoking incidence. A step-wise regression analyses⁸ was performed to determine which variable, or variables, uniquely predict smoking incidence. The results indicate that the percentage of friends who smoke is the primary predictor of smoking incidence, accounting for almost one-third (31%) of the variability along this measure. Other variables that offer unique predictive value are father's smoking status (5% of the variability), the number of siblings who smoke (4%), and the age at which a cigarette was first smoked (2%).

Clearly, both smoking prevalence and smoking incidence are related to youth peer culture. In addition, the extent to which smoking occurs and the corresponding risk of addiction are also related to home environments, including other family members who smoke and the age at which smoking begins.

⁷ Not surprisingly, the length of U.S. residency among immigrant youth is inversely related to the strength of identification with their parents' cultural heritage, $r(N = 460) = -.11, p < .05$. However, this does not imply that a decline in cultural identity is accompanied by an increase in acculturation and susceptibility to peer influences. On the contrary, strong cultural identities represented by ratings of the importance of keeping in touch with one's ethnic or cultural background are associated with (1) greater belief that not smoking is a way to express independence, $r(N = 1186) = .19, p < .001$, (2) greater awareness that secondhand smoke is harmful to unborn infants, $r(N = 1190) = .19, p < .001$, and (3) greater awareness of the general risk of secondhand smoke to others, $r(N = 1188) = .13, p < .001$.

⁸ Using a "step-wise" regression analyses, these variables are placed in rank-order according to the strength of relationship with smoking incidence. Then, the percentage of variation in smoking incidence rates that is predicted by the variable with the strongest relationship is determined. Following this, the "predicted variability" is statistically removed. Then, this process is repeated for the next highest-ranking variable and for each of the remaining variables that uniquely predict variation in smoking incidence.

Exposure to Secondhand Smoke

During the past seven days, AAPI youth who smoke are far more likely than their non-smoking counterparts to have been in the same room as someone else while they were smoking (88% vs. 48%), and they were also much more likely to have experienced secondhand smoke while inside a car (79% vs. 29%).

While parents can contribute to the above differences in exposure to secondhand smoke, youth who smoke are also more likely to have experienced secondhand smoke from others outside of the family. For example, even among respondents whose parents and siblings do not smoke, more smokers than non-smokers reported experience with secondhand smoke indoors (82% vs. 42%) and while riding in a car (58% vs. 21%).

Type of Smoking

Smokers were asked to report the categories of tobacco products used in the past 30 days. As can be seen from inspection of Figure 2, cigarette smoking (reported by 88% of smokers) was by far the most prevalent form of smoking. Only 23% had used cigars, 10% had used Swisher Sweets, 6% had used pipes, 5% had used bidis, and 2% had used kreteks.

Preferences for specific types of smoking are not related to age or ethnic background. However, males are more likely than females to smoke cigars (28% vs. 6%).

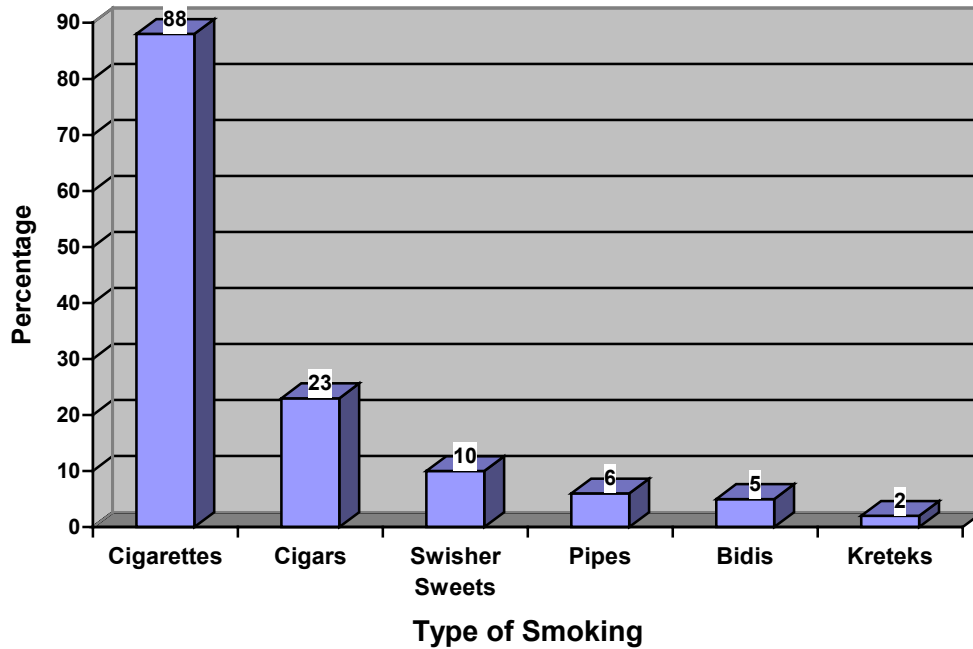
Among cigarette smokers, about one-third (33%) use menthol cigarettes, and 75% have a favorite brand. Marlboro is by far the most popular cigarette, generally used by 60% of the smokers. Camels is the favorite of 14%, followed by Parliament (8%), Newport (6%), Kool (5%), Lucky Strike (2%), and American Spirit (1%), GPC, Basic, or Doral (1%), and Virginia Slims (1%) in order of popularity. None of these preferences are related to age, ethnic background, or sex.

A series of analyses were conducted in order to determine whether or not respondents who preferred Camels and Marlboros, the two most popular brands of cigarettes, differed in their tobacco knowledge, attitudes, or experiences. Two significant findings were obtained, both involving relationships between tobacco knowledge and preferred brand.

Respondents preferring Camels were more likely than those preferring Marlboros to agree that “Smoking can cause low birth weight and childhood complications” (Means = 9.27 and 7.25) and that “‘Secondhand’ smoke is more toxic than the same amount of smoke directly drawn from cigarettes” (Means = 9.14 and 6.63).

In addition, youth who prefer Marlboro cigarettes agree more strongly than those who prefer some other brand that “Smoking cigarettes makes young people look cool or fit in” (Means = 4.2 and 2.8). It would be interesting to know why Marlboro smokers, in comparison to smokers of other brands, differ in attitudes toward smoking as well as appear less informed about the health hazards of second hand tobacco smoke.

Figure 2. Percentage of Each of Six Types of Smoking in the Past Month.



Use of Smokeless (Chewing) Tobacco

Compared to smoking, the use of chewing tobacco among students is infrequent. Less than 1% of 5th to 8th graders, 3% of high school students, and 8% of college students between 18 and 22 years of age report use of chewing tobacco in the past month.

In contrast, however, 12% of non-students (none under 18 years of age, 18% between 18 and 22 years, and 23% of those over 22 years) report having used chewing tobacco in the past month. In addition, while 10% of males used chewing tobacco, only 4% of females did so. Hence, prevention and cessation programs that target the use of chewing tobacco might be especially effective among male college students and non-students 18 years and older.

Smokers' and Non-Smokers' Attitudes and Perceptions About Smoking

A set of four questions was developed to assess respondents' attitudes and perceptions about tobacco use. The average responses of smokers (defined by their having smoked one or more times in the past 30 days) and non-smokers are reported in Table 3. As can be seen from inspection of this table, smokers feel more strongly than do non-smokers that "Young people who smoke cigarettes have more friends," that "Smoking helps people cope better with frustration and stress," and that "Smoking cigarettes makes young people look cool or fit in."

Table 3. Numbers and Mean Responses Among Smokers and Non-Smokers on “Perception” and “Knowledge” Questions.

“Attitude” Questions	Smokers		Non-Smokers	
	N	Mean	N	Mean
Young people who smoke cigarettes have more friends.	167	3.41*	823	1.28
NOT smoking is a way to express my independence.	153	3.38*	809	6.45
Smoking helps people cope better with frustration and stress.	170	6.52*	818	2.74
Smoking cigarettes makes young people look cool or fit in.	163	3.31*	836	1.27
“Knowledge” Questions	Smokers		Non-Smokers	
	N	Mean	N	Mean
Smoking can cause low birth weight and childhood complications.	165	7.59*	825	8.65
“Secondhand” smoke is more toxic than the same amount of smoke directly drawn from cigarettes.	166	6.58*	823	7.60
	<i>*All ps < .001.</i>			

In contrast, non-smokers are more likely to feel that “NOT smoking is a way to express my independence.”

Because differential responses between smokers and non-smokers do not imply causation (i.e., changing attitudes and perceptions regarding the social status of smokers will not necessarily reduce smoking behaviors), nevertheless, the results are consistent with the view that a change in the peer climate by encouraging other activities that generate respect and camaraderie among non-smoking peers can increase the resistance of youth to begin smoking or can increase their resolve to quit once they have started.

Smokers’ and Non-Smokers’ Knowledge of Effects of Secondhand Smoke

Two items were developed to assess the relative knowledge of respondents concerning the harmful effects of tobacco use upon non-smokers who might inhale “secondhand” smoke. The first item pertains to unborn infants: “Smoking can cause low birth weight and childhood complications.” Non-smokers more strongly agree with this statement than do smokers.

In response to the second item, “‘Secondhand’ smoke is more toxic than the same amount of smoke directly drawn from cigarettes,” non-smokers indicate greater agreement than smokers do.

While these results are correlational in nature, they are consistent with the view that knowledge about the harmful effects of smoking on others who breathe secondhand smoke can encourage people to refrain from smoking.

Attitudes, Perceptions, and Knowledge Associated With Non-Addictive and Addictive Smoking

The following six groups are identifiable among our respondents who answered critical questions pertaining to the frequency of smoking: (1) 76% who never smoked (i.e., reported never having “ever tried cigarette smoking, even one or two puffs”), (2) 4% who smoked only on an experimental basis (i.e., while they had tried smoking, they had “never smoked more than one cigarette within a 30 day period” or “never smoked more than 5 cigarettes in their entire life”), (3) 1% who are former smokers (i.e., did not smoke during the past 30 days and reported that they had successfully quit smoking), (4) 3% who are occasional smokers (i.e., smoked in the past 30 days but not more than one pack in the past year), (5) 5% who are current smokers without meeting the criteria for addiction, and (6) 11% who are addicted smokers (i.e., reported a need to smoke within 3 hours of their last cigarette or within 2 hours after waking up on a weekend).

Analyses of responses to each of the four questions pertaining to attitudes and perceptions about tobacco use and knowledge about harmful effects of secondhand smoke reveal no significant differences between those who smoked experimentally, those who formerly smoked, those who occasionally smoke, and those who more frequently smoke, but not to the extent of manifesting addictive symptoms. Therefore, for purposes of analyses, members of these groups are combined and compared with those who never smoked and those who smoke and have addictive symptoms. The numbers and Mean responses of each of these three groups are reported in Table 4.

Table 4. Numbers and Mean Responses Among Respondents Who Never Smoked, Formerly Smoked or Currently Smoke Without Addictive Symptoms, and Currently Smoke With Addictive Symptoms on “Perception” and “Knowledge” Questions.

“Attitude” Questions ¹	Never Smoked		No Addictive Symptoms		Smoke, Addictive Symptoms	
	N	Avg.	N	Avg.	N	Avg.
Young people who smoke cigarettes have more friends.	772	1.23 ²	114	2.21 ²	104	4.09 ²
NOT smoking is a way to express my independence.	759	6.53 ²	110	4.89 ²	93	2.66 ²
Smoking helps people cope better with frustration and stress.	776	2.64 ²	117	4.50 ²	105	7.65 ²
Smoking cigarettes makes young people look cool or fit in.	785	1.23 ²	113	2.10 ²	101	3.90 ²
² Indicates a significant difference between the designated Mean and each of the other row Means, all <i>ps</i> < .001.						
“Knowledge” Questions ¹	Never Smoked		No Addictive Symptoms		Smoke, Addictive Symptoms	
	N	Avg.	N	Avg.	N	Avg.
Smoking can cause low birth weight and childhood complications.	774	8.65	116	8.48	100	7.08 ²
“Secondhand” smoke is more toxic than the same amount of smoke directly drawn from cigarettes.	772	7.57	115	7.60	102	6.17 ²
¹ Higher scores represent greater agreement.	² Indicates a significant difference between the designated Mean and the other row Means, all <i>ps</i> < .001.					

As can be seen from inspection of Table 4, the three groups differ in responding to each of the attitude/perception questions. Youth who never tried smoking are most prone to disagree that “Young people who smoke cigarettes have more friends,” that “Smoking helps people cope better with frustration and stress,” and that “Smoking cigarettes makes young people look cool or fit in.” In contrast, smokers who report addictive symptoms indicate the greatest agreement with these statements. On the remaining item, “NOT smoking is a way to express my independence,” youth who never smoked report the greatest agreement and currently addicted smokers report the greatest disagreement.

Knowledge of the harmful effects of secondhand smoke upon others is measured by responses to the items, “Smoking can cause low birth weight and childhood complications” and “Secondhand smoke is more toxic than the same amount of smoke directly drawn from cigarettes.” Responses to each of these two items also differ according to the nature of tobacco use. In this case, non-smokers and smokers without addiction respond similarly, and members of each of these two groups report greater agreement with each of these two statements than addicted smokers do.

Tobacco Addiction and Attempts to Quit Smoking

For purposes of this report, addiction to cigarette smoking is defined as the perceived need to smoke within 3 hours of last smoking or within 2 hours of waking on a weekend. While 16% of respondents are smokers, almost two-thirds (59%) of them are addicted to cigarette smoking. This group comprises approximately 9% of the total sample.

Among current smokers, 49% had tried to quit. Among these individuals, 26% had made one attempt to quit, 27% had made two attempts, 26% had made three attempts, and 20% had attempted to quit four or more times.

Almost one-third (30%) of those who tried to quit smoking used two or more methods. The most popular methods used alone are nicotine gum (11%), exercise (11%), switching to “light” cigarettes (10%), nicotine patches (8%), and medication (8%). Another 18% of the respondents mentioned that they attempted to quit using an alternative method, of which “cold turkey,” “using willpower,” or “just stopped” were the most often cited (15%). Group classes (2%), hypnosis (1%), and inhaling less (1%) were infrequently reported. (Eating, drinking a beverage, or chewing regular gum was reported by only 3% of the respondents, only in conjunction with another method.)

Among the 12 respondents who felt they had successfully quit smoking, 4 had used “willpower” or had gone “cold turkey,” 3 had used medication, 2 had used nicotine gum, 2 had used a combination of methods, and 1 did not specify the method used. These results provide no evidence of an advantage in using one method for quitting smoking over another. However, there is evidence that benefit is derived from repeated attempts at cessation. That is, even if a particular attempt to quit smoking should end in failure, there is an association between attempts at quitting and higher motivation to eventually quit smoking.

For example, smokers who report symptoms of addiction but had not tried to quit generally expressed little motivation to give up their habit (Mean rating = 2.0), and they reported a rather low probability that they would quit smoking in the near future (Mean

rating = 22.8%). In contrast, the respondents addicted to cigarette smoking who had been unsuccessful in one or more previous attempts at quitting reported greater motivation to quit (Mean rating = 3.6) as well as higher expectations of success within the coming year (Mean rating = 35.0%).

Further evidence that even unsuccessful attempts to quit smoking could have beneficial effects is obtained from the significant correlation between the number of such previous attempts to quit and the anticipated likelihood of refraining from smoking “five years from now.”⁹ Hence, programs aimed at increasing participants’ resolve to quit smoking and supporting their efforts to do so might be deemed effective even if the ultimate goal of abstinence from smoking is not achieved in the short run.

The final section of this report examines the attitudinal changes and information about the health risks of secondhand smoke to others that are most likely to be associated with smoking cessation.

A “stepwise” multiple regression analysis was performed to examine the attitudes and perceptions about smoking and information about the effects of secondhand smoke that predict expectations of quitting within the coming year, on the one hand, and expectations of quitting within five years, on the other.

In each analysis disagreement that smoking helps people cope better with frustration and stress is the primary predictor of expectations of quitting.¹⁰ Hence, the statement, “Smoking helps people cope better with frustration and stress,” might be considered a myth that presents a major obstacle that participants must overcome before developing a resolve to quit smoking.

In addition, knowledge about the harmful effects of secondhand smoke upon unborn children also has major, unique predictive value upon expectations of successful quitting within one year.¹¹ Therefore, while appeal to the benefits of becoming smoke-free for positive effects upon participants’ own health may or may not be effective, nevertheless, an appeal to quit smoking should also be based upon the harmful effects of secondhand smoke upon unborn children.

⁹ The Pearson *r* correlation coefficient, $r(N = 50) = -.32, p = .05$, represents a negative relationship between the number of previous attempts at quitting and the anticipated likelihood of being a smoker in five years. However, there is no significant correlation between the number of previous attempts at quitting and the likelihood of quitting within one year. Hence, respondents appear to be realistic in their perceptions of the difficulty of quitting smoking in the immediate future. It should be noted that the significant correlation merely indicates a notable degree of association between attempts at quitting and anticipation of ultimate success. Although the experience of attempting to quit could raise expectations of success, it is just as reasonable to speculate that the more optimistic smokers persevere in their attempts at quitting. Future experimental research that systematically introduces smoking cessation procedures and examines corresponding changes in anticipated success would be necessary to test the validity of these competing interpretations.

¹⁰ This item accounts for 18% of the variance in expectations of successful quitting within one year and 26% of the variance in expectations of successful quitting within five years.

¹¹ An additional 17% of the variance in expectations of successful quitting within one year is accounted for by knowledge of the harmful effects of secondhand smoke upon unborn children.

In addition to these two items (pertaining to smoking and dealing with stress and the harmful effects of secondhand smoke upon unborn children), the views that (1) smoking and popularity are not related and (2) secondhand smoke is more toxic than the same amount of smoke directly drawn from cigarettes also have unique values¹² in predicting the expectations of quitting within one year.

Besides attitudes toward smoking as a way to deal with frustration and stress, the following items also have unique value in predicting expectations of quitting smoking within five years: (1) smoking and popularity are not related, (2) not smoking is a way to express independence, (3) smoking cigarettes does not make young people look cool or fit in, and (4) secondhand smoke is more harmful than smoke directly drawn from cigarettes.¹³

In sum, both attitudes and perceptions about smoking and knowledge about the harmful effects of smoking upon others are associated with greater motivation and expectations to quit smoking. Therefore, tobacco use control and prevention programs should focus upon an understanding and control of the social contexts that contribute toward smoking as well as an understanding of the hazards of smoking to others' health.

¹² Three percent of the variance in expectations of successful quitting within one year is predicted by each of these items.

¹³ The amount of variance uniquely predicted by (or accounted for) by these variables is 5%, 4%, 1%, and 1%, respectively.

Appendix

Do your **parents** or guardians **currently smoke**, or did they **previously smoke**, tobacco?

Father: Currently smokes
 Previously smoked but quit
 Never smoked
 Not applicable/Don't know

Mother: Currently smokes
 Previously smoked but quit
 Never smoked
 Not applicable/Don't know

Please describe your **brother(s)** and/or **sister(s)** who live with you:

How many brothers? 0 1 2 3 4 5 6 7 8 9

How many sisters? 0 1 2 3 4 5 6 7 8 9

How many of them smoke? 0 1 2 3 4 5 6 7 8 9

How many of them smoke? 0 1 2 3 4 5 6 7 8 9

About **what percent of your friends smoke**?

0 10 20 30 40 50 60 70 80 90 100 NA

In general, about **what percent of youth your age smoke**?

0 10 20 30 40 50 60 70 80 90 100 NA

Have you used smokeless tobacco in the past 30 days?

Yes No

Have you **ever tried smoking**, even one or two puffs?

Yes No (If "No," skip to page 4.)

Have you **ever smoked a whole cigarette, cigar or mini-cigar**?

Yes No (If "No," skip to page 4.)

How old were you **when you smoked** a whole cigarette **for the first time**?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

If you have **never smoked more than one cigarette within a 30 day period**,
OR
If you have **never smoked more than 5 cigarettes in your entire life**, please skip to page 4.

When was the **last time you smoked a cigarette**, even one or two puffs?

Earlier today
 Sometime during the past week
 Sometime during the past month
 1 to 6 months ago

7 to 12 months ago
 1 to 4 years ago
 5 or more years ago

About how many **cigarettes** have you **smoked** during the **past year**?

None One 2 to 5 6 to 15 16 to 25 (about 1 pack) 26 to 99 100 or more (5 or more packs)

During the **past 30 days**, on **how many days** did you smoke?

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

During the past 30 days, on the days that you smoked, about **how many cigarettes** did you smoke **per day**?

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

How long can you go without smoking before you feel that you need a cigarette? Would you say...

- Less than 1 hour
- 12 to 18 hours
- 1 week or more
- 1 to 3 hours
- About 1 day
- 1 month or more
- 3 to 12 hours
- Several days
- Not applicable, I have no urge to smoke

On Sat. or Sun., how soon after you wake up do you usually smoke your first cigarette? Would you say...

- Less than 15 minutes
- 30 to 60 minutes
- 3 to 12 hours
- 15 to 30 minutes
- 1 to 2 hours
- More than 12 hours
- Not applicable; I don't smoke on weekends

Have you ever tried to stop smoking cigarettes?

- Yes If "Yes," how many times? If "Yes," were you ever successful? Yes No
- No (If "No," Please skip the next question.)

If you have tried to stop smoking, what method(s) did you use? (Please indicate all that apply.)

- Group class
- Nicotine patches
- Medication
- Hypnosis
- Switching to 'light'
- Exercise
- Nicotine gum
- Inhaling less
- Other, please specify _____

At the time of your heaviest smoking, on how many days per month did you smoke?

On the days that you smoked, how many cigarettes did you smoke per day?

If you have not smoked in the past month, please skip to the next page.

Currently, how strong is your desire to quit smoking?

<--No Desire Extremely Strong-->
 0 1 2 3 4 5 6 7 8 9 10 NA

What is the probability that you will quit smoking within the next year?

<--Zero % chance 100% sure-->
 0 10 20 30 40 50 60 70 80 90 100 NA

Which of the following tobacco products have you used in the past 30 days? (Please mark all that apply.)

- Bidis
- Cigars
- Cigarettes
- Swisher Sweets
- Pipes
- Kreteks
- When you smoke cigarettes, are they usually menthol? Yes No

Is there a brand of cigarettes you usually smoke? Yes No (If "No," please skip to the next page.)

What brand do you usually smoke? (Please choose one answer.)

- American Spirit
- Kool
- Newport
- Camel
- Lucky Strike
- Parliament
- GPC, Basic, or Doral
- Marlboro
- Virginia Slims
- Some other brand
Please specify: _____

PLEASE DO NOT WRITE IN THIS AREA

1307

If you **have smoked** in the past month, **please continue from here,**
and **answer all questions** on this page.

Please **indicate how true** the following statements are for you:
After not smoking for awhile, I become **restless or irritable**. 0 1 2 3 4 5 6 7 8 9 10 NA

When I go without a smoke for a few hours, I **experience craving**. 0 1 2 3 4 5 6 7 8 9 10 NA

If you have **NOT smoked** in the past month, **please begin with the next question.**

Please **indicate how strongly you agree or disagree** with the following statements:

Young people who smoke cigarettes have more friends. 0 1 2 3 4 5 6 7 8 9 10 NA

NOT smoking is a way to express my independence. 0 1 2 3 4 5 6 7 8 9 10 NA

Smoking helps people cope better with frustration and stress. 0 1 2 3 4 5 6 7 8 9 10 NA

Smoking can cause low birth weight and childbirth complications. 0 1 2 3 4 5 6 7 8 9 10 NA

"Secondhand" smoke is more toxic than the same amount of smoke directly drawn from cigarettes. 0 1 2 3 4 5 6 7 8 9 10 NA

Smoking cigarettes makes young people look cool or fit in. 0 1 2 3 4 5 6 7 8 9 10 NA

Five years from now, what is the likelihood that you will smoke one cigarette or more per month? 0 10 20 30 40 50 60 70 80 90 100 NA

During the past 7 days, on how many days were you **in the same room** with someone who was smoking cigarettes?
 0 Days 1 Day 2 Days 3 Days 4 Days 5 Days 6 Days 7 Days

During the past 7 days, on how many days did you **ride in a car** with someone who was smoking cigarettes?
 0 Days 1 Day 2 Days 3 Days 4 Days 5 Days 6 Days 7 Days

Thank you very much for your help!

If you would like information about this survey, please call Cheryl Owens at (513) 319-8218 or the Asian Services in Action, Inc., (330) 535-3263

