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Authors

Debra Holden, PhD Lisa Hund, MPH Julia M. Gable, MS et al.

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Youth Tobacco Cessation

RESULTS FROM THE 2000 NATIONAL YOUTH TOBACCO SURVEY



PREAMBLE

In November 1998, Americans won an unprecedented victory in our nation's century-long fight against tobacco use and abuse. A coalition of 46 state Attorneys General successfully settled their cases with the tobacco companies, amounting to \$206 billion over the first 25 years. As part of the Master Settlement Agreement (MSA), a 501(c)(3) organization was established to reduce tobacco usage in the United States. This organization is now known as the American Legacy Foundation.

Legacy's Board of Directors consists of a diverse mix of state governors, legislators, Attorneys General, and experts in the medical, education, and public health fields:

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PURPOSE OF THE FIRST LOOK REPORT SERIES

The purpose of the First Look Report Series is to provide brief research findings from the National Youth Tobacco Surveys and other tobacco use surveys. The series will cover a wide range of topics, including tobacco use behaviors, attitudes and beliefs about tobacco, pro- and countertobacco marketing efforts, results of the American Legacy Foundation initiatives, and other policies and programs related to tobacco use.

Dear Colleague:

I am pleased to share Legacy's latest *First Look Report* with you. This report contains new data from Legacy's National Youth Tobacco Survey and suggests that many young people are struggling with nicotine addiction before age 18. This nationally representative survey reveals that 82 percent of 11 to 19 year olds who smoke are thinking about quitting, and 67 percent have made at least one quit attempt in the past year. However, like adult smokers who want to quit, few adolescent smokers are successful in their quit attempts in a given year. Among youth who had smoked daily and tried to quit, only 8 percent reported having succeeded in not smoking for 1 month.

These data demonstrate that the issue of youth cessation requires additional resources and attention. A body of emerging research about cessation methods for youth has yielded contradictory results. The path to assisting youth who want to quit is still unclear. We do know that the methods that work for adults cannot simply be translated to youth. The late teen years and early adult period may be a more fruitful period to intervene. Unfortunately, this report shows that the majority of youth who try to quit smoking do so without counseling or pharmacotherapy. We hope this report will generate more attention to the issue and will contribute to the development of new and novel approaches to youth cessation.

Sincerely,

Cheryl C. Healton, DrPH

President/CEO

American Legacy Foundation

INNOVATIVE AND EVIDENCE-BASED PROGRAMS

MARKETING AND EDUCATION

The most visible of Legacy's efforts to date is the truthsm campaign. The truthsm campaign is aimed at reducing tobacco use among youth aged 12 to 17 who are most open to using tobacco. Modeled after successful teen brands, this multicultural countermarketing program incorporates advertising, Internet, grassroots, and public relations components and gives teens a voice in the effort.

APPLIED RESEARCH AND EVALUATION

The Applied Research and Evaluation team is composed of Legacy staff and colleagues from RTI, Legacy's Research and Evaluation Coordinating Center. Efforts include conducting two national surveys to document the tobacco-related beliefs, attitudes, and behavior of American youth, and the effectiveness of the truthsm campaign. The team evaluates all internal and Legacy-funded programs. The research program also provides funding for outside research in specific areas of tobacco control.

GRANTS

Legacy's grants program is designed to build on existing tobacco control efforts, leverage resources, and spark new tobacco control initiatives. Awards totalling over \$59 million have been announced to states and organizations to develop youth empowerment programs, programs to reduce disparities in tobacco control experienced by priority populations, and small innovative or research demonstration programs.

PRIORITY POPULATIONS

Legacy is committed to addressing the needs of populations that have been disproportionately burdened by the epidemic of tobacco in America. To identify promising practices, culturally appropriate approaches, and resource gaps, Legacy convened six national Priority Population forums in 2000 among tobacco control experts who represented underserved populations. Their recommendations form the basis for the Priority Populations Initiative, which makes available up to \$21 million over 3 years for capacity-building grants and innovative projects and applied research grants.

TRAINING AND TECHNICAL ASSISTANCE

Legacy is committed to providing high quality and best practices based training and technical assistance to its grantees, local and state entities, and others who are working in the tobacco control movement. In addition, Legacy's training and technical assistance team coordinates a range of Youth Activism Projects and is a major funder and collaborator for the National Tobacco Training and Assistance Consortium.

CONTACT INFORMATION

Phone: 202-454-5555 E-mail: info@americanlegacy.org

Cheryl G. Healton, DrPH · President & CEO

Cynthia Baker · Director of Development for Strategic Partnerships

David Banks, PhD · Director of Technical Assistance & Training

Sharon Carothers · Associate Vice President for Program Development

Julie Cartwright · Vice President of Communication

Chris Cullen · Executive Vice President for Communication & Marketing

David Dobbins, JD · Associate Counsel

M. Lyndon Haviland, DrPH · Chief Operating Officer

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FIRST LOOK REPORT 11

Youth Tobacco Cessation: Results from the 2000 National Youth Tobacco Survey

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This report was written by Debra J. Holden, PhD*, Lisa M. Hund, MPH*, Julia M. Gable, MS*, and Paul Mowery, MS*.

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*RTI †American Legacy Foundation ‡Barker Bi-Coastal Health Consultants §University of Illinois at Chicago

INTRODUCTION

As the leading cause of death in the United States, tobacco use is a critical public health issue, particularly among our nation's youth. Over 90 percent of adult smokers began smoking at or before age 19 (Mowery, Brick, and Farrelly, 2000). This fact clearly demonstrates the need to reduce overall tobacco use before adulthood, during adolescence. Much of the effort to reduce youth tobacco use focuses on primary prevention. Recent reductions in youth smoking rates are encouraging of these preventive efforts (Johnston, O'Malley, and Bachman, 2002). Unfortunately, according to data from the 2000 National Household Survey on Drug Abuse (NHSDA), more than 2,000 young people still become smokers each day and join the ranks of approximately 3 million of their peers who smoke (Office of Applied Studies, 2002). Therefore, understanding cessation behavior among adolescents is critical. The Centers for Disease Control and Prevention (CDC) states that, "programs that successfully assist young and adult smokers in quitting can produce a quicker and probably larger short-term public health benefit than any other component of a comprehensive tobacco control program" (CDC, 1999, p. 24).

Relatively low rates of "spontaneous quitting" among adolescents also highlight the need for effective youth cessation interventions. These rates range from 4 percent to 6 percent for regular or daily smokers and from 21 percent to 33 percent for occasional smokers (Mermelstein, 2002). However, less than 70 empirical studies on smoking cessation interventions for adolescents have been published, and only 15 of these have used randomized, experimental designs (Sussman, 2002). Using information from a national youth tobacco survey, this report explores tobacco cessation among youth aged 12 to 19. It describes current smoking behavior, cessation attempts, and factors that influence youth quitting behavior.

2000 NATIONAL YOUTH TOBACCO SURVEY DESIGN AND CONTENT

This report is based on data from the 2000 National Youth Tobacco Survey (NYTS). The 2000 NYTS was administered in spring 2000 to 35,828 middle and high school students in 324 schools throughout the United States. The survey consisted of an anonymous, self-administered questionnaire that included questions about tobacco use; knowledge, attitudes, and beliefs about smoking; tobacco purchasing practices; environmental exposure to tobacco; and familiarity with tobacco advertising. Items were written to ensure ease of understanding and response from youth at various ages and reading levels. Most closed-ended questions had a "yes" or "no" response category option. This item format is similar to the one suggested by CDC for their Youth Tobacco Survey conducted by individual states because it shortens the response time but allows for definitive results (CDC, 2001).

The NYTS was administered to a nationally representative sample of students in grades 6 through 12. Schools with substantial numbers of African-American, Hispanic, and Asian-American students were oversampled to allow for separate analysis of these subgroups. To adjust for nonresponse and varying probabilities of

selection, including those resulting from oversampling, a weighting factor was applied to each student record. All estimates and 95 percent confidence intervals in this report were calculated using the sampling weights and controlling for the stratified survey design.

BACKGROUND

PREVALENCE OF ADOLESCENT SMOKING

The prevalence of cigarette smoking among middle and high school students in the United States increased during the 1990s, peaked during 1996–1997, and gradually declined thereafter (Johnston, O'Malley, and Bachman, 2002). Although this downward trend is encouraging, findings from the 2000 NYTS show that current smoking ranges from 11 percent among middle school students to 28 percent among high school students (CDC, 2001).

EPIDEMIOLOGY OF ADOLESCENT SMOKING CESSATION

Tobacco use cessation was included among the priority objectives for youth listed in Healthy People 2010: "Increase tobacco use cessation attempts by adolescent smokers to 84 percent" (USDHHS, 2000). Data show that many young people want to quit smoking. Data from the 2001 Youth Risk Behavior Survey (YRBS) indicate that 66 percent of ever-daily smokers in grades 9 through 12 had tried to quit smoking during the previous year (YRBS, 2001, unpublished data). According to other studies, approximately 45 percent of adolescent smokers desire to quit smoking within the next 6 months (Johnston, O'Malley, and Bachman, 1998; Pallonen, 1987).

Although a high percentage of adolescents report one or more attempts to quit smoking, there is no definitive success rate among adolescent smokers. However, two studies estimate that only 4 percent of adolescent smokers quit in a given year (Zhu et al., 1999; Engels et al., 1998). Another study indicates that only 1.5 percent of U.S. teenagers who have ever smoked have quit successfully as adolescents (CDC, 1992). Other studies report that approximately 40 percent of adolescent smokers have tried to quit sometime in the past and failed (IOM, 1994; Johnston, O'Malley, and Bachman, 1998). Data from the 1992 YRBS show that reported attempts to quit smoking become less common with increasing age: 69.4 percent of the youngest adolescent smokers reported trying to quit in the past 6 months compared with 56.6 percent of 14 to 17 year olds and 49.8 percent of young adult smokers (Adams et al., 1995). For those who do eventually quit, the median cessation age is 33 years for males and 37 years for females (Pierce and Gilpin, 1996), suggesting that successful quitters smoke a median of 16 to 20 years before they quit.

¹Current smoking was defined as the prevalence of smoking on 1 or more days during the 30 days preceding the survey.

CORRELATES OF ADOLESCENT SMOKING CESSATION

Many factors influence either the expression of a desire or attempts to quit smoking, such as family members', peers', and best friend's smoking (Ershler et al., 1989; Burt and Peterson, 1998; Pallonen et al., 1998; Zhu et al., 1999; Sussman, 2002); a negative or depressed mood (Zhu et al., 1999; Pallonen et al., 1998); lower self-efficacy (Engels et al., 1998); intensity and frequency of smoking (Ershler et al., 1989; Engels et al., 1998; Zhu et al., 1999); length of past quit attempts (Zhu et al., 1999); or peer offers of cigarettes (Pallonen et al., 1998). In addition, adolescent smokers are twice as likely to quit if their parents quit smoking (p < 0.05) (Farkas et al., 1999).

Findings are mixed with regard to gender and age differences in adolescent quit attempts. One study found that more female adolescents than male adolescents attempted to quit (Adams et al., 1995). The authors note that among 14 to 17 year olds, 61.5 percent of female smokers had tried to quit smoking in the past 6 months compared with 52.2 percent of male smokers. Of the young adult smokers surveyed, 52.3 percent of female smokers and 47.5 percent of male smokers reported at least one quit attempt (Adams et al., 1995). Conversely, two different studies reported that adolescent female smokers were somewhat less likely to have ever tried to quit in the past (Sussman et al., 1998) and were less successful than male smokers in attaining ongoing abstinence (Burt and Peterson, 1998). Zhu and colleagues (1999) found no significant differences in quit rates by gender, age, or race/ethnicity. Additional contradictory cessation results are reported with respect to age. Burt and Peterson (1998) found that high school seniors who had become regular smokers at the youngest ages were more likely to undertake a quit attempt than those who started smoking at older ages. Ershler et al. (1989) found the opposite: delayed quit attempts among high school students were associated with initiation of smoking at an early age.

Many of the factors that appear to influence cessation attempts are covered in the 2000 NYTS and are discussed in this report. This report is not meant to serve as an exhaustive review of the 2000 NYTS data related to cessation; rather, it presents descriptive statistics and initial findings relevant to tobacco control practitioners and researchers. Data presented include an overview of reported smoking behavior related to cessation and factors that seem to influence whether youth attempt to quit or express a desire to do so.

METHODS

To explore the cessation behavior of adolescent smokers, respondents were classified into two categories: current or former regular smokers. Smokers in either category were those youth who reported having smoked at least 100 cigarettes in their lifetime. The 100-cigarette milestone is commonly used as a marker for progression past the stage of experimenting with smoking and into regular smoking (Ringel, Pacula, and Wasserman, 2000; Pierce and Gilpin, 1996). Current regular smokers have smoked at least 100 cigarettes and have smoked on at least 1 day in the 30 days prior to the survey. Former smokers have smoked at least 100 cigarettes in their lifetime and have been daily smokers (smoked at least one cigarette per day for a 30-day period) but

have not smoked in the 30 days prior to the survey. Previous Legacy *First Look Reports* have presented comparisons between current and established smokers (Mowery, Brick, and Farrelly, 2000), where established smokers have smoked at least 100 cigarettes in their lifetime and reported smoking on at least 20 of the past 30 days. Because the definition of current regular smokers includes those who have smoked cigarettes at least 1 day in the past 30 days, the denominator for current regular smokers in the calculations presented here includes "established" smokers. In this report, we will refer to current regular smokers simply as regular smokers.

Although the NYTS provides a wealth of information, much of which has been reported in previous Legacy *First Look Reports* (http://www.americanlegacy.org), this report focuses on tobacco cessation and factors that may influence this behavior. Table 1 lists items from the 2000 NYTS that are related to cessation or attempts to quit smoking cigarettes.

Most item responses were on a 4-point scale from "definitely yes" to "definitely no." For the first two items related to environmental influences, respondents were asked to indicate a range of days in a week that they were in the same room as or in a car with a smoker (i.e., 0 days, 1 to 2 days, 3 to 4 days, 5 to 6 days, or 7 days). The third item asked respondents to indicate if a smoker lived in their home. The last item asked respondents to indicate how many of their four closest friends smoke cigarettes.

Table 1. 2000 NYTS Items Related to Cessation and Quit Attempts

Topic Area	Specific Items for each Topic
Expressed Motivation to Quit	 Do you want to completely stop smoking? During the past 12 months, did you ever think about quitting smoking cigarettes?
Quit Attempts	 During the past 12 months, did you ever think about quitting smoking cigarettes? During the past 12 months, how many times have you tried to quit smoking? When you last tried to quit, how long did you stay off cigarettes? When was the last time you smoked a cigarette, even 1 or 2 puffs? Have you ever tried to stop or cut down on your smoking and found that you were not able to do so?
Methods of Quitting	 In the past 12 months, did you do any of the following to help you stop smoking (attended a program in my school, attended a pro- gram in the community, called a help line or quit line, used nicotine gum or nicotine patch, used any medicine to help you stop)?
Environmental Influences on Quitting Behavior	 During the past 7 days, on how many days were you in the same room with someone who was smoking cigarettes? During the past 7 days, on how many days did you ride in a car with someone who was smoking cigarettes? Besides yourself, does anyone who lives in your home smoke cigarettes now? How many of your four closest friends smoke?

Data are presented by age, race/ethnicity, gender, and school level—middle school (grades 6 through 8) and high school (grades 9 through 12). For this report, we combine 11, 12, and 13 year olds into a single age category; 18 and 19 year olds

are also combined into one age category. Race/ethnicity is based on students' responses to the question, "Which of these groups best describes you? (Choose only one answer)." In this report, results are presented for White, African-American, Hispanic, and Asian-American groups. Sample sizes were small for the "Native Hawaiian or Other Pacific Islander" and "American Indian or Alaska Native" groups, so they are not included in this report. Comparisons across groups are considered statistically significant if their 95 percent confidence intervals do not overlap.

RESULTS

Of the 35,828 youth in the 2000 NYTS sample, 2,605 (7.3 percent) were excluded from this analysis because of incomplete information. Thus, the overall 2000 NYTS sample included in this report is 33,223 youth. These respondents were 11 to 19 years old at the time of the survey and completed information on the key variables for this report, including gender, race/ethnicity, past 30 days of smoking, and number of cigarettes smoked in their lifetime.

Of the 33,223 respondents analyzed, half (50.1 percent) were male and half (49.9 percent) were female. Respondents ranged in age from 11 to 19 years, with the largest proportion between 11 and 13 years old (11,078: 33.3 percent). A total of 10,273 were 14 to 15 years old (30.9 percent), and 9,263 were 16 to 17 years old (27.9 percent). The smallest proportion of respondents was between 18 and 19 years old (2,609: 7.9 percent). Over half the sample was White (19,061: 57.4 percent), and over one-third of the sample was Hispanic (6,143: 18.5 percent) or African-American (5,391: 16.2 percent). A total of 1,633 Asians (4.9 percent), 572 American Indians/Alaska Natives (1.7 percent), and 423 Pacific Islanders (1.3 percent) were included in the sample.

More than half of respondents were classified as "never smokers" (17,543: 52.7 percent). Those who reported having never smoked did not differ by gender but were much more likely to be younger rather than older. Asian youth were more likely to be "never smokers" than youth in any other racial/ethnic category.

More than one-third of respondents (11,668: 34.3 percent) were classified as "experimenters" (i.e., those who have smoked at least one puff of a cigarette but less than a total of 100 cigarettes in their lifetime). Experimenters did not differ by gender but did differ by age and race/ethnicity. As expected, older youth were more likely than younger youth to be classified as experimenters. African-Americans (42.5 percent) and Hispanics (41.3 percent) were more likely to be classified as experimenters than were Whites (31.4 percent). Asian-Americans (26.5 percent) were the least likely to be classified as experimenters. Less than 1 percent (138: 0.4 percent) of respondents no longer smoke but have experimented in the past and have never been daily smokers. Appendix Table A-1 presents demographic characteristics by smoking status for the overall sample.

In the following sections, we summarize cessation behavior among regular and former smokers. For regular smokers, we present results related to their expressed motivation to quit and an overview of their reported quit attempts, including number, length, and experience with quit attempts over the past 12 months. For former

smokers, we present an overview of their quit attempts prior to succeeding and the time since they last smoked. Regular and former smokers are then compared by methods they report using during the past 12 months to try to quit smoking cigarettes. Finally, we summarize findings regarding environmental factors (e.g., people in their home who smoke, smokers they ride in cars with) youth have encountered that may be influencing their smoking behavior.

CESSATION BEHAVIOR OF REGULAR SMOKERS

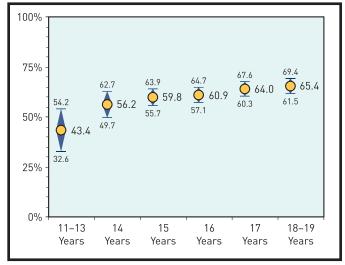
The 2000 NYTS database includes 3,555 regular smokers, 11 to 19 years old. Of these smokers, a large proportion (82.1 percent) reported thinking about quitting in the past 12 months. Nearly two-thirds (61 percent) of youth say that they want to completely stop smoking cigarettes, and 67 percent have made at least one quit attempt in the past 12 months. Among ever-daily smokers who tried to quit, only 8 percent were successful and reported not smoking any cigarettes in the 30 days prior to completing the survey.

Expressed Motivation to Quit Smoking

Older smokers (17 years old) (84.0 percent) were significantly more likely than younger smokers (11 to 13 years old) (68.7 percent) to report thinking about quitting. This suggests that in this sample, the longer youth smoke, the more likely they are to think about quitting. Appendix Table A-2 shows the proportion of youth who have thought about quitting by age, gender, and race/ethnicity.

Similar to these findings, students were asked if they wanted to "completely stop smoking" cigarettes and were asked to respond "yes" or "no." Responses to this question varied somewhat by age (Figure 1 and Appendix Table A-3). Younger respondents (11 to 13 years old) were less likely than older respondents (14 years or older) to report wanting to completely stop smoking. Although this figure seems to suggest that adolescents are more likely to want to quit smoking cigarettes as they age, this

Figure 1: Percentage of Regular Smokers Who Want to Completely Stop Smoking by Age, Middle and High School Combined — 2000 NYTS



Note: Upper and lower ranges represent 95 percent confidence intervals that account for the survey design weighting.

conclusion cannot be drawn from cross-sectional data. The motivation to quit did not vary by gender but appeared to vary considerably by race/ethnicity. Although most of these differences are insignificant, Asian youth in high school were more likely than White and Hispanic youth to report wanting to quit smoking (Figure 2 and Appendix Table A-4). Although this difference is influenced by the low proportion of Asian youth in this sample, it is important to note that the desire to quit is reported by such a large proportion of the Asian respondents. Responses to these two items related to motivation to quit were highly correlated (p < 0.01).

Middle School High School 100% 75% 67.2 25% 0% Overall African- Hispanic Asian-White African- Hispanic Asian-American American American American

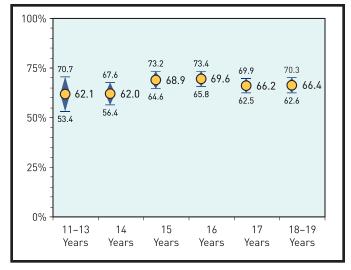
Figure 2: Percentage of Regular Smokers Who Want to Completely Stop Smoking by School Level and Race/Ethnicity — 2000 NYTS

Note: Upper and lower ranges represent 95 percent confidence intervals that account for the survey design weighting.

Overview of Reported Quit Attempts

Reported quit attempts did not differ significantly by age but did appear to differ by gender and, to some extent, race/ethnicity. Nearly two-thirds of regular smokers in each age group attempted to quit smoking at least once in the past 12 months (Figure 3). Female smokers were significantly more likely than male smokers in both middle school and high school to report attempting to quit smoking cigarettes at least once in the past 12 months (Figure 4). As detailed in Appendix Tables A-5, A-6, and A-7, Asian youth in middle school were much more likely to attempt to quit smoking cigarettes in the past 12 months than were White, African-American, and Hispanic youth. Hispanic youth were much less likely than youth in any other racial/ethnic group to report any quit attempts. Overall, at least half of regular smokers in each racial/ethnic category indicated at least one quit attempt in the past 12 months. The mean number of quit attempts for former smokers (2.27) was only slightly higher than that for regular smokers (2.08).

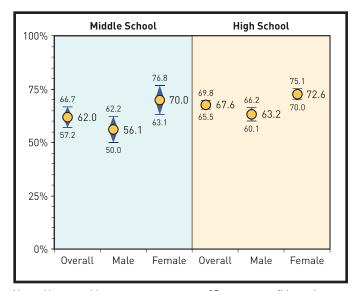
Figure 3: Percentage of Regular Smokers with at Least One Quit Attempt in the Past 12 Months by Age, Middle and High School Combined — 2000 NYTS



Note: Upper and lower ranges represent 95 percent confidence intervals that account for the survey design weighting.

Length of Quit Attempts. For regular smokers who reported at least one quit attempt, there were few differences among male and female smokers in length of last quit attempt. The majority of regular smokers who reported at least one quit attempt across both grade levels (middle and high school) indicated that they stayed off cigarettes less than 30 days during their last attempt (75.4 percent for males and 80.1 percent for females). There were similar findings for length of last quit attempt across racial/ethnic groups, with African-American youth (31.4 percent) being slightly more likely to quit smoking cigarettes for a longer period of time (i.e., more than 30 days) than White (21.2 percent) or Hispanic (25.3 percent) youth. These data are shown in Appendix Table A-8.

Figure 4: Percentage of Regular Smokers with at Least One Quit Attempt in Past 12 Months by School Level and Gender — 2000 NYTS



Note: Upper and lower ranges represent 95 percent confidence intervals that account for the survey design weighting.

Experience with Quit Attempts. Overall, 26.9 percent of regular smokers across all ages reported having tried unsuccessfully to stop or cut down on their smoking (Appendix Table A-9). There were few differences by age or gender for this item and only slight differences by race/ethnicity. Hispanic regular smokers were slightly less likely to answer "yes" to this item (19.7 percent) than White regular smokers (27.5 percent).

CESSATION BEHAVIOR OF FORMER SMOKERS

Former smokers have smoked at least 100 cigarettes in their lifetime and had been daily smokers (smoked at least one cigarette per day for 30 days) and reported not smoking cigarettes within the past 30 days at the time of completing the survey. The 2000 NYTS sample included 319 former smokers aged 11 to 19.

Respondents were asked to specify, "when was the last time you smoked a cigarette?," and former smokers of different ages reported variations in length of time since they last smoked. Interestingly, with increased age, youth reported longer periods of time since their last cigarette; 15 year olds (37.2 percent) were more likely than 14 year olds (17.4 percent) to report not smoking in the past year. With these cross-sectional data, it is hard to determine if these differences in time since last cigarette are trends in the process of cessation. However, apparent age differences in the time since the last cigarette should be researched further for their implications on long-term tobacco cessation among youth.

Differences in the time since the last cigarette across racial/ethnic groups were not significant. Although Hispanic youth (49.2 percent) were slightly more likely than White (30.7 percent) or African-American (37.4 percent) youth to quit for more than 12 months, this finding was not statistically significant. There were also few differences in time since last cigarette for male and female former smokers (Appendix Table A-10). Male former smokers were slightly more likely to have quit for more than 12 months (37 percent) than female former smokers (26 percent).

COMPARISON OF QUITTING METHODS AMONG REGULAR AND FORMER SMOKERS

As shown in Table 2, the vast majority of regular (85.4 percent) and former (93.6 percent) smokers who attempted to quit smoking within the past year did so without using any of the methods specified on the survey. Among both regular (9.9 percent) and former (3.4 percent) smokers, nicotine gum or patch was the most common method reported (of the choices on the survey). Few differences in methods used were noted across age, gender, or race/ethnicity.

These findings are particularly interesting when considering the cessation interventions that are available to youth. In a recent comprehensive review of cessation interventions for adolescents (Sussman, 2002), success rates for the intervention conditions were almost double those of control groups. Although findings from this meta-analysis indicate promising results for the success of cessation interventions, youth currently are not accessing these services, even if they want to quit smoking.

Table 2. Methods Used to Quit Smoking as Reported by Regular and Former Smokers

	Regular : (n=2,		Former Smokers (n=204)	
Method Used to Quit Smoking	N	%	N	%
No Method Used	2,532	85.4	191	93.6
School Cessation Program	98	3.3	3	1.5
Community Program	44	1.5	3	1.5
Quit Line	27	0.9	0	_
Nicotine Gum or Patch	295	9.9	7	3.4
Prescription Medicine (e.g., Zyban)	80	2.7	3	1.5

Notes: Regular smokers have smoked at least 100 cigarettes in lifetime, have been or currently are daily smokers (have smoked at least 1 cigarette per day for 30 days), and have smoked on a least 1 day of the past 30 days.

Former smokers have also smoked at least 100 cigarettes in their lifetime, had been daily smokers, but have not smoked in the past 30 days.

This table is limited to respondents who have smoked in the past 12 months because the questions about quitting attempts ask about methods used in the past 12 months.

Age groups are combined because few differences were noted by age, gender, or race/ethnicity.

Percentages do not add to 100 percent because respondents may have reported use of more than one method to quit smoking during the past 12 months.

ENVIRONMENTAL FACTORS INFLUENCING CESSATION BEHAVIOR

As previously specified, youth were asked four survey questions to explore the environmental factors that may be associated with attempts to quit (i.e., exposure to other's smoking in a room, car, at home, or among friends). Findings for regular and former smokers are presented to explore whether success in quitting is associated with these environmental factors.

Exposure to Smoking in a Room or Car. Over half (59.4 percent) of youth in the sample, regardless of their smoking status, reported having been in the same room with a smoker all of the past 7 days, while 45.4 percent had been in a car with a smoker all 7 days. A smaller proportion of youth reported having been in a room (12.8 percent) or car (15.6 percent) with a smoker for 3 to 4 of the past 7 days. Overall, only a small proportion of youth had not been in a room (6.2 percent) or a car (12.3 percent) with a smoker in the past 7 days.

As shown in Figure 5, regular and former smokers differ dramatically in their exposure to smokers in a room or car. Findings show that regardless of age, exposure to smoking in a room or car is greatly increased for regular smokers. Nearly two-thirds of regular smokers in both middle and high school (61.3 percent) reported being in the same room as a smoker all of the past 7 days, compared with 39.3 percent of former smokers; this finding is statistically significant. Similarly, nearly half (47.6 percent) of regular smokers reported riding in a car with a smoker all of the past 7 days, compared with 21.4 percent of former smokers; this finding is also statistically significant (see Appendix Table A-11).

100% Current Smokers 0 86.7 O Former Smokers 75% 67.0 63.8 63.1 **O** 61.3 55.8 50.2 50% 45.5 **Q** 47.6 39.4 33.2 26.7 25% 21.4 0% In Room with Smoker In Car with Smoker Smoker in Home At Least One 7/7 Days 7/7 Davs Friend Smokes

Figure 5: Exposure to Other Smokers, Regular vs. Former Smokers, Middle School and High School Combined — 2000 NYTS

Note: Upper and lower ranges represent 95 percent confidence intervals that account for the survey design weighting.

Among high school youth, regular smokers were significantly more likely than former smokers to be exposed to smoking in a room or car for all of the past 7 days. This difference was not statistically significant among middle school youth. Appendix Tables A-12 and A-13 show data on exposure to other smokers for middle school and high school youth, respectively. These two items were also highly correlated; that is, youth who reported being exposed to smoking in a room for 7 of the past 7 days tended to also report riding in a car with a smoker on a daily basis (p < 0.001).

Exposure to Other Smokers at Home or among Friends. Overall, nearly two-thirds of regular and former smokers (61.9 percent) reported that they live with a smoker at home. In addition, a large proportion of regular and former smokers (85.0 percent) have at least one close friend who smokes cigarettes. This finding was particularly important in illustrating the differences between regular and former smokers (Figure 5). Former smokers were much less likely than regular smokers to live with a smoker (49.3 percent and 63.1 percent, respectively). Former smokers were also significantly less likely to have at least one friend who smokes (67.0 percent and 86.7 percent, respectively).

Among high school youth, regular smokers were significantly more likely than former smokers to live with a smoker (60.9 percent and 45.2 percent, respectively). This difference was not statistically significant among middle school youth. Regular smokers were significantly more likely than former smokers to have at least one close friend who smokes. This difference was statistically significant in both the middle school and high school groups.

DISCUSSION

These data contribute to our understanding of the need for and potential impact of cessation services among adolescent smokers. The majority of regular smokers in this study express a desire to quit smoking, and this is particularly true for older youth. As shown, 82.1 percent of regular smokers have thought about quitting in the past 12 months, and this finding differs significantly by age, such that younger smokers (68.7 percent) are less likely than older smokers (84 percent) to think about quitting. Asian high school students, in particular, express a strong desire to quit smoking. Hispanic youth were the least likely among the racial/ethnic groups to indicate they want to quit. Responses for this item (desire to quit) and for the item on whether they have thought about quitting are correlated (p < 0.01). Nearly twothirds of regular smokers in each age group tried to quit at least once in the past 12 months, with female smokers significantly more likely than male smokers to try to quit at least once.

Two findings from these data are particularly important to the development of interventions to impact youth smoking behavior. These findings include the lack of available methods specific to youth in helping them quit smoking and the association between quitting smoking and environmental factors.

First, youth indicated that when they do try to quit, they generally do so "on their own." A large majority of regular (85.4 percent) and former (93.6 percent) smokers indicated that when they last tried to quit smoking, they did not use any of the commonly available methods to support quitting. The most common method reported, the nicotine patch or gum, was only used by 9.9 percent of former smokers and 3.4 percent of regular smokers in the past 12 months. This finding, along with youth indicating they generally believe they are unable to successfully quit, indicates that more needs to be done to make multiple interventions available to youth to support their cessation efforts.

In the past, most youth smoking cessation programs have been school-based. The major advantage of conducting programs in school settings is the accessibility of adolescent smokers. School is seen as the most appropriate place for cessation interventions because only a very small proportion of adolescent smokers have attended formal, community-based smoking cessation clinics in the past (Chapman, 1985; Stachnik and Stoffelmayr, 1981). A study by Digiusto (1994) found that enrollment rates in programs that are conducted during school hours are four times higher than in programs that require students to attend during their own free time. In addition, school-based cessation programs may indirectly benefit smokers who do not participate by providing role models who have succeeded in quitting smoking (Digiusto, 1994). Students feel comfortable in a program led by an outside professional, rather than a teacher. Students report that they are less inhibited about discussing tobacco use, a behavior that is against school rules and is likely to result in punishment, with someone who is not a staff member (Digiusto, 1994).

Although school-based cessation programs have a number of advantages, there are some disadvantages as well. Although programs held during school hours have high enrollment rates, they seem to attract individuals seeking novelty and entertainment, rather than individuals who are committed to quitting (Digiusto, 1994). In

addition, a particularly important ethical issue must be addressed with school-based programs: parental consent. Since the majority of adolescents who smoke, particularly the younger ones, do so without their parents' knowledge, they will be unlikely to attend a cessation program that requires parental approval (Digiusto, 1994).

New treatment and behavioral approaches are being explored to address youth cessation needs. Technology is being employed in novel ways to create computer-based self-help interventions that can be tailored to each individual smoker. School-based cessation interventions are investigating the impacts of peer-led cessation support groups and skills training. Cessation programs that have traditionally worked for adults are being modified and adapted to the adolescent population. Sussman et al.'s (1999) comprehensive review of existing research on youth smoking cessation programs indicates that the most successful programs emphasize the immediate consequences of tobacco use and include instruction on coping strategies. Other key factors of programs to enhance the quitting process include sustained support of quit attempts and instruction on youth social/life skills (Sussman, 2002).

The second critical finding from these data is related to the association between environmental factors and youth tobacco cessation. Regular smokers were significantly more likely to be exposed to smoking in their environment than were former smokers, on all of the indicators this survey assessed. These data were highly correlated, indicating that many of the same youth who are living with a smoker are also more likely to ride in a car with one for more days out of a week (p < 0.01). Public health research is needed to expand our understanding of the impact of these exposures on cessation behaviors. Studies have shown that youth are more likely to quit smoking if their parents do (Farkas et al., 1999), indicating the possible importance of developing cessation programs that support both. Other possibilities would be to better enforce nonsmoking rules in schools. Since these data are cross-sectional, we cannot assume this implies a causal relationship between any or all of the environmental factors and quitting behavior. But the findings are strong enough to indicate that it is important to consider developing interventions to educate the public about teen cessation needs, the influence of secondhand smoke on quitting behavior, and the role of family and peers in smoking. Other suggestions include working on policies to encourage bans on student smoking; educating key people in the lives of youth, such as getting their parents more involved in the antitobacco movement or in quitting smoking themselves; having youth involved in tobacco control try to influence their peers not to smoke; encouraging youth to enforce their right not to be exposed to smoke by asking those they ride with or live with to not smoke around them; or marketing the concept that youth can and need to successfully quit.

In general, as illustrated by many findings in this report, understanding youth tobacco cessation is a complex and challenging task. Even the quantification of cessation behavior is problematic and can be misleading. More research is needed to understand how youth define their smoking and quitting behaviors and how to best support them in their attempts to quit smoking. To begin with, youth smoking behavior has been described as "unstable" (Pallonen et al., 1990) compared with that of adults. Many adolescents go in and out of being smokers, possibly over a period of years. Thus, quitting smoking for a week or two may be less meaningful for an adolescent than it is for an adult (Burton, 1994). Furthermore, the concept of being

a "regular smoker" could be a foreign one to most teenage smokers. Teens may see smoking cessation programs as unnecessary and explicitly for regular smokers who are "addicted" to cigarettes, which many do not consider themselves to be. However, as supported by Sussman's (2002) recent review, youth need to be taught that successfully quitting for even a short period is important and will eventually result in successful quitting. More needs to be known about how youth perceive their own smoking behavior and the factors that help them determine when they are most likely to be receptive to interventions that support their quit attempts.

Unfortunately, youth smoking cessation programs have not been given the same priority, in either research or practice, as those for adults (Houston, Kolbe, and Eriksen, 1998). Most cessation interventions being used with adolescents were designed to be used with adults. In the relatively short history of adolescent smoking cessation programs, their impact has been largely disappointing due to low participation rates, high attrition, and low quit rates (Moolchan, Ernst, and Henningfield, 2000; Pallonen et al., 1998). These teen intervention programs have not been subject to rigorous evaluation. There are few accepted quantifiable adolescent cessation measures and limited primary research conducted with youth on tobacco use cessation. The public health community has focused most of its efforts on youth prevention rather than on youth cessation. Although some progress has been made in the area of prevention, many youth still initiate smoking and progress to established smoking. While prevention should remain a first priority, early intervention for adolescent cessation must address the needs of youth smokers. This report demonstrates that youth smokers need tailored smoking cessation interventions. Addressing adolescents' smoking cessation needs will require more research and innovative programs. The demand for youth smoking cessation interventions has grown, and we are now faced with the challenge of determining what works and providing appropriate resources to support youth in their cessation attempts.

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APPENDIX A: CESSATION BEHAVIOR AND FACTORS RELATED TO CESSATION — DETAILED TABLES

Table A-1: Distribution of Smoking Stage for all NYTS 2000 Respondents, Middle and High School Students Combined — 2000 NYTS [95% Confidence Interval]

	Never Smokers	Experi- menters ^b	Regular Smokers ^c	Former Ever Daily Smokers ^d	Former Non-daily Smokers ^e
Overall (n=33,223)	52.7% [50.6–54.8]	34.3% [32.9–35.6]	11.6% [10.4–12.7]	1.1% [0.9–1.2]	0.4% [0.4–0.5]
11-13 years (n=11,078)	72.7% [70.5–74.9]	25.2% [23.2–27.3]	1.8% [1.4–2.2]	0.1% [0.1–0.2]	0.1% [0.1–0.2]
14 years (n=5,213)	53.8% [51.4–56.3]	37.4% [35.4–39.5]	7.4% [6.2–8.7]	0.9% [0.6–1.3]	0.4% [0.2–0.6]
15 years (n=5,060)	46.5% [43.9–49.1]	38.7% [36.8–40.6]	13.4% [11.6–15.2]	0.9% [0.7–1.2]	0.5% [0.3–0.7]
16 years (n=4,742)	38.4% [36.0-40.8]	40.5% [38.9–42.2]	18.9% [16.9–20.8]	1.5% [1.0–2.0]	0.7% [0.4–1.0]
17 years (n=4,521)	34.6% [32.3–37.0]	40.7% [38.6-42.8]	21.8% [19.8–23.9]	2.1% [1.6–2.6]	0.8% [0.5–1.0]
18-19 years (n=2,609)	31.8% [28.8–34.7]	36.8% [34.4–39.3]	27.7% [24.7–30.8]	2.9% [2.3–3.5]	0.8% [0.4–1.2]
Male (n=16,636)	51.5% [49.3–53.7]	34.4% [33.0–35.7]	12.5% [11.2–13.7]	1.1% [0.9–1.3]	0.6% [0.5–0.8]
Female (n=16,587)	53.9% [51.6–56.2]	34.2% [32.6–35.8]	10.7% [9.4–12.0]	1.0% [0.7–1.2]	0.3% [0.2-0.4]
White (n=19,061)	52.7% [50.1–55.4]	31.4% [30.0–32.8]	14.1% [12.6–15.5]	1.3% [1.1–1.5]	0.5% [0.4–0.7]
African-American (n=5,391)	51.8% [49.0–54.7]	42.5% [39.9–45.2]	5.1% [3.9–6.2]	0.4% [0.2-0.6]	0.2% [0-0.3]
Hispanic (n=6,143)	51.7% [48.4–55.1]	41.3% [38.8–43.9]	6.2% [4.8–7.5]	0.5% [0.3–0.7]	0.3% [0.1–0.5]
Asian-American (n=1,633)	63.5% [59.6-67.4]	26.5% [23.5–29.6]	9.0% [7.2–10.9]	0.6% [0.3–0.8]	0.4% [0-0.8]

^aIncludes all NYTS 2000 respondents 11 to 19 years old, with nonmissing data for gender, race, past 30-day smoking status, time frame for first cigarette smoked, and lifetime cigarettes smoked.

^bExperimenters — Smoked at least one puff but less than 100 cigarettes lifetime.

^cRegular Smokers — Smoked 100 or more cigarettes lifetime, and smoked in the past 30 days.

 $^{^{}m d}$ Former Ever Daily Smokers — Smoked 100 or more cigarettes lifetime, ever smoked daily, and have not smoked in the past 30 days.

 $^{^{}m e}$ Former Non-daily Smokers — Smoked 100 or more cigarettes lifetime, never smoked daily, and have not smoked in the past 30 days.

Table A-2: Percentage of Regular Smokers Who Have Thought about Quitting Smoking in the Past 12 Months, Middle and High School Students Combined — 2000 NYTS [95% Confidence Interval]

	Have Thought about Quitting Smoking in Past 12 Months	Have Not Thought about Quitting Smoking in Past 12 Months
Overall	82.1%	17.9%
(n=3487)	[80.4–83.8]	[16.3–19.6]
11–13 years (n=177)	68.7% [61.2–76.1]	31.3% [23.9–38.8]
14 years (n=344)	77.3% [72.5–82.0]	22.7% [18.0–27.5]
15 years (n=598)	82.8% [79.6–86.0]	17.2% [14.0–20.4]
16 years	82.1%	17.9%
(n=777)	[79.1–85.0]	[15.0–20.9]
17 years	84.0%	16.0%
(n=896)	[81.5–86.6]	[13.4–18.5]
18–19 years	85.1%	14.9%
(n=695)	[82.2–87.9]	[12.1–17.8]
Male	77.6%	22.4%
(n=1919)	[75.2–80.0]	[20.0–24.8]
Female	87.2%	12.8%
(n=1568)	[85.3–89.2]	[10.8–14.8]
White	83.6%	16.4%
(n=2658)	[81.8–85.3]	[14.7–18.2]
African-American	78.7%	21.3%
(n=235)	[73.0–84.3]	[15.7–27.0]
Hispanic	68.5%	31.5%
(n=348)	[62.8–74.1]	[25.9–37.2]
Asian-American (n=148)	86.0% [79.9–92.1]	14.0% [7.9–20.1]

Table A-3: Percentage of Regular Smokers Who Want to Completely Stop Smoking Cigarettes, Middle and High School Students Combined — 2000 NYTS [95% Confidence Interval]

	Want to Completely Stop Smoking Cigarettes	Do Not Want to Completely Stop Smoking Cigarettes
Overall (n=3399)	61.0% [58.9–63.1]	39.1% [37.0-41.2]
11–13 years (n=173)	43.4% [32.6–54.2]	56.6% [45.8-67.4]
14 years (n=338)	56.2% [49.7–62.7]	43.8% [37.3–50.3]
15 years (n=591)	59.8% [55.7–63.9]	40.2% [36.1–44.3]
16 years (n=751)	60.9% [57.1–64.7]	39.1% [35.3–42.9]
17 years (n=872)	64.0% [60.3–67.6]	36.0% [32.4–39.7]
18–19 years (n=674)	65.4% [61.5-69.4]	34.6% [30.6–38.5]
Male (n=1873)	59.8% [56.9–62.8]	40.2% [37.3–43.1]
Female (n=1526)	62.2% [59.2–65.3]	37.8% [34.7–40.8]
White (n=2585)	60.9% [58.6-63.2]	39.1% [36.8–41.4]
African-American (n=233)	65.5% [58.4–72.6]	34.5% [27.4-41.6]
Hispanic (n=339)	53.5% [46.6–60.3]	46.5% [39.7–53.4]
Asian-American (n=146)	77.4% [69.1–85.8]	22.6% [14.2–30.9]

Table A-4: Percentage of Regular Smokers Who Want to Completely Stop Smoking Cigarettes, by School Level — 2000 NYTS [95% Confidence Interval]

	Middle School (Grades 6-8)				
	Want to Completely Stop Smoking Cigarettes	Do Not Want to Completely Stop Smoking Cigarettes			
Overall (n=449)	48.9% [42.3–55.4]	51.1% [44.6–57.7]			
Male (n=266)	48.2% [40.3–56.1]	51.8% [43.9–59.7]			
Female (n=183)	49.8% [40.8–58.8]	50.2% [41.2–59.2]			
White (n=315)	49.3% [41.8–56.8]	50.7% [43.2–58.2]			
African-American (n=48)	52.6% [37.7–67.5]	47.4% [32.6-62.3]			
Hispanic (n=55)	40.6% [26.7–54.5]	59.4% [45.5–73.3]			
Asian-American (n=8)	67.2% [39.8–94.6]	32.8% [5.4–60.2]			
	High School ((Grades 9-12)			
	High School (Want to Completely Stop Smoking Cigarettes	(Grades 9–12) Do Not Want to Completely Stop Smoking Cigarettes			
Overall (n=2950)	Want to Completely	Do Not Want to Completely			
	Want to Completely Stop Smoking Cigarettes 62.8%	Do Not Want to Completely Stop Smoking Cigarettes 37.2%			
(n=2950) Male	Want to Completely Stop Smoking Cigarettes 62.8% [60.7-65.0] 61.8%	Do Not Want to Completely Stop Smoking Cigarettes 37.2% [35.0-39.3] 38.2%			
(n=2950) Male (n=1607) Female	Want to Completely Stop Smoking Cigarettes 62.8% [60.7-65.0] 61.8% [58.8-64.9] 63.9%	Do Not Want to Completely Stop Smoking Cigarettes 37.2% [35.0-39.3] 38.2% [35.1-41.2] 36.1%			
(n=2950) Male (n=1607) Female (n=1343) White	Want to Completely Stop Smoking Cigarettes 62.8% [60.7-65.0] 61.8% [58.8-64.9] 63.9% [60.8-67.1]	Do Not Want to Completely Stop Smoking Cigarettes 37.2% [35.0-39.3] 38.2% [35.1-41.2] 36.1% [33.0-39.2] 37.4%			
(n=2950) Male (n=1607) Female (n=1343) White (n=2270) African-American	Want to Completely Stop Smoking Cigarettes 62.8% [60.7-65.0] 61.8% [58.8-64.9] 63.9% [60.8-67.1] 62.6% [60.3-65.0] 68.4%	Do Not Want to Completely Stop Smoking Cigarettes 37.2% [35.0-39.3] 38.2% [35.1-41.2] 36.1% [33.0-39.2] 37.4% [35.0-39.7] 31.6%			

Table A-5: Percentage of Regular Smokers with At Least One Quit Attempt in Past 12 Months, Middle and High School Students Combined — 2000 NYTS [95% Confidence Interval]

	No Quit Attempts	1+ Quit Attempts
Overall (n=3467)	33.1% [31.2–35.0]	66.9% [65.0–68.8]
11-13 years (n=173)	37.9% [29.3-46.6]	62.1% [53.4–70.7]
14 years (n=342)	38.0% [32.4–43.6]	62.0% [56.4–67.7]
15 years (n=599)	31.1% [26.8–35.4]	68.9% [64.6–73.2]
16 years (n=776)	30.4% [26.6–34.3]	69.6% [65.8–73.4]
17 years (n=892)	33.8% [30.1–37.5]	66.2% [62.5–69.9]
18-19 years (n=685)	33.6% [29.7–37.4]	66.4% [62.6–70.3]
Male (n=1903)	37.9% [35.2–40.5]	62.1% [59.5–64.8]
Female (n=1564)	27.7% [25.4–30.1]	72.3% [69.9–74.6]
White (n=2652)	33.1% [31.0–35.3]	66.9% [64.7–69.0]
African-American (n=230)	27.9 % [22.7–33.2]	72.1% [66.8–77.3]
Hispanic (n=344)	41.3% [35.6–47.0]	58.7% [53.0-64.4]
Asian-American (n=146)	23.9% [16.1–31.6]	76.1% [68.4–83.9]

Table A-6: Percentage of Regular Smokers with At Least One Quit Attempt in Past 12 Months, by School Level — 2000 NYTS [95% Confidence Interval]

	Middle School	l (Grades 6–8)			
	No Quit Attempts	1+ Quit Attempts			
Overall (n=456)	38.0% [33.3–42.8]	62.0% [57.2–66.7]			
Male (n=266)	43.9% [37.8–50.0]	56.1% [50.0–62.2]			
Female (n=190)	30.0% [23.2–36.9]	70.0% [63.1–76.8]			
White (n=322)	36.7% [31.4–42.0]	63.3% [58.0–68.6]			
African-American (n=48)	42.8 % [27.2–58.3]	57.2% [41.7–72.8]			
Hispanic (n=57)	45.6% [29.9-61.2]	54.4% [38.8–70.1]			
Asian-American [n=8]	16.7% [0–35.1]	83.3% [64.9–100.0]			
	High School (Grades 9–12)				
	No Quit Attempts	1+ Quit Attempts			
Overall (n=3011)	32.4% [30.3–34.5]	67.6% [65.5–69.8]			
Male (n=1637)	36.9% [33.8–39.9]	63.1% [60.1–66.2]			
Female (n=1374)	27.4% [24.9–30.0]	72.6% [70.0–75.1]			
White (n=2330)	32.6% [30.2–35.0]	67.4% [65.0-69.8]			
African-American (n=182)	24.5% [18.6–30.4]	75.5% [69.6-81.4]			
Hispanic (n=287)	40.6% [34.0-47.1]	59.4% [52.9–66.0]			

Table A-7: Distribution of Number of Quit Attempts in Past 12 Months among Regular Smokers, Middle and High School Students Combined — 2000 NYTS [95% Confidence Interval]

	No Quit Attempts	1 Quit Attempt	2 Quit Attempts	3-5 Quit Attempts	6-9 Quit Attempts	10+ Quit Attempts
Overall (n=3467)	33.1% [31.2–35.0]	21.3% [20.0–22.5]	20.2% [18.7–21.6]	16.5% [15.4–17.7]	3.6% [2.9-4.3]	5.3% [4.5-6.2]
11-13 years (n=173)	37.9% [29.3-46.6]	16.4% [9.6–23.1]	14.0% [8.2–19.7]	14.8% [8.1–21.5]	6.6% [2.0–11.2]	10.3% [5.3–15.4]
14 years (n=342)	38.0% [32.4–43.6]	19.0% [15.0–23.0]	20.0% [15.7–24.4]	12.6% [8.7–16.5]	2.0% [0-4.2]	8.4% [5.2–11.6]
15 years (n=599)	31.1% [26.8–35.4]	20.0% [16.7–23.4]	21.0% [17.8–24.3]	18.0% [14.4–21.6]	5.0% [3.0–7.0]	4.8% [3.0-6.6]
16 years (n=776)	30.4% [26.6–34.3]	21.6% [18.5–24.8]	21.9% [18.3–25.4]	17.5% [14.8– 20.2]	3.1% [1.7–4.4]	5.5% [3.9–7.2]
17 years (n=892)	33.8% [30.1–37.5]	21.8% [19.0–24.5]	20.5% [18.1–23.0]	18.0% [15.4–20.6]	2.5% [1.5–3.5]	3.5% [2.2–4.8]
18–19 years (n=685)	33.6% [29.7–37.4]	23.7% [20.6–26.9]	18.6% [15.4–21.7]	14.7% [12.1–17.4]	4.4% [2.7–6.0]	5.1% [3.4-6.7]
Male (n=1903)	37.9% [35.2–40.5]	21.4% [19.6–23.2]	18.3% [16.4–20.1]	12.5% [10.9–14.1]	4.0% [2.9–5.0]	6.0% [4.8–7.2]
Female (n=1564)	27.7% [25.4–30.1]	21.1% [19.2–23.1]	22.3% [20.1–24.5]	21.2% 19.2–23.1]	3.2% [2.2–4.1]	4.5% [3.4–5.7]
White (n=2652)	33.1% [31.0–35.3]	21.9% [20.4–23.3]	20.4% [18.8–22.1]	16.8% [15.4–18.1]	3.5% [2.7-4.3]	4.3% [3.5–5.1]
African-American (n=230)	27.9% [22.7–33.2]	20.3% [14.8–25.8]	22.1% [15.8–28.5]	14.2% [9.7–18.6]	4.2% [1.7–6.7]	11.3% [7.0–15.6]
Hispanic (n=344)	41.3% [35.6–47.0]	15.9% [12.3–19.5]	17.0% [13.0–21.0]	15.2% [10.8–19.5]	2.5% [0.7–4.4]	8.1% [4.4–11.8]
Asian-American (n=146)	23.9% [16.1–31.6]	20.9% [14.0-27.9]	16.8% [10.0–23.6]	24.1% [15.8–32.5]	4.1% [0-8.4]	10.2% [4.2–16.2]

Table A-8: Length of Time Off Cigarettes during Last Quit Attempt, Middle and High School Students Combined, Regular Smokers with at Least One Quit Attempt in Past 12 Months — 2000 NYTS [95% Confidence Interval]

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	< 1 Day	1-7 Days	> 7 Days, < 30 Days	> 30 Days, < 6 Months	> 6 Months, < 1 Year	> 1 Year
Overall [n=2287]	16.9% [15.0–18.7]	39.9% [37.8–42.1]	21.0% [19.1–23.0]	15.5% [13.4–17.7]	4.2 % [3.3–5.0]	2.5% [1.8–3.1]
11-13 years (n=99)	16.9% [7.9–26.0]	32.3% [21.3-43.4]	26.6% [13.7–39.4]	17.6% [8.6–26.6]	1.4% [0-4.2]	5.1% [1.0–9.3]
14 years (n=206)	24.2% [19.0–29.4]	34.8% [27.4–42.3]	19.9% [14.4–25.4]	11.6% [7.0–16.2]	4.5% [1.3–7.8]	5.0% [1.2–8.8]
15 years (n=405)	17.9% [13.1–22.7]	44.1% [39.0-49.3]	19.2% [14.6–23.8]	13.7% [9.5–17.8]	4.1% [2.1–6.1]	1.0% [0.2–1.9]
16 years (n=535)	14.3% [10.7–18.0]	41.3% [36.5–46.1]	20.7% [16.6–24.8]	17.5% [13.5–21.6]	3.5% [2.0–4.9]	2.7% [0.8–4.6]
17 years (n=595)	16.4% [12.9–19.9]	39.3 % [35.3–43.3]	22.3% [18.8–25.9]	17.6% [14.1–21.1]	3.2% [1.9–4.6]	1.1% [0.3–2.0]
18-19 years [n=447]	16.1% [12.9–19.4]	39.3% [34.1–44.6]	20.7% [16.6–24.8]	13.6% [10.0–17.2]	6.9% [4.3–9.5]	3.4% [1.5–5.2]
Male (n=1167)	14.5% [12.3–16.8]	39.9% [36.9-42.9]	21.0% [18.1–23.9]	16.8% [13.9–19.7]	5.2% [3.7–6.8]	2.6% [1.5–3.6]
Female (n=1120)	19.1% [16.2–22.0]	39.9% [36.7-43.2]	21.1% [18.4–23.8]	14.3% [11.9–16.8]	3.2% [2.2–4.1]	2.4% [1.4–3.4]
White (n=1759)	16.7% [14.6–18.8]	40.4% [38.0-42.8]	21.7% [19.5–23.9]	15.1% [12.6–17.5]	4.0% [3.1–4.9]	2.1% [1.4–2.9]
African-American (n=156)	21.1% [14.6–27.6]	35.3% [26.0-44.6]	12.2% [7.5–16.9]	20.3% [13.5–27.2]	5.6% [0.4–10.7]	5.5% [1.2–9.7]
Hispanic (n=200)	14.0% [8.5–19.6]	35.9% [28.5–43.3]	24.8% [18.6–31.0]	16.3% [9.0–23.6]	5.4% [1.9–8.9]	3.6% [0.4–6.8]
Asian-American [n=113]	16.7% [8.1–25.4]	42.3% [31.9–52.7]	19.0% [11.7–26.3]	18.2% [9.4–27.0]	3.2% [0–7.7]	0.6% [0-1.6]

Table A-9: Percentage of Regular Smokers Who Have Tried to Cut Down or Stop Smoking Cigarettes but Were Unable to Do So, Middle and High School Students Combined — 2000 NYTS [95% Confidence Interval]

	Tried to Cut Down but Unable to Do So	Have Not Tried to Cut Down or Tried and Succeeded at Cutting Down
Overall (n=3497)	26.9% [25.2–28.5]	73.1% [71.5–74.8]
11–13 years (n=182)	23.8% [18.1–29.5]	76.2% [70.5–81.9]
14 years (n=341)	28.1% [22.4–33.8]	71.9% [66.2–77.6]
15 years (n=603)	28.0% [24.1–32.0]	72.0% [68.0–75.9]
16 years (n=778)	28.6% [25.8-31.4]	71.4% [68.6–74.2]
17 years (n=899)	25.5% [22.6–28.4]	74.5% [71.6–77.4]
18-19 years (n=694)	25.7% [21.2–30.2]	74.3% [69.8–78.8]
Male (n=1927)	23.5% [21.6–25.5]	76.5% [74.5–78.4]
Female (n=1570)	30.6% [28.3–33.0]	69.4% [67.0–71.7]
White (n=2668)	27.5% [25.6–29.4]	72.5% [70.6-74.4]
African-American (n=235)	27.4% [21.8–33.1]	72.6% [66.9–78.3]
Hispanic (n=350)	19.7% [14.4–25.1]	80.3% [75.0–85.6]
Asian-American (n=145)	21.8% [15.2–28.5]	78.2% [71.5–84.8]

Table A-10: Length of Time Off Cigarettes for Former Smokers, Middle and High School Students Combined — 2000 NYTS [95% Confidence Interval]

	> 30 Days, < 6 Months	> 6 Months, < 1 Year	> 1 Year
Overall (n=300)	47.3% [41.1–53.5]	20.9% [15.9–25.9]	31.8% [26.1–37.4]
11-13 years [n=12]	72.8% [48.0–97.6]	6.2% [0.00–18.4]	21.0% [0.0–44.5]
14 years (n=38)	54.7% [36.0–73.4]	27.9% [12.5–43.4]	17.4% [4.3–30.4]
15 years (n=42)	37.4% [20.3–54.6]	25.4% [10.7–40.2]	37.2% [20.1–54.2]
16 years (n=59)	49.1% [38.9–59.4]	20.1% [10.2–30.0]	30.8% [19.8–41.7]
17 years (n=83)	44.2% [32.0–56.4]	21.8% [12.6–30.9]	34.0% [22.0–46.1]
18–19 years [n=66]	46.1% [34.5–57.7]	16.9% [6.7–27.1]	37.0% [26.4–47.7]
Male (n=165)	41.1% [32.5–49.7]	21.9% [15.1–28.7]	37.0% [28.1–45.9]
Female (n=135)	54.1% [45.9–62.3]	19.9% [13.3–26.5]	26.0% [18.4–33.6]
White (n=230)	48.5% [41.5–55.4]	20.8% [15.4–26.3]	30.7% [24.3–37.1]
African-American (n=18)	31.9% [5.4–58.4]	30.7% [7.8–53.6]	37.4% [12.0–62.7]
Hispanic (n=28)	34.8% [17.3–52.4]	16.0% [0.0–34.0]	49.2% [30.0-68.4]
Asian-American [n=12]	66.5% [39.5–93.5]	23.5% [0.0–47.6]	10.0% [0.0-24.4]

Table A-11: Exposure to Other Smokers, Middle and High School Students Combined, Regular Smokers and Former Smokers — 2000 NYTS [95% Confidence Interval]

	Days in Same Room as Smoker in Past 7 Days						
	0 Days	1–2 Days	3-4 Days	5-6 Days	7 Days		
Overall (n=3783)	6.2% [5.3–7.2]	10.3% [9.2–11.4]	12.8% [11.5–14.0]	11.3% [10.1–12.4]	59.4% [56.9–62.0]		
Regular Smokers (n=3467)	5.4% [4.4-6.3]	9.1% [8.0–10.3]	12.7% [11.4–14.0]	11.5% [10.3–12.8]	61.3% [58.7-63.8]		
Former Smokers (n=316)	15.9% [11.2–20.5]	23.0% [17.4–28.6]	13.5% [9.5–17.6]	8.3% [5.3–11.2]	39.3% [33.2–45.5]		
	Days in Car with Smoker in Past 7 Days						
	0 Days	1-2 Days	3-4 Days	5-6 Days	7 Days		
Overall (n=3779)	12.3% [11.0–13.6]	14.3% [13.0–15.6]	15.6% [14.3–16.9]	12.3% [11.5–13.2]	45.4% [42.9–47.9]		
Regular Smokers (n=3463)	10.2% [9.0–11.5]	13.8% [12.4–15.1]	15.8% [14.4–17.1]	12.6% [11.6–13.6]	47.6% [45.1–50.2]		
Former Smokers (n=316)	35.1% [29.8–40.4]	19.6% [15.0–24.1]	14.2% [10.3–18.2]	9.7% [5.8–13.6]	21.4% [16.1–26.7]		
	Smoker in Home						
	Smoker at Home			No Smoker at Home			
Overall (n=3801)	61.9% [59.5–64.4]			38.1% [35.6–40.5]			
Regular Smokers (n=3484)	63.1% [60.7–65.5]			36.9% [34.5–39.4]			
Former Smokers (n=317)	49.3% [42.9–55.8]			50.7% [44.2–57.1]			
	At Least One Close Friend Smokes						
	At Least One Close Friend Smokes			No Close Friends Smoke			
Overall (n=3790)	85.0% [83.6–86.5]			15.0% [13.6–16.4]			
Regular Smokers (n=3474)		.7% -88.1]		13.3% [12.0–14.7]			
Former Smokers (n=316)		0% -73.2]		33.0% [26.9–39.1]			

Table A-12: Exposure to Other Smokers, Middle School Students, Regular Smokers and Former Smokers — 2000 NYTS [95% Confidence Interval]

	Davis in Come Boom on Complex in Book & Davis						
	0 Days	1–2 Days	oom as Smoker in Past 7 Days				
	•		3-4 Days	5-6 Days	7 Days		
Overall (n=493)	6.1% [4.1–8.2]	8.0% [5.5–10.6]	12.7% [9.8–15.6]	8.0% [5.5–10.6]	65.1% [60.6-69.7]		
Regular Smokers (n=454)	5.3% [3.1–7.5]	7.3% [4.5–10.1]	12.7% [9.7–15.7]	8.2% [5.4–11.1]	66.5% [61.9–71.0]		
Former Smokers (n=39)	15.1% [4.2–25.9]	16.0% [4.8–27.3]	12.2% [1.1–23.2]	6.0% [0-13.5]	50.7% [36.8-64.7]		
	Days in Car with Smoker in Past 7 Days						
	0 Days	1-2 Days	3-4 Days	5-6 Days	7 Days		
Overall [n=494]	11.9% [8.8–15.0]	16.1% [13.4–18.9]	15.3% [11.7–18.9]	10.0% [7.2–12.9]	46.7% [41.8–51.5]		
Regular Smokers (n=455)	9.7% [6.6–12.8]	16.5% [13.5–19.5]	15.7% [11.6–19.7]	10.3% [7.2–13.4]	47.9% [42.7–53.0]		
Former Smokers [n=39]	36.0% [24.3–47.8]	12.2% [3.2–21.2]	11.0% [0–22.8]	7.1% [0–15.5]	33.7% [21.6–45.7]		
	Smoker in Home						
	Smoker at Home			No Smoker at Home			
Overall (n=495)		. 3% -82.3]		22.7% [17.7–27.7]			
Regular Smokers (n=456)		. 5% -82.7]		22.5% [17.3–27.8]			
Former Smokers (n=39)	76.0% [63.2–88.8]			24.0% [11.2–36.8]			
	At Least One Close Friend Smokes						
	At Least One Close Friend Smokes			No Close Friends Smoke			
Overall (n=491)	82.0% [78.0–86.1]			18.0% [13.9–22.0]			
Regular Smokers (n=453)	83.9% [80.1–87.7]			16.1% [12.4–19.9]			
Former Smokers [n=38]		. 3% -79.2]		37.7% [20.8–54.6]			

Table A-13: Exposure to Other Smokers, High School Students, Regular Smokers and Former Smokers — 2000 NYTS [95% Confidence Interval]

	Days in Same Room as Smoker in Past 7 Days						
	0 Days	1–2 Days	3–4 Days	5-6 Days	7 Days		
Overall (n=3290)	6.3% [5.2–7.3]	10.7% [9.4–11.9]	12.8% [11.4–14.2]	11.8% [10.5–13.0]	58.6% [55.8–61.3]		
Regular Smokers (n=3013)	5.4% [4.4-6.4]	9.4% [8.3–10.6]	12.7% [11.2–14.1]	12.1% [10.7–13.4]	60.5% [57.7–63.2]		
Former Smokers (n=277)	16.0% [11.0–21.0]	24.1% [18.2–29.9]	13.8% [9.2–18.3]	8.6% [5.4–11.9]	37.6% [30.6–44.6]		
	Days in Car with Smoker in Past 7 Days						
	0 Days	1-2 Days	3-4 Days	5-6 Days	7 Days		
Overall (n=3285)	12.4% [11.0–13.8]	14.0% [12.5–15.5]	15.7% [14.4–17.0]	12.7% [11.8–13.7]	45.2% [42.6–47.9]		
Regular Smokers (n=3008)	10.3% [9.0–11.7]	13.4% [11.8–14.9]	15.8% [14.4–17.2]	12.9% [11.9–14.0]	47.6% [44.9–50.3]		
Former Smokers (n=277)	35.0% [28.9–41.0]	20.7% [15.4–26.0]	14.8% [10.4–19.1]	10.1% [5.8–14.5]	19.5% [13.5–25.5]		
	Smoker in Home						
	Smoker at Home			No Smoker at Home			
Overall [n=3306]	59.6% [56.9–62.2]			40.4% [37.8–43.1]			
Regular Smokers (n=3028)	60.9% [58.2–63.5]			39.1% [36.5–41.8]			
Former Smokers (n=278)		. 2% -51.6]		54.8% [48.4–61.2]			
	At Least One Close Friend Smokes						
	At Least One Close Friend Smokes			No Close Friends Smoke			
Overall (n=3299)	85.5% [84.1–86.9]			14.5% [13.1–15.9]			
Regular Smokers (n=3021)	87.1% [85.8–88.5]			12.9% [11.5–14.2]			
Former Smokers (n=278)	67.7% [61.5–74.0]			32.3% [26.0–38.5]			

American Legacy Foundation 1001 G Street, NW, Suite 800 Washington, DC 20001 T 202-454-5555 F 202-454-5599 www.americanlegacy.org