

Exposure to Pro-tobacco Messages among Teens and Young Adults:

RESULTS FROM THREE NATIONAL SURVEYS



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 use in the United States. This organization is now known as the American Legacy Foundation.

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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:

This latest First Look Report suggests that despite the restrictions on the advertising and promotion of tobacco products to minors following the Master Settlement Agreement (MSA) in 1998, youth continue to be widely exposed to pro-tobacco messages. These messages are found in a variety of media, including magazines and newspapers, the Internet, retail outlets, bars and festivals, and television and film. Given the strong body of evidence documenting the effect of pro-tobacco marketing on youth smoking behavior, these data are clearly cause for concern.

These findings from the Legacy Media Tracking Surveys are consistent with recent data from the Federal Trade Commission indicating that the tobacco industry spent a record \$11.2 billion on marketing in 2001, representing a 67 percent increase over 1998 levels. In spite of recent shifts in spending from advertising to promotional expenditures (e.g., coupons, two-for-one deals, free gifts with the purchase of cigarettes, and promotional allowances to cigarette retailers), youth are still highly aware of print, retail, and promotional item advertising. Older teens and young adults exhibit similar levels of awareness of these influences, underlining the inherent challenge in marketing to young adults without also influencing the older teen audience.

Also cause for concern are the number of youth who have been exposed to pro-tobacco messages in bars/clubs and at concerts and festivals. New research suggests that the tobacco industry may have begun to target young adults in "adult-only" establishments as a response to marketing restrictions imposed by the MSA. Our results indicate, however, that teens are equally exposed to these messages. Again, MSA marketing restrictions appear inadequate to protect youth from the harmful messages present in these venues. Given our findings, policies enforcing smoke-free establishments may be an effective means of reducing youth exposure to pro-tobacco influences. Additional research on the exact sources of pro-tobacco messages at bars/clubs, concerts, and festivals will help direct future policies aimed at reducing exposure to tobacco marketing in these venues.

Our findings also highlight the growing threat to youth tobacco prevention posed by smoking portrayals in television and film. Recent research has shown that teens may be particularly vulnerable to on-screen smoking portrayals, and our results indicate that teens are precisely the group that is most aware of these harmful depictions. These findings lend further justification for continuing to pressure the television and film industry to regulate portrayals of smoking in shows and films marketed to young audiences.

Countering the influence of the tobacco industry and its marketing is a daunting task. Restrictions imposed by the MSA have been partially effective in sheltering youth from harmful tobacco imagery, but more must be done to ensure continued reductions in youth smoking. The American Legacy Foundation is committed to working with public health officials and tobacco control advocates to ensure that these goals are accomplished. I am pleased to share these important findings with you and hope that they prove useful in helping to reduce youth exposure to pro-tobacco influences.

Sincerely,



Cheryl G. 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 **truth**[®] campaign. The **truth**[®] 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 **truth**[®] 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.

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FIRST LOOK REPORT 12

Exposure to Pro-Tobacco Messages among Teens and Young Adults: Results from Three National Surveys

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The Legacy Media Tracking Survey (LMTS) was developed by RTI and the American Legacy Foundation. RTI developed and implemented the LMTS sampling design and analysis. Data collection was conducted by Discovery Research Group and Issues and Answers under the guidance of RTI.

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INTRODUCTION

The tobacco industry has claimed for decades that its intensive marketing efforts aim only to strengthen brand loyalty and encourage brand substitution among the smoking adult population, aged 18 and older (Cummings et al., 2002). The accumulated research evidence, however, indicates that the tobacco industry has targeted teens and youth with purposive success. Perry (1999) revealed secret industry documents that clearly identified adolescents as the key to the future of the cigarette business. A wealth of evidence demonstrates that teens are highly aware of tobacco advertising (e.g., Arnett and Terhanian, 1998; Fischer et al., 1991) and that exposure to and liking of cigarette advertisements are related to subsequent smoking initiation and maintenance (e.g., Botvin et al., 1993; Feighery et al., 1998; MacFayden, Hastings, and MacKintosh, 2001). Furthermore, the most popular brands among teens have been more likely to advertise in magazines with high youth readership (King et al., 1998). Examinations of historical trends have demonstrated strong relationships between the timing of particular tobacco advertising campaigns and increases in adolescent smoking initiation (Pierce, Lee, and Gilpin, 1994). Recent longitudinal efforts have linked youth's liking of advertisements and the willingness to own pro-tobacco gear (promotional items, such as hats, T-shirts, and lighters) with a greater likelihood of future smoking experimentation and habitual use (Pierce et al., 1998; Biener and Siegel, 2000). These data provide evidence that the tobacco industry devotes enormous resources to print advertising and that this promotional strategy is effective in enticing adolescents to smoke.

The 1998 Master Settlement Agreement (MSA) between five major tobacco companies and 46 state Attorneys General established a series of restrictions on the marketing of cigarettes toward teens and youth. Specifically, the industry promised not to “take any action, directly or indirectly, to target youth... in the advertising, promotion, or marketing of tobacco products” (Master Settlement Agreement, 1998). Despite these limitations, however, numerous promotional outlets remain available to the industry. Magazine and newspaper advertisements, posters and displays in retail outlets, and promotional activities in “adult-only” establishments (bars or clubs) have survived as legal marketing channels.

Recent data indicate that the tobacco industry has increased its overall advertising and promotional expenditures to record levels since the MSA. In 2001, the tobacco industry spent \$11.2 billion on advertising and promotions, a 66.6 percent increase from the \$6.7 billion it spent in 1998. In addition, studies indicate that the tobacco industry purposefully targeted teens by increasing its advertising expenditures in magazines with high youth readership in the year after the MSA, despite the prohibition of marketing strategies that target youth (Chung et al., 2002; King and Siegel, 2001). Tobacco company advertising and promotions also increased significantly at retail outlets following the settlement (Wakefield et al., 2002).

Trends in tobacco company promotional expenditures identify a shift in cigarette marketing strategies in recent years. Between 1998 and 2001, promotional expenditures (e.g., coupons, two-for-one deals, promotional allowances to cigarette retailers) increased by 85 percent, while expenditures on advertising (magazine, newspaper, billboard, transit, and point-of-sale) declined by 47 percent (FTC, 2003). However,

the tobacco industry still spends heavily on cigarette advertising. In 2000, the industry spent \$498 million on magazine, newspaper, billboard, transit, and point-of-sale advertisements, or roughly \$1.70 per U.S. resident (FTC, 2003). To put this number in perspective, the food manufacturing industry spent \$702 million in advertising soft drinks (including the seemingly ubiquitous campaigns for Pepsi, Coke, and Sprite) and bottled water in 1997 (Gallo, 1999). Increasing expenditures on promotions do not necessarily reflect a shift away from targeting youth, and teens still have the potential to be frequently exposed to cigarette advertising in print and retail outlets.

Recent analyses suggest that the tobacco industry has begun to focus more attention and resources on the young adult population, aged 18 to 24. One recent study reveals that cigarette companies have increased the use of the alternative press to entice young adults to attend promotions at bars and clubs (Sepe and Glantz, 2002). Another investigation reviews documents that detail the industry's strategy to reach young adults (Ling and Glantz, 2002). Surveys reveal that smoking rates have increased among college students in recent years (Weschler et al., 1998), and Sepe, Ling, and Glantz (2002) suggest that the rise of cigarette promotions in bars and nightclubs may have contributed to this rise. These findings highlight the need to carefully monitor exposure to pro-tobacco advertising and promotions among young adults.

Teens and young adults are also consistently exposed to pro-tobacco images in television and in film. Despite claims that the tobacco industry no longer pays for product placement in television and films, exaggerated portrayals of tobacco use in these media have persisted (Stockwell and Glantz, 1997) and remain much higher than actual smoking rates among the general population (Hazan, Lipton, and Glantz, 1994). Movies also continue to portray smoking as a socially acceptable behavior that people use to relieve tension or facilitate social interaction (Dalton et al., 2002). In turn, evidence from several recent studies suggests that exposure to these images may encourage smoking initiation among youth (Distefan et al., 1999; Tickle et al., 2001; Sargent et al., 2001; Sargent et al., 2002; Dalton et al., 2003). A wealth of evidence clearly indicates that, notwithstanding the best efforts of the public health community, the majority of teens and young adults are still exposed to a large number of pro-smoking messages.

In February 2000, the American Legacy Foundation (Legacy) initiated the national **truth**[®] campaign to counter the aggressive marketing techniques of the tobacco industry and to reduce tobacco use among adolescents who are most open to smoking. Early evaluation efforts reveal that the campaign has been successful at changing youth's attitudes toward the tobacco industry and changing intentions not to smoke (Farrelly et al., 2002). To monitor the progress of **truth**[®], Legacy sponsors a series of nationally representative surveys of adolescents and young adults, known as the Legacy Media Tracking Surveys (LMTS). These surveys ask youth about their tobacco use, exposure to secondhand smoke, access to tobacco products, knowledge and attitudes about tobacco, and awareness of pro- and counter-tobacco advertising. To date, data are available from the first three LMTS—a baseline survey conducted 3 months prior to the campaign launch (LMTS-I), a second survey conducted in fall 2000 (LMTS-II), and a third survey conducted in spring 2001 (LMTS-III).

The purpose of this report is to summarize awareness of and receptivity to pro-tobacco marketing influences from three national samples of teens and young adults following the MSA. Four key research questions are addressed, with the following main findings:

1. How frequently are young teens (aged 12 to 14), older teens (aged 15 to 17), and young adults (aged 18 to 24) exposed to pro-tobacco marketing?

Teens are exposed to pro-tobacco messages and images nearly as often as young adults are. As of spring 2001, 29 percent of young teens (aged 12 to 14) and 36 percent of older teens (aged 15 to 17) reported having seen at least one print tobacco ad in the past 30 days, compared with almost 40 percent of young adults (aged 18 to 24). Nearly 29 percent of young teens, 37 percent of older teens, and 42 percent of young adults reported seeing tobacco ads or promotions in retail outlets “often.” More than 6 percent of young teens, older teens, and young adults own pro-tobacco gear, and more than 30 percent of older teens and young adults would be willing to use these items if they owned them. Clearly, adolescents are still being exposed to a wealth of pro-tobacco advertisements and promotions, despite restrictions placed on the tobacco industry by the MSA, and an even higher proportion of young adults are exposed.

2. How frequently are teens and young adults exposed to smoking portrayals in television and films?

Young teens (55 percent) and older teens (54.2 percent) reported frequent exposure to glamorized portrayals of smoking in television and film during the past week in spring 2001, consistent with levels observed in winter 1999–2000 and fall 2000. Young teens were significantly more likely to report awareness of smoking portrayals on screen than young adults (45.4 percent). Results suggest that television and film are the most frequent source of youth exposure to pro-tobacco messages—teens were more likely to report frequent exposure to on-screen smoking portrayals than awareness of cigarette advertising in print, the Internet, retail outlets, and at bar/club/concert promotions in spring 2001.

3. Have reports of exposure to pro-tobacco marketing among teens and young adults changed between winter 1999–2000, fall 2000, and spring 2001?

Notable changes were observed in pro-tobacco advertising exposure over time. Young teens (44.3 percent to 33.4 percent), older teens (53.3 percent to 40.1 percent), and young adults (51.1 percent to 36.5 percent) all reported declines in exposure to print tobacco advertising between winter 1999–2000 and fall 2000, mirroring declines in cigarette advertising expenditures. Exposure to tobacco promotions at retail outlets also declined for all three groups over the same period, from 44.1 percent to 32.5 percent among young teens, 46.9 percent to 34.5 percent among older teens, and 52.9 percent to 35.5 percent among young adults. Despite these reductions, however, teens are still exposed to tobacco ads nearly as often as young adults are, and awareness levels among all groups are still considerable.

4. How does exposure to pro-tobacco marketing differ by race/ethnicity, gender, and smoking status?

In general, White respondents reported higher levels of awareness of cigarette advertising than African-Americans and Hispanics, particularly among teens. Interestingly, other studies demonstrate that White teens are also more likely than African-American or Hispanic teens to smoke. Among young adults, Hispanics were the most likely to report exposure to tobacco promotions in/at bars, clubs, concerts, and festivals (43.1 percent). Few differences were observed by gender. Young adults classified as current smokers were more likely to report awareness of cigarette advertisements in stores (49.2 percent) than young adults classified as closed to smoking (37.6 percent). Perhaps not coincidentally, attendance at bars, clubs, concerts, and festivals was associated with a greater likelihood of having intentions to smoke (among never smokers) and having smoked in the past 30 days, particularly among older teens.

DATA AND METHODS

Three LMTS were administered via telephone between December 1999 and July 2001. LMTS-I was conducted between December 6, 1999, and February 6, 2000, prior to the launch of the **truth**[®] campaign. LMTS-II data were collected from September 8 through December 23, 2000. LMTS-III data were collected from April 3 through July 29, 2001. All three surveys were designed to produce nationally representative samples of youth aged 12 to 17 and young adults aged 18 to 24. The surveys measure exposure to pro-tobacco marketing and countermarketing, attitudes and beliefs toward tobacco, and tobacco use behaviors.

African-Americans, Asians, and Hispanics were oversampled from telephone exchanges geographically concentrated in populations with high proportions of households in these groups. In addition, Asian and Hispanic households were oversampled by supplementing the random-digit telephone dialing with lists of households with Asian and Hispanic surnames. Residents in three “sentinel sites” (Baltimore, Denver, Seattle) were oversampled to allow for site-specific estimates for 12 to 24 year olds. Finally, youth in states with active media campaigns were also oversampled to produce state representative estimates of awareness of these campaigns.

All estimates and 95 percent confidence intervals in this report were calculated using sampling weights and controlling for the stratified survey design. Confidence intervals that do not overlap indicate statistical significance. Except where noted, only statistically significant results are discussed in this report.

LMTS-I, LMTS-II, and LMTS-III had overall response rates of 52.5 percent, 52.3 percent, and 56.7 percent, respectively.¹ These rates are comparable to other recent surveys of teens and young adults (Rigotti et al., 2002; Choi et al., 2002). For all three surveys, telephone calls were spread across all days of the week and times of the

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

day, including evenings and weekends, to maximize the time when adolescents and their parents were home. For each household, up to 12 callbacks were made, with a minimum of two daytime attempts per case. Finally, up to two refusal conversion attempts per case were made unless the respondent or parent was adamant about not participating in the survey. Table 1 summarizes the final sample characteristics.

Table 1. Unweighted Sample Characteristics

Demographic Group	LMTS-I	LMTS-II	LMTS-III	Total	Percentage of Sample
Age (years)					
12 to 14	1,864	3,228	3,536	8,628	30.8
15 to 17	1,575	3,005	3,256	7,836	28.0
18 to 24	3,436	4,459	3,619	11,514	41.2
Total	6,875	10,692	10,411	27,978	100.0
Gender					
Male	3,222	4,921	4,937	13,080	46.7
Female	3,674	5,775	5,475	14,924	53.3
Race/Ethnicity					
White	3,485	5,319	5,901	14,705	52.6
African-American	1,112	1,805	1,457	4,374	15.6
Hispanic	1,208	2,104	2,109	5,421	19.4
Asian/Pacific Islander	730	1,016	602	2,348	8.4
Other	344	425	291	1,060	3.8

There are 6,875 respondents in the LMTS-I sample, 10,692 respondents in the LMTS-II sample, and 10,411 respondents in the LMTS-III sample. The LMTS-I sample is split almost equally between 12 to 17 and 18 to 24 year olds, while the LMTS-II and LMTS-III have a disproportionately larger sample of 12 to 17 year olds because they constitute the core target audience for the **truth**® campaign. To determine race/ethnicity, the LMTS asks, “Which one of these groups best describes you?” Respondents chose one of the following categories: American Indian or Alaska Native, Asian, Black or African-American, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, White, or Other. Based on this criterion, the combined LMTS-I, LMTS-II, and LMTS-III sample is 52.6 percent White, 19.4 percent Hispanic, 15.6 percent African-American, and 8.4 percent Asian/Pacific Islander. The remainder (3.8 percent) is composed of American Indians/Alaska Natives and other races.

For analysis purposes, all three LMTS were combined to create one data set. With one exception (favorite cigarette ad), all items analyzed in this report were asked in each LMTS. Each question from the LMTS that is discussed in this report is listed in Table 2.

Table 2. LMTS Items about Awareness of Pro-tobacco Messages

Awareness of Pro-tobacco Marketing

During the past 30 days, have you seen or heard any advertising or promotions for cigarettes or other products?

During the past 30 days, where did you see or hear these messages?

- In newspapers or magazines?
 - On the Internet?
 - Somewhere else?
-

Awareness of Promotions/Signs in Retail Outlets

In the past 30 days when you visited a store near you (convenience store, gas station, grocery store, etc.), how often did you see:

- Ads for cigarette brands
 - Signs saying that you must be 18 years or older to buy cigarettes or other tobacco products
-

Bar/Club/Concert/Festival Promotions

During the past 30 days, how many times have you been to street festivals, concerts, bars and/or clubs?

During the past 30 days when you were at these street festivals, concerts, bars and/or clubs, how often did you see a cigarette company name, logo, or picture?

Pro-tobacco Promotional Merchandise

During the past 12 months, did you buy or receive anything that has a cigarette company name or picture on it?

Would you ever use or wear something that has a cigarette company name, picture, or logo on it, such as a lighter, T-shirt, hat, or sunglasses?

Smoking Portrayals on Television

Thinking back over the past week, about how often did you see TV shows and movies where someone was smoking?

Favorite Ads

Think about all the cigarette ads you've seen. What's your favorite ad?

Estimates of exposure to pro-tobacco marketing influences are presented separately in this report for young teens (aged 12 to 14, around the age of middle school), older teens (aged 15 to 17, around the age of high school), and young adults (aged 18 to 24). Within each subject area, we discuss significant changes in exposure to pro-tobacco marketing over time among young teens, older teens, and young adults. If no such changes were observed, we report the estimates for each age group from the most recent survey conducted in spring 2001.

For each topic, we discuss any significant differences that exist between individuals by gender, race/ethnicity, and smoking status. To maximize the efficiency of the sample, we collapsed the three waves of data for these analyses. Respondents are categorized into the following racial/ethnic groups: White, African-American, Hispanic, Asian/Pacific Islander, or “Other.” Detailed tables in Appendix A show prevalence for each topic category by race/ethnicity.

Respondents were classified into four smoking status categories, loosely based on the classification systems developed by Leventhal and Cleary (1980), Flay (1993), and Mowery, Brick, and Farrelly (2000): current smokers, prior experimenters, open to smoking, and closed to smoking. Current smokers are defined as having smoked at least one cigarette within the past 30 days. Prior experimenters are defined as having smoked at least one cigarette in their lifetime but none in the past 30 days. Among those who have never smoked, “closed to smoking” individuals are those who have never smoked in their lifetime and demonstrate no intention to smoke in the future. We classify individuals who have never smoked but cannot definitely rule out the possibility of future smoking as “open to smoking.” This is a critical distinction, since open to smoking youth are much more likely than closed to smoking youth to begin smoking cigarettes in the future (Pierce et al., 1996). Table 3 presents the number of respondents in each smoking status category among teens and young adults.

Table 3. Unweighted Smoking Status Categories, Teens and Young Adults

Demographic Group	LMTS-I	LMTS-II	LMTS-III	Total	Percentage of Age Group
Young Teens (12 to 14)					
Current Smokers	108	152	114	374	4.4
Prior Experimenters	249	360	381	990	11.6
Open to Smoking	419	601	726	1,746	20.4
Closed to Smoking	1,059	2,086	2,286	5,431	63.6
Older Teens (15 to 17)					
Current Smokers	274	437	453	1,164	15.0
Prior Experimenters	427	736	825	1,988	25.5
Open to Smoking	232	404	449	1,085	13.9
Closed to Smoking	624	1,411	1,509	3,544	45.5
Young Adults (18 to 24)					
Current Smokers	1,135	1,436	1,076	3,647	31.9
Prior Experimenters	1,070	1,453	1,226	3,749	32.8
Open to Smoking	136	186	142	464	4.1
Closed to Smoking	1,049	1,354	1,156	3,559	31.2

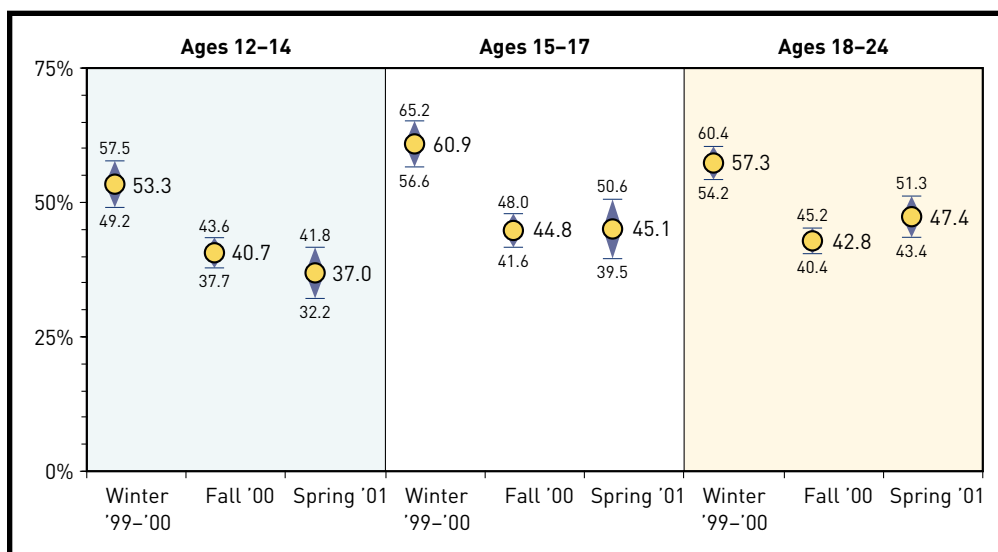
FINDINGS

AWARENESS OF PRO-TOBACCO ADVERTISING BY MEDIA SOURCE

We begin our analyses by summarizing self-reports of exposure to pro-tobacco advertising in print, on the Internet, or through “other” sources. As cited in the Introduction, the accumulated evidence suggests that teens are highly aware of tobacco advertising in magazines, and youth who are receptive to these messages are more likely to begin smoking in the future (e.g., Arnett and Terhanian, 1998; Biener and Siegel, 2000). Recent studies suggest that the tobacco industry has increased youth-targeted advertising and marketing expenditures in magazines with high youth readership (Chung et al., 2002; King and Siegel, 2001). In addition, the Internet has already emerged as a viable platform for tobacco companies to market their products without traditional regulatory limitations (Ribisl, Kim, and Williams, 2001; Cohen, 2001; Connolly, 2001). Careful monitoring of promotional channels remains an important component in the overall agenda aimed at reducing youth tobacco use.

Respondents were first asked whether they had seen or heard any cigarette advertisements or promotions within the past 30 days. If respondents answered “yes,” they were asked where they saw or heard these messages. As demonstrated in Figure 1, young teens, older teens, and young adults reported similar levels of awareness of pro-tobacco marketing from “any medium” (self-reported exposure to print, the Internet, or “other” sources). For each age group, a substantial decline in overall exposure to tobacco advertisements was observed between winter 1999–2000 and fall 2000, mirroring declines in tobacco industry advertising expenditures. Levels of exposure stabilized for young teens, older teens, and young adults between fall 2000 and spring 2001, although a slight, statistically insignificant increase in exposure was noted among young adults, and a similar decline was observed among the youngest

Figure 1: Awareness of Pro-tobacco Messages (Any Medium), 1999–2001

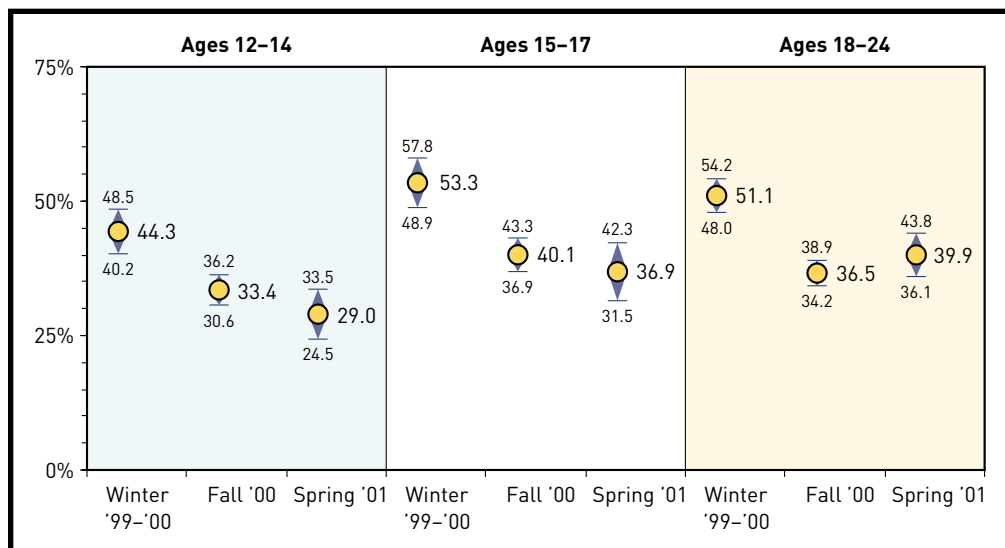


Note: Upper and lower ranges represent 95 percent confidence intervals that account for the survey design weighting.

teens. In spring 2001, 37.0 percent of young teens, 45.1 percent of older teens, and 47.4 percent of young adults had seen cigarette advertisements in the past 30 days.

The observed drop in exposure to cigarette advertising through “any medium” among adolescents and young adults is clearly the result of the substantial reduction in exposure to pro-tobacco advertisements in print (Figure 2). Among young teens, who are the least likely to report having seen tobacco ads in magazines, exposure to print cigarette advertisements declined from 44.3 percent in winter 1999–2000 to 33.4 percent in fall 2000. A similar, downward pattern was observed among older teens (53.3 percent in winter 1999–2000 to 40.1 percent in fall 2000) and young adults (51.1 percent in winter 1999–2000 to 36.5 percent in fall 2000). These notable drops occurred in the context of a general shift in tobacco industry expenditures from advertising to promotional allowances over a period of several years (FTC, 2003). In addition, the declines followed a stir of public debate and subsequent pressure on the tobacco industry in spring 2000. In January 2000, Brown & Williamson announced that it would halt all cigarette advertising in publications with greater than 15 percent youth readership. On May 15, 2000, researchers at the Massachusetts Department of Public Health released a study that found that cigarette advertising in magazines with high youth readership increased by 33 percent following the MSA (Bowker and Hamilton, 2000). Under intense pressure from advocacy groups and legislative forces, Philip Morris announced during the same month that it would temporarily suspend advertising in 42 magazines with a substantial youth readership by September 2000.² By June, RJ Reynolds followed suit and announced that it would institute a 33⅓ percent youth readership policy (Statement of Decision, 2002). The observed declines in awareness of cigarette print advertising between winter

Figure 2: Awareness of Pro-tobacco Messages in Print, 1999–2001



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

² “Substantial youth readership” was defined as having over 15 percent teen readership or having more than 2 million readers under the age of 18.

1999–2000 and fall 2000 are likely the combined result of the shift in promotional and advertising expenditures and the cigarette manufacturers' advertising withdrawal. There were no significant changes in print advertising exposure among any age group between fall 2000 and spring 2001. The fact that we observed similar declines among both teens and young adults highlights the inherent difficulty in targeting print advertising to adults over the age of 18 without simultaneously reaching a substantial proportion of the illegal teen audience.

Self-reported exposure to tobacco advertising on the Internet remained stable across all three surveys, with an average of 6.6 percent of young teens and 5.8 percent of older teens having seen at least one advertisement in the past 30 days. These numbers are significantly greater than the 3.6 percent of young adults who reported such exposure, but both numbers remain low compared with print. More than 20 percent of young teens (20.1 percent) and older teens (20.4 percent) and 19.7 percent of young adults reported exposure to pro-tobacco marketing "somewhere else" within the past 30 days across all three surveys. Although we can only speculate, responses in this category may encompass exposure to promotions in retail outlets, bar or club promotions, or event sponsorships. More detailed results related to these marketing channels are discussed in subsequent sections of this report.

Differences by Gender, Race/Ethnicity, and Smoking Status. We observed only one difference between males and females in exposure to pro-tobacco advertising through "any medium," print, the Internet, or "other" sources across age groups. Among young teens, females (40.0 percent) were more likely than males (33.2 percent) to be aware of pro-tobacco print advertising. Several racial/ethnic discrepancies, however, were observed. Among teens, Whites reported higher levels of pro-tobacco ad exposure from "any medium" and print than Hispanics and African-Americans (Appendix Tables A-1 and A-2). Among young adults, Whites also reported higher levels of pro-tobacco advertising exposure from "any medium" (51.9 percent) and print (46.0 percent) than African-Americans (41.1 and 33.5 percent, respectively) (Appendix Table A-3). Additional cross-tabulations by race/ethnicity and smoking status (not reported here) provided little evidence to suggest that these disparities were driven solely by differential smoking rates among these groups.

Whites and Hispanics demonstrated higher levels of pro-tobacco ad awareness with age. Among Whites, older teens were more likely to report exposure from "any medium" (55.6 percent) and print (49.1 percent) than younger teens (48.4 and 40.6 percent, respectively). Among Hispanics, young adults (49.3 percent) reported higher levels of pro-tobacco ad awareness through "any medium" than younger (40.4 percent) and older (40.2 percent) teens. Hispanic young adults (40.4 percent) also reported higher levels of pro-tobacco print ad exposure than young Hispanic teens (29.9 percent).

Only one difference was observed in exposure to advertisements from the Internet or "other" media. Asian/Pacific Islanders were less likely than Whites and Hispanics to report exposure to advertisements from "other" media. Similarly, few differences in pro-tobacco advertising exposure were observed by smoking status (Appendix Tables A-1, A-2, and A-3). The only notable finding was that, among young adults, prior experimenters were more likely to report having seen tobacco

advertising in “any medium” (54.0 percent) than those classified as closed to smoking (46.9 percent).

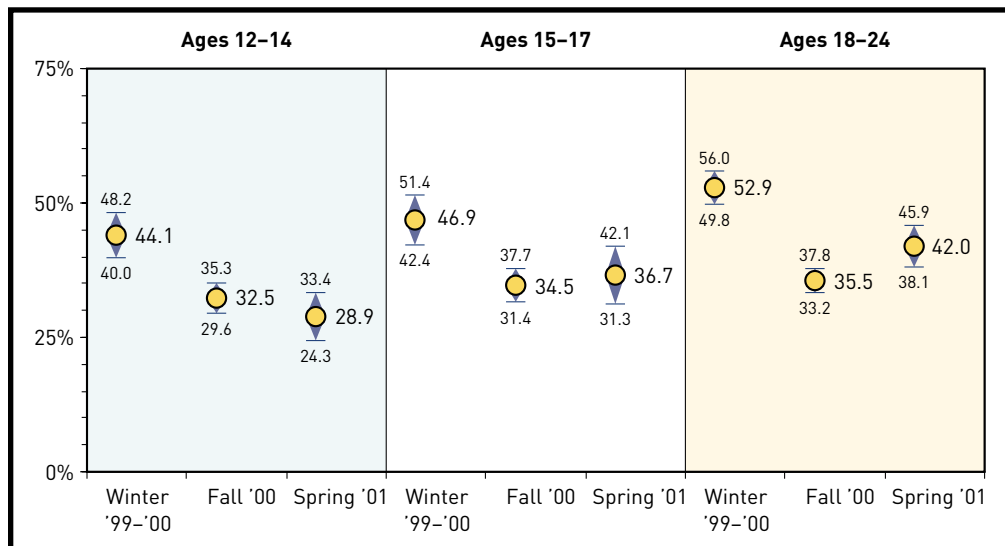
AWARENESS OF PROMOTIONS/SIGNS IN RETAIL OUTLETS

We continue our analysis by examining self-reported awareness of tobacco promotions and advertising in the retail environment. Individuals were asked about their awareness of ads for cigarette brands, antismoking ads, and signs saying you must be 18 or older to buy cigarettes or other tobacco products. Our results reflect the percentages of respondents who reported having seen such messages “often.”

Advertisements for Cigarette Brands. In the wake of the April 1999 tobacco billboard advertising ban, point-of-sale advertising of tobacco products has taken on a renewed importance. A recent study showed that tobacco advertising in retail outlets has increased substantially since the ban, with 80 percent of retail outlets displaying interior advertising and 60 percent displaying outdoor advertising (Wakefield et al., 2002). Retail advertising has the potential to be particularly effective in reaching youth—three out of four youth report shopping at a convenience store at least once a week (Point of Purchase Advertising Institute, 1992), and 44 percent of youth say they are influenced by in-store promotional signage (“Study Finds C-Store Promotions Lacking,” 1999).

To assess the extent of youth exposure to point-of-sale brand advertising, we asked individuals how often they saw cigarette brand advertising when they visited retail outlets during the past 30 days. As shown in Figure 3, all three age groups demonstrated declining awareness of cigarette brand ads between winter 1999–2000 and fall 2000. For brand advertising, young teen awareness fell from 44.1 percent to 32.5 percent, older teen awareness fell from 46.9 percent to 34.5 percent, and young adult awareness fell from 52.9 to 35.5 percent. By spring 2001, young adult aware-

Figure 3: Awareness of Tobacco Advertising in Retail Outlets, 1999–2001



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

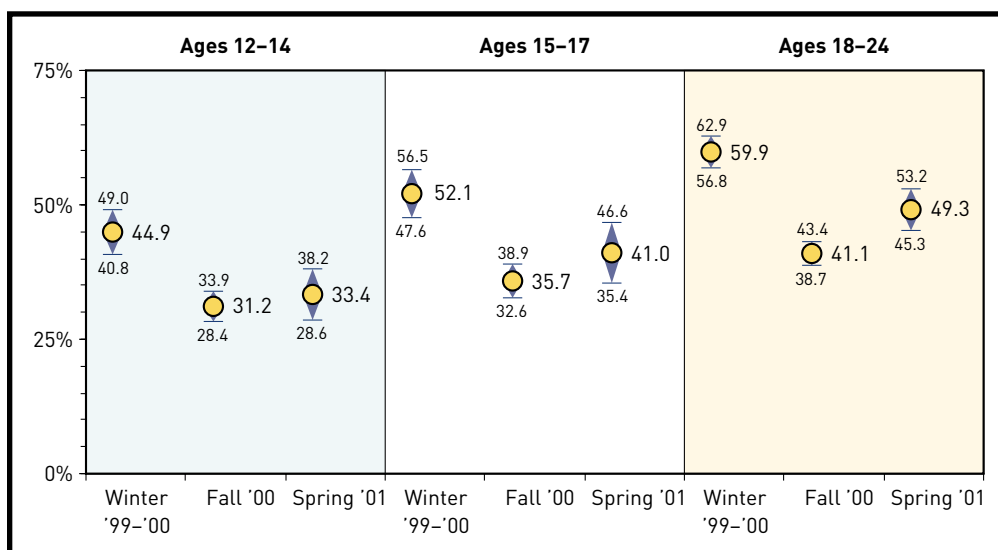
ness rebounded slightly to 42 percent. Young teen awareness (28.9 percent) and older teen awareness (36.7 percent), however, remained virtually static between fall 2000 and spring 2001. The observed declines between winter 1999–2000 and fall 2000 are surprising given the increase in point-of-sale promotional expenditures over the same time period. Although we can only speculate, the observed declines may be the result of seasonal differences in point-of-sale promotions.

In general, young adults report higher levels of awareness of cigarette point-of-sale ads than do their younger counterparts. As shown in Figure 3, in spring 2001, 42.0 percent of young adults reported exposure to retail brand advertising, whereas only 36.7 percent of older teens and 28.9 percent of young teens reported viewing such advertising during the past 30 days.

“Must be 18” or “We Card” Signs. “Must be 18” and “We Card” signs in retail outlets purport to discourage youth from attempting to purchase cigarettes. However, advocacy groups speculate that these campaigns are more successful in generating a positive image of corporate responsibility for tobacco companies than they are in actually limiting youth access to cigarettes (Campaign for Tobacco-Free Kids, 2000). We sought to assess whether these messages are, in fact, reaching teens.

Awareness of “Must be 18” and “We Card” signs declined among each age group from winter 1999–2000 to fall 2000. As shown in Figure 4, young teen exposure fell from 44.9 percent to 31.2 percent and older teen exposure fell from 52.1 percent to 35.7 percent, compared with a 59.9 percent to 41.1 percent decline for young adults. Awareness among 18 to 24 year olds then rebounded to 49.3 percent by spring 2001. Young teen awareness remained virtually static at 33.4 percent, and older teen awareness rose slightly to 41.0 percent, although this was not a statistically significant change from the previous period. Young adults report higher levels of exposure to “Must be 18” or “We Card” signs than teens, although by definition these messages

Figure 4: Awareness of “We Card” Signs in Retail Outlets, 1999–2001



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

should be intended for younger audiences. According to the most recent data (spring 2001), 49.3 percent of young adults were aware of these messages compared with just 41.0 percent of older teens and 33.4 percent of young teens.

Differences by Gender, Race/Ethnicity, and Smoking Status. Gender differences were observed for only one category of retail exposure (Appendix Tables A-4 through A-6). A slightly higher percentage of young adult males (47.1 percent) were aware of cigarette advertisements in retail outlets than their female counterparts (41.5 percent).

Tobacco control advocates have long speculated that the tobacco industry targets minority neighborhoods with higher levels of cigarette advertising. One study of the placement of cigarette billboards in a large metropolitan area, prior to the MSA, found disproportionately high numbers of billboards in neighborhoods with high minority populations (Luke, Esmundo, and Bloom, 2000). Our results suggest otherwise (Appendix Tables A-4 through A-6). We observed only two significant differences in awareness of retail cigarette advertisements among racial/ethnic groups. Among young teens, Whites (38.5 percent), African-Americans (31.7 percent), and Hispanics (32.6 percent) all exhibited greater awareness of retail cigarette ads than Asian/Pacific Islanders (18.0 percent). Among young adults, Whites (46.1 percent) reported higher levels of awareness to retail cigarette ads than Asian/Pacific Islanders (29.7 percent).

Racial/ethnic differences in exposure to “We Card” signs were observed among each age group. Across each age group, White respondents were more likely to report exposure to “We Card” signs than African-Americans and Asian/Pacific Islanders (Appendix Tables A-4 through A-6). Among older teens and young adults, Whites were more likely than Hispanics to report awareness of “We Card” signs.

Prior research has established a correlation between youth smoking status and awareness of cigarette brand imagery. One study found that youth who had experimented with smoking were more likely to report awareness of cigarette brand imagery in stores (Schooler, Feighery, and Flora, 1996). Our data appear to corroborate this conclusion among certain age groups (Appendix Tables A-4 through A-6). More than 48.0 percent of young teens classified as prior experimenters reported exposure to cigarette brand advertising, compared with just 33.0 percent of young teens closed to smoking. We observed a similar trend among young adults—49.2 percent of current smokers and 45.2 percent of prior experimenters were aware of cigarette brand advertising compared with 37.6 percent of young adults who were closed to smoking. The data also suggest that young adult smokers (53.9 percent) are more aware of “Must be 18” and “We Card” signs than their closed to smoking counterparts (45.9 percent).

AWARENESS OF BAR/CLUB/CONCERT/FESTIVAL PROMOTIONS

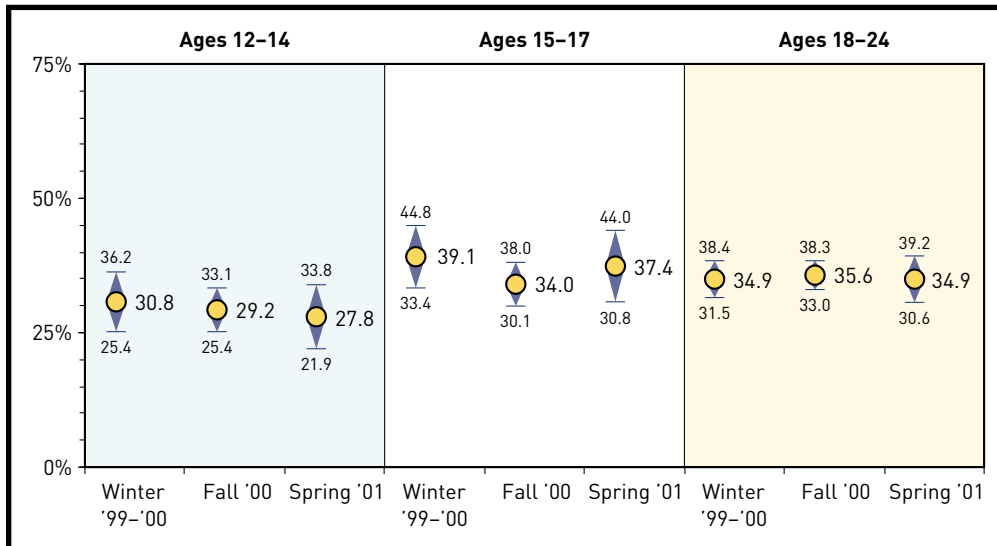
Tobacco companies have increased their marketing efforts aimed at college students through sponsorships of concerts and events at “adult-only” establishments, such as bars and nightclubs, since the MSA (Cruz et al., 2000). A recent article also supports the claim that cigarette companies have increased their use of bars and clubs for promotions and have used the alternative press to reach young adults who patronize these establishments (Sepe and Glantz, 2002). Sepe, Ling, and Glantz (2002) suggest

that the rise of bar and nightclub promotions may contribute to the recent rise in smoking rates among young adults (Wechsler et al., 1998). Critics also argue that these promotions attract the attention of older teens, who frequently attend concerts and festivals and often share musical tastes with young adults. Tobacco industry promotions at popular social events may entice teens and young adults to associate cigarettes with an attractive, exciting lifestyle.

To examine teen and young adult exposure to promotional activities at bars, clubs, concerts, and festivals, we first asked respondents how often they attend these events and establishments. No significant changes were observed in bar attendance across the three survey waves. As shown in Appendix Tables A-7 and A-8, 49.8 percent of young teens and 65.8 percent of older teens responded that they had attended these events in the past 30 days. Since youth under the age of 21 cannot legally enter bars, it is likely that attendance at concerts or festivals accounts for the majority of the responses among teens. More than three-fourths of young adults (75.3 percent) indicated that they had attended a bar, club, concert, or festival in the past month (Appendix Table A-9).

Respondents who had attended these events or establishments were then asked how often they were exposed to tobacco promotions or advertising at these locations. Again, no significant changes in awareness of venue promotions were observed over time. In spring 2001, a nearly identical percentage of older teens (37.4 percent) and young adults (34.9 percent) reported having seen tobacco promotions at these establishments “often” (Figure 5). Less than 30 percent of young teens (27.8 percent) who attended concerts and festivals reported frequent exposure to tobacco promotions.

Figure 5: Awareness of Bar/Club/Concert/Festival Promotions, 1999–2001



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

Differences by Gender, Race/Ethnicity, and Smoking Status. Again, we observed no differences in pro-tobacco marketing exposure by gender (Appendix Tables A-7 through A-9). Although young adult males (80.3 percent) were more likely than their female counterparts (70.1 percent) to have attended a bar, club, concert, or festival, males were no more likely than females to report having seen tobacco promotions at these events and establishments.

Among young adults, although there were no racial/ethnic disparities in bar/club/concert/festival attendance, Hispanics reported significantly higher awareness of promotions in bars, clubs, concerts, and festivals (43.1 percent) than Whites (34.3 percent) and African-Americans (30.1 percent) (Appendix Table A-9). Hispanics were also the only group with a statistically significant difference in awareness of promotions between young teens (32.2 percent) and young adults (43.1 percent). These data are not surprising, particularly since recent reviews of internal documents reveal that the tobacco industry has used bar and nightclub promotions to target minority audiences (Sepe, Ling, and Glantz, 2002).

We observed several differences in bar/club/concert/festival attendance and exposure to tobacco promotions among individuals closed to smoking, open to smoking, prior experimenters, and current smokers (Appendix Tables A-7 through A-9). Among young teens, prior experimenters (65.2 percent) and those open to smoking (58.6 percent) were more likely than those closed to smoking (43.5 percent) to have attended a bar/club/concert/festival in the past 30 days. Among older teens and young adults, current smokers reported the highest level of attendance, while those closed to smoking reported the lowest (Appendix Tables A-7 through A-9). Clearly, attendance at bars, clubs, festivals, and concerts is associated with a greater likelihood of having intentions to smoke (open versus closed to smoking) and current smoking behavior. Teens and young adults who attend these entertainment venues and events, however, are nearly identical in their reports of exposure to tobacco promotions.

PRO-TOBACCO PROMOTIONAL MERCHANDISE

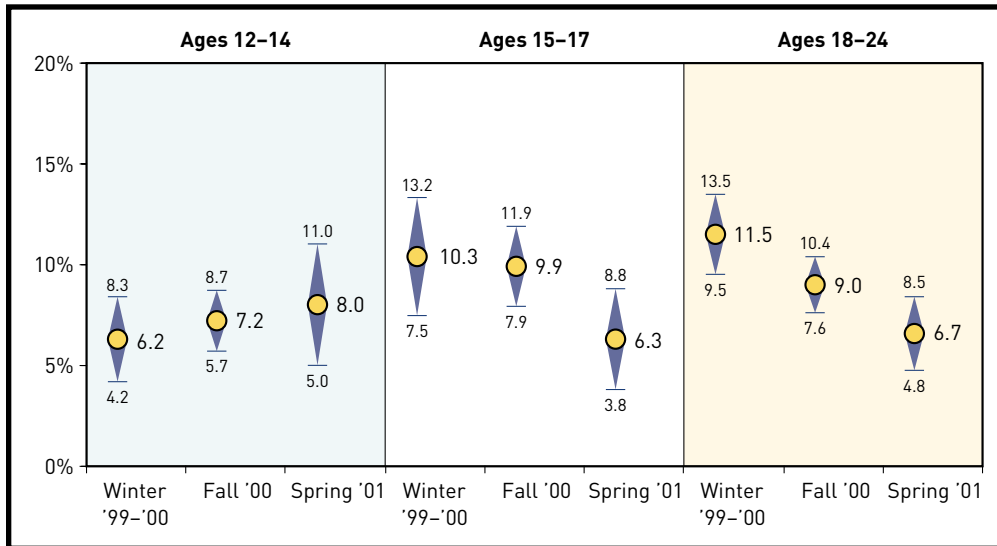
According to commercial marketing experts, advertisers often use promotional merchandise (e.g., T-shirts, hats, and lighters) containing a company's brand logo to attract consumers and persuade them to use a particular product (Kotler, 1991). Clothing items branded with cigarette logos may be particularly powerful during adolescence, when youth actively search for ways to define themselves as autonomous individuals (Steinberg and Silverberg, 1986). According to Feighery et al. (1998), tobacco promotions "may entice [teens] to try on the image of a smoker, which also may resonate with their desired self-image" (p. 124). The persuasive appeal of pro-tobacco merchandise is well supported in the literature. A series of cross-sectional studies have demonstrated that ownership and desire to own tobacco promotional items are related to the likelihood of being a smoker (Feighery et al., 1998; Evans et al., 1995). Furthermore, two longitudinal surveys have found that ownership of and "receptivity" to pro-tobacco marketing predict a greater likelihood of future smoking uptake among teens with no intention to smoke at baseline (Pierce et al., 1998; Biener and Siegel, 2000).

The MSA banned the distribution of brand-name merchandise at all locations with the exception of tobacco-sponsored events. Furthermore, offers of nontobacco

gifts (merchandise or clothing) based on tobacco proofs of purchase were banned for children but remained legal for adults (Master Settlement Agreement, 1998). In the wake of these restrictions, we sought to gauge youth receptivity to pro-tobacco merchandise and examine whether these items continued to reach the hands of teens and young adults.

Our surveys asked respondents to indicate whether they had bought or received anything with a tobacco company name or logo on it within the past 30 days. As shown in Figure 6, among teens, receipt of pro-tobacco merchandise remained relatively stable over time. As of spring 2001, 8.0 percent of young teens and 6.3 percent of older teens reported having received pro-tobacco gear, despite restrictions that prohibit the distribution of these items to those under age 18. Among young adults, we observed a steady decline in pro-tobacco merchandise possession over time. The prevalence of tobacco gear possession dropped from 11.5 percent in winter 1999–2000 to 6.7 percent in spring 2001.

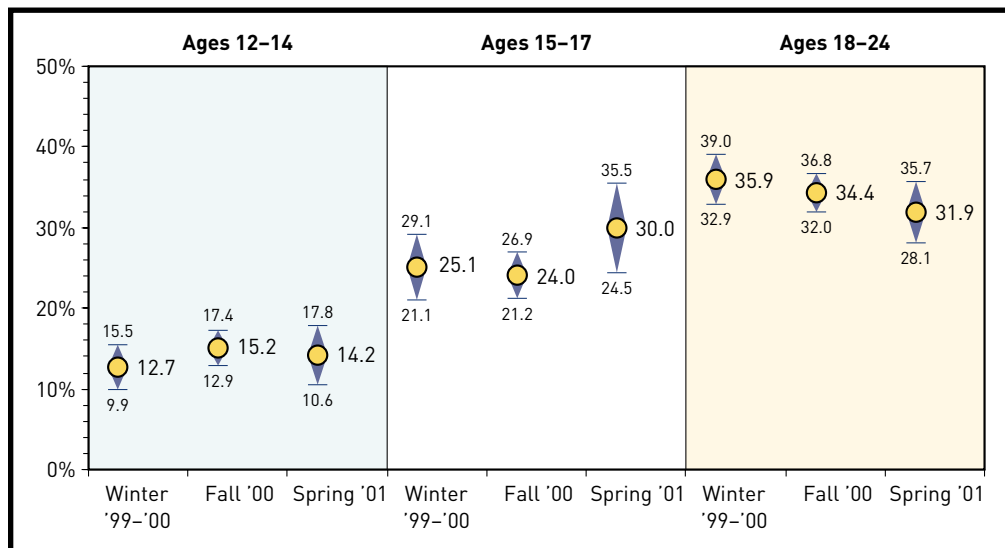
Figure 6: Ownership of Pro-tobacco Promotional Items, 1999–2001



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

We also asked respondents whether they would be willing to own or wear pro-tobacco merchandise. Individuals who responded “yes” or “probably yes” were termed “receptive” to pro-tobacco gear. Estimates for receptivity to pro-tobacco merchandise remained stable over time for all age groups. Figure 7 demonstrates that receptivity to pro-tobacco gear increases dramatically with age. As of spring 2001, only 14.2 percent of young teens indicated a willingness to wear or use pro-tobacco items, but 30.0 percent of older teens were receptive to these items. Young adults were even more receptive to pro-tobacco gear (31.9 percent). These results seem to indicate that pro-tobacco merchandise becomes increasingly socially acceptable as teens progress from middle school to adulthood.

Figure 7: Receptivity to Pro-tobacco Promotional Items, 1999–2001



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

Differences by Gender, Race/Ethnicity, and Smoking Status. We observed differences by gender in actual ownership of tobacco gear only among young adults. Young adult males (10.8 percent) were more likely than their female counterparts (7.7 percent) to own pro-tobacco gear (Appendix Tables A-10 through A-12). However, gender disparities in willingness to own pro-tobacco gear were observed in all three age groups. Male young teens (16.7 percent), older teens (30.1 percent), and young adults (40.3 percent) were each more likely to be receptive to owning pro-tobacco gear than their female counterparts (10.9, 22.2, and 27.9 percent, respectively) (Appendix Tables A-10 through A-12).

Teen ownership of pro-tobacco gear did not differ significantly by race/ethnicity (Appendix Tables A-10 and A-11). Among older teens, however, we noted differences in receptivity to owning pro-tobacco gear in the future, with Whites (28.5 percent) and Hispanics (27.3 percent) reporting greater willingness to own pro-tobacco gear in the future than African-Americans (17.7 percent). Notable differences were observed in the likelihood of pro-tobacco gear ownership among young adults.

White (10.5 percent) and Hispanic (9.2 percent) young adults were more likely to own pro-tobacco gear than both African-Americans (4.2 percent) and Asian/Pacific Islanders (5.1 percent). White young adults (37.2 percent) were also more likely to be receptive to owning pro-tobacco gear than African-American (26.5 percent) and Hispanic (29.7 percent) young adults.

We observed striking differences in gear distribution and receptivity among closed to smoking, open to smoking, prior experimenters, and current smoking teens and young adults. Among young teens, smokers (14.8 percent) were more likely than those closed to smoking (4.8 percent) to own pro-tobacco gear. Among older teens, smokers (19.9 percent) reported higher levels of pro-tobacco gear ownership than prior experimenters (6.9 percent), open to smoking youth (8.3 percent), and closed to smoking youth (5.2 percent). We also observed distinct differences in receptivity to pro-tobacco gear by smoking status. Teen smokers were much more receptive to pro-tobacco gear ownership than open to smoking teens, who in turn were more receptive than closed to smoking teens (Appendix Tables A-10 and A-11).

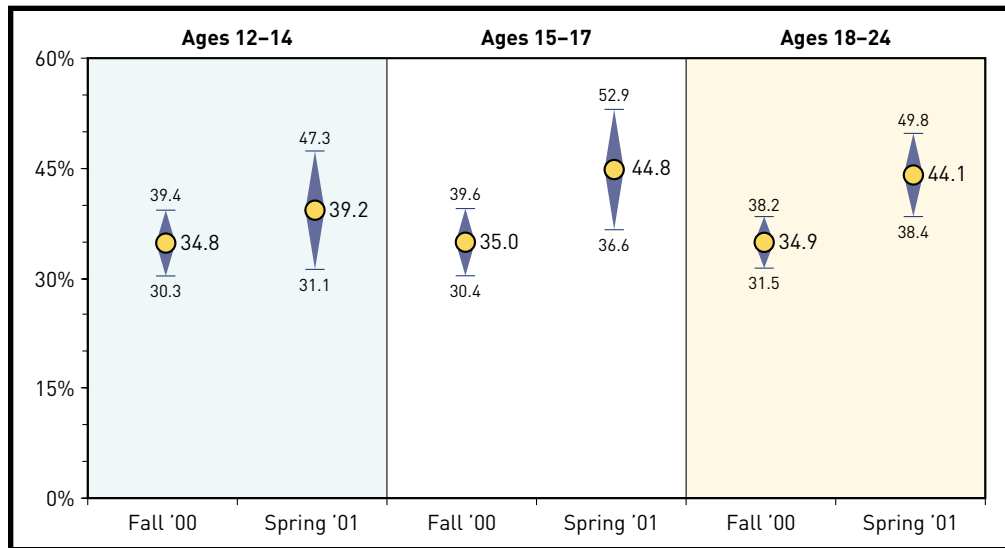
Similar differences were observed among young adults (Appendix Table A-12). Young adult current smokers (15.8 percent) were more likely to have received pro-tobacco gear than prior experimenters (8.0 percent), who in turn reported higher prevalence of pro-tobacco gear receipt than both closed to smoking (3.3 percent) and open to smoking (2.8 percent) young adults. Young adult current smokers were more receptive to pro-tobacco gear (58.1 percent) than prior experimenters (27.0 percent) and open to smoking adults (27.3 percent), who were more willing to use these items than closed to smoking adults (13.3 percent).

BRANDS OF FAVORITE AD

Studies have shown that youth are up to three times more receptive to tobacco advertising than adults (Pollay et al., 1996). Thus, it hardly comes as a surprise that 75 percent of middle school smokers and 85 percent of high school smokers prefer Marlboro, Camel, and Newport—the three most heavily advertised brands of cigarettes (Farrelly et al., 2001). In turn, brand preference and advertising recall have proven to be accurate predictors of current and future smoking status (Chapman and Fitzgerald, 1982; Arnett and Terhanian, 1998; Pierce et al., 1998).

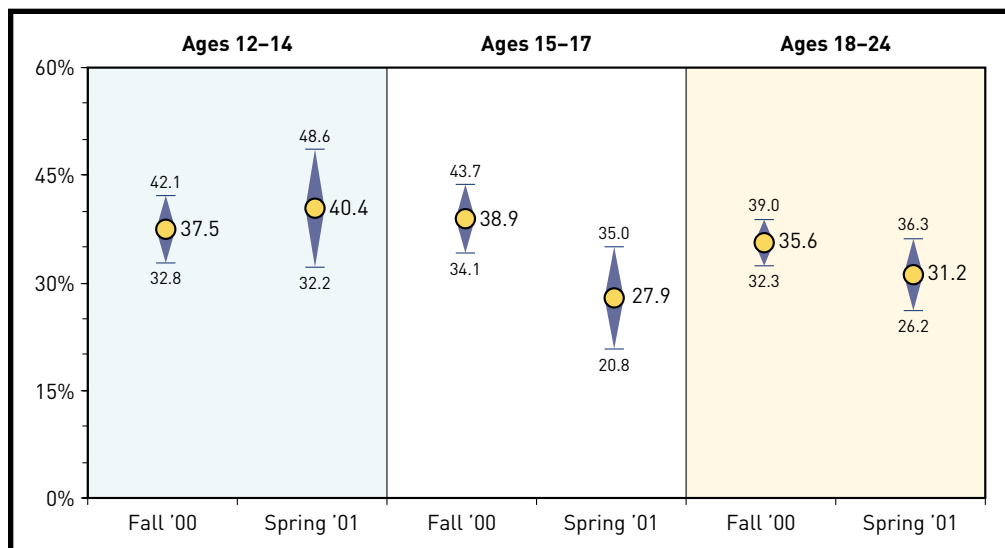
We monitored teen and young adult responses to brand-specific tobacco advertising, starting in fall 2000, by asking respondents to recall the brand of their favorite cigarette ad. Across the last two surveys, 56.8 percent of young teens and 64.5 percent of older teens were able to identify a specific brand's cigarette ad as their favorite, compared with 67.1 percent of young adults. Figures 8 and 9 present changes in preference for the two most popular brand responses, Marlboro and Camel, between fall 2000 and spring 2001. For each age group, respondents cited Marlboro as the brand of their favorite ad more frequently in spring 2001 than in fall 2000. However, these increases were only statistically significant for young adults, rising from 34.9 percent in fall 2000 to 44.1 percent in spring 2001. Camel ads lost favor from fall 2000 to spring 2001 among older teens and young adults, although these differences are not statistically significant. We observed no downward trend in preference for Camel ads for young teens. We were unable to find information that details any changes in the advertising strategies of Marlboro or Camel over this time

Figure 8: Marlboro as Brand of Favorite Ad, 2000–2001



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

Figure 9: Camel as Brand of Favorite Ad, 2000–2001



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

period, but it is clear that more recent advertising efforts from Marlboro have captured the attention of teens and young adults.

As of spring 2001, Marlboro was cited most frequently as the favorite ad by older teens (44.8 percent) and young adults (44.1 percent). Nearly 28 percent of older teens and 31.2 percent of young adults cited messages from Camel brand as their favorite, making this brand second most popular among these audiences. Young teens favored Camel (40.4 percent) and Marlboro (39.2 percent) ads almost equally during spring 2001.

Ad preferences remained constant over time for both Newport and Virginia Slims among all audiences. Newport ads were third most popular, with 6.4 percent of young teens, 10.3 percent of older teens, and 8.1 percent of young adults citing these ads as their favorite as of spring 2001. Ads for Virginia Slims were fourth most popular, with 4.9 percent of young teens, 3.9 percent of older teens, and 3.4 percent of young adults naming these ads as their favorite.

Differences by Gender, Race/Ethnicity, and Smoking Status. Males and females of all ages preferred Marlboro and Camel ads to those of Newport and Virginia Slims (Appendix Tables A-13 through A-15). However, as might be expected with a campaign geared to encourage young women to “be true to themselves,” a significantly higher number of females than males preferred the Virginia Slim ads among younger teens and young adults.

Among young teens, advertisements of Marlboro’s cowboy iconography and Camel’s classic images of cool people were overwhelmingly the favorites among Whites (41.8 percent, 42.0 percent), Hispanics (43.5 percent, 40.1 percent), and Asian/Pacific Islanders (53.6 percent, 23.9 percent) (Appendix Table A-13). Among older teens, Marlboro and Camel were also preferred among Whites (44.1, 34.4 percent), Hispanics (49.1 percent, 32.0 percent), and Asian/Pacific Islanders (46.6 percent, 25.9 percent). A large percentage of African-American teens listed Newport advertisements as their favorite (34.6 percent of young teens and 42.4 percent of older teens), but Camel was frequently cited as well (27.5 percent of young teens and 32.5 percent of older teens). Young adults reported roughly the same brand preferences by racial/ethnic group (Appendix Table A-15).

We observed no differences in specific brand preference by smoking status. However, not surprisingly, smokers and prior experimenters were more likely than those closed to smoking to name the brand of their favorite ad among older teens and young adults. Smoking status did not appear to play a role in whether young teens had a favorite ad.

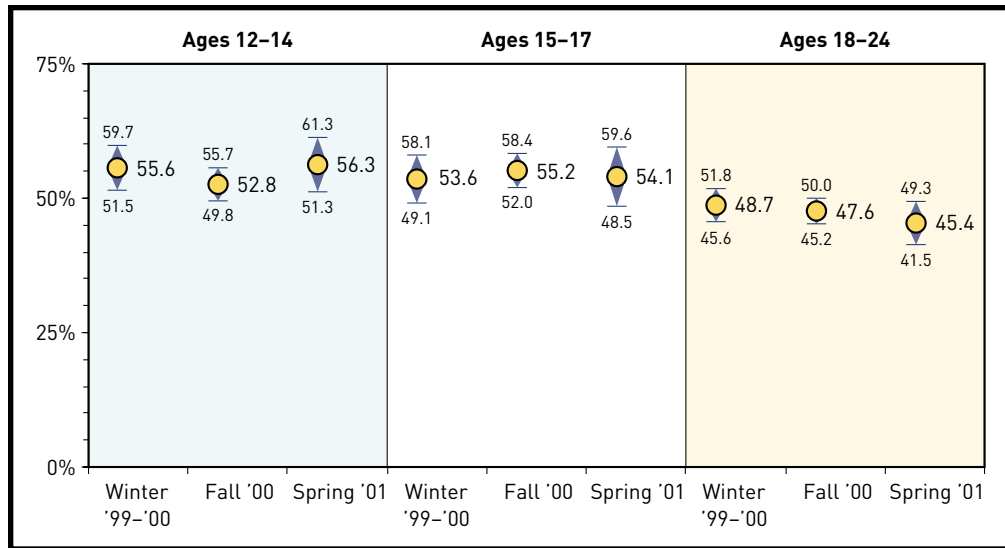
EXPOSURE TO SMOKING PORTRAYALS IN TELEVISION AND FILMS

Experts have long argued that exaggerated portrayals of smoking in television and movies contribute to increased social acceptance of smoking among youth and in fact encourage youth to smoke (Distefan et al., 1999; Tickle et al., 2001; Sargent et al., 2001; Sargent et al., 2002). A recent longitudinal study found that exposure to smoking portrayals in movies was strongly associated with smoking initiation among adolescents (Dalton et al., 2003). Another study has documented the positive light in which smoking is commonly portrayed in movies, specifically as an acceptable way of relieving tension and interacting socially (Dalton et al., 2002). A review of industry documents described how the tobacco industry cultivated relationships with Hollywood during the 1980s in order to promote smoking through movies (Mekemson and Glantz, 2002). Although the tobacco companies agreed to a voluntary ban on tobacco product placements in movies in 1989, tobacco use in feature films is much higher in 2000 than it was in 1960 (Kacirk and Glantz, 2001), has remained high during the past decade (Stockwell and Glantz, 1997), and remains higher than actual smoking rates among the U.S. adult population (Hazan, Lipton, and Glantz, 1994).

One study has even documented the ubiquity of tobacco use in G-rated animated children’s films (Goldstein, Sobel, and Newman, 1999).

To assess the extent to which youth are being exposed to smoking in television and films, we asked youth how often during the past week they saw television shows and movies where someone was smoking. We found that although there was very little change in youth exposure over time, young teens, older teens, and young adults all consistently demonstrate high levels of awareness of smoking in television and film (Figure 10). In spring 2001, more than half of all teens (56.3 percent of 12 to 14 year olds and 54.1 percent of 15 to 17 year olds) reported having seen smoking on television during the week prior to being interviewed, while fewer young adults (45.4 percent) reported the same. Results suggest that television and film are the most frequent source of youth exposure to pro-tobacco messages—teens were more likely to report frequent exposure to on-screen smoking portrayals than awareness of cigarette advertising in print, the Internet, retail outlets, and at bar/club/concert/festival promotions in spring 2001. Clearly, a large proportion of teens and young adults continue to be exposed to smoking portrayals in television and movies.

Figure 10: Exposure to Smoking Portrayals in Television and Films, 1999–2001



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

Differences by Gender, Race/Ethnicity, and Smoking Status. There were no statistically significant differences between males and females in exposure to portrayals of smoking in television and film. Similarly, we observed no differences by race/ethnicity for younger teens. Among older teens, however, African-Americans (63.0 percent) were more likely to report exposure to televised smoking portrayals in the past week than both Whites (52.9 percent) and Asian/Pacific Islanders (45.1 percent). We witnessed a similar trend among young adults—African-Americans (56.6 percent) were more likely to report exposure to portrayals of smoking in television and film than Whites (45.1 percent) and Asian/Pacific Islanders (39.5 percent) (Appendix Table A-16).

Interestingly, Whites were the only group where young adults (45.1 percent) reported lower levels of exposure than younger (55.6 percent) and older (52.9 percent) teens. African-Americans, Hispanics, and Asian/Pacific Islanders reported comparable rates of exposure among young teens, older teens, and young adults.

There were no statistically significant differences in exposure to smoking in television and movies by smoking status among older teens and young adults. However, we did observe differences in exposure among younger teens (Appendix Table A-16). Smokers (66.7 percent) and prior experimenters (63.9 percent) were more likely to report exposure to television and movie smoking portrayals in the past week than young teens closed to smoking (51.1 percent). This finding is consistent with previous studies where smokers reported higher levels of awareness of tobacco brand imagery than their nonsmoking counterparts (Aitken et al., 1987; Chapman and Fitzgerald, 1982).

DISCUSSION

Data from three national surveys clearly reveal that adolescents continue to be exposed to a wealth of pro-tobacco messages. Older teens were just as likely as young adults to report awareness of tobacco advertising in print and retail outlets. In addition, young teens, older teens, and young adults were equally likely to report having received a tobacco promotional item. Given the strong, accumulated evidence documenting the effect of cigarette advertising on youth smoking behavior (e.g., Pierce, Lee, and Gilpin, 1994; Biener and Siegel, 2000), these data are cause for concern. The fact that we observed similar levels of exposure to print, retail, and promotional item advertising among both older teens and young adults highlights the inherent difficulty in targeting print advertising to adults over the age of 18 without simultaneously reaching a substantial proportion of the teen audience. Our results highlight the inadequacy of current advertising restrictions to protect youth from persuasive messages that may cause them to experiment with cigarette smoking.

Recent data indicate that the tobacco industry increased its overall marketing expenditures to a record \$9.6 billion in 2000 (FTC, 2003). Industry expenditures on advertising through print outlets, however, declined following the MSA and may reflect efforts by the tobacco control community to monitor and enforce legal restrictions. Self-reported exposure to print advertising among teens and young adults in winter 1999–2000 and fall 2000 reflect these declines. Nevertheless, the tobacco industry still spent over \$2.50 per U.S. resident on tobacco advertising in 2000 (FTC, 2003), and nearly half of older teens and young adults reported exposure to cigarette advertising in spring 2001. In addition, the tobacco industry increased promotional expenditures (e.g., coupons, two-for-one deals, free gifts with the purchase of cigarettes, and promotional allowances to cigarette retailers) by 20 percent between 1999 and 2000. To our knowledge, no studies have examined the impact of these promotions on teen and young adult smoking behavior. However, research indicates that tobacco consumption among teens is more price-sensitive than among adults (USDHHS, 2000). These promotional channels are not restricted by the MSA and should be carefully monitored in the future. Timely research is needed to ensure that

these promotional channels do not increase the likelihood of smoking initiation and/or progression to addiction.

Several other findings warrant additional discussion and thorough investigation in future research efforts. We observed a sharp drop in exposure to pro-tobacco ads and “Must be 18/We Card” signs among all age groups from winter 1999–2000 to fall 2000, despite increased industry expenditures on point-of-sale advertising. Teens were just as likely to report exposure to pro-tobacco advertising as they were to observe “Must be 18” or “We Card” messages in retail outlets. Furthermore, young adults are more likely to notice “Must be 18” or “We Card” signs than their presumed target audience, teens who may consider attempts to illegally purchase cigarettes. Tobacco control advocates have argued that industry-sponsored retail enforcement programs, such as “We Card,” are designed to increase adults’ awareness of youth access programs, not to prevent teen purchases. The fact that young adults were more likely to notice these signs is consistent with this assertion.

Contrary to our expectations, we did not find that Hispanics and African-Americans were exposed to more pro-tobacco messages in retail outlets than Whites. Future research efforts should employ observational methods to determine if self-reported exposure to cigarette advertising in retail outlets among teens and young adults is a function of actual differences in the number of messages placed in these venues. Self-reported awareness does not necessarily reflect actual levels of exposure or the number of advertisements placed in specific media or venues.

We were also intrigued by the proportion of teens who reported exposure to pro-tobacco messages in clubs, concerts, or festivals. Evidence suggests that the tobacco industry has begun to focus more of its marketing efforts and resources on event sponsorship and promotions aimed at the young adult audience (Sepe and Glantz, 2002; Ling and Glantz, 2002). Our findings suggest that cigarette promotions at concerts, clubs, and festivals targeting the young adult audience also reach teens. It appears that MSA exemptions for “adult only” venues do not protect teens from exposure to cigarette advertising and promotions. These results are particularly alarming due to the fact that current smokers, prior experimenters, and those open to smoking are more likely to attend bars, clubs, concerts, and festivals than closed to smoking teens and young adults. It is possible that cigarette advertising in these venues may increase consumption among smokers, entice prior smokers to take up smoking again, or convince teens who are considering smoking to initiate the behavior. Sepe, Ling, and Glantz (2002) suggest that these venues may have contributed to increases in smoking behavior among college students (Wechsler et al., 1998). Our findings suggest that policies enforcing smoke-free bars and clubs may be particularly important in reducing smoking among both teens and young adults. Future research should identify with greater specificity the exact venues (concerts, clubs, or festivals) in which teens and young adults are being exposed to tobacco industry promotions. More detailed information on the specific sources of exposure to pro-tobacco marketing at clubs, concerts, and festivals can help shape policy decisions and ensure that environments frequented by teens and young adults are not laden with cigarette advertisements.

Declines in young adult ownership of pro-tobacco merchandise across the three surveys signal that the tobacco industry may have reduced its focus on gear distribu-

tion in its overall marketing strategy. These items, however, still seem to find their way into the possession of a handful of teens. We also observed that ownership of pro-tobacco merchandise might engender positive intentions toward smoking among teens. The observed discrepancy between smokers and nonsmokers in pro-tobacco gear ownership might be expected (smokers may actively seek pro-tobacco gear to enhance their “smoking image”), but the distinction between open and closed to smoking teens is less likely to be the result of active efforts to obtain gear. Although the results presented here demonstrate an association, not causality, the accumulated evidence seems to provide support for the relationship between ownership of pro-tobacco gear and smoking intentions. Given this strong association, tobacco control advocates must continue to closely monitor the prevalence of pro-tobacco merchandise ownership among teens.

Younger and older teens were more likely than young adults to be exposed to portrayals of smoking in television and film. Results suggest that television and film are the most frequent source of youth exposure to pro-tobacco messages—teens were more likely to report frequent exposure to on-screen smoking portrayals than awareness of cigarette advertising in print, the Internet, retail outlets, and at bar/club/concert/festival promotions. These results are cause for concern. Although the tobacco industry is prohibited from using television shows and films to market their products, writers, directors, and producers continue to depict characters smoking on screen. Portrayals in the entertainment media may be particularly enticing to teens (Distefan et al., 1999; Tickle et al., 2001; Sargent et al., 2001). Advocates should continue to pressure the television and film industry to reduce unnecessary smoking portrayals in shows targeted to young audiences.

In sum, these findings warrant a heightened level of vigilance over the channels through which the tobacco industry targets teens and young adults, with a particular focus on gauging the impact of promotional allowances. Results also raise questions about the MSA’s effectiveness in reducing exposure to pro-tobacco messages among teens.

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APPENDIX A: AWARENESS AND REACTIONS TO PRO-TOBACCO MESSAGES — DETAILED TABLES

Table A-1: Awareness of Pro-Tobacco Messages by Media Source, Ages 12–14 — All LMTS [95% Confidence Interval]

	Any Medium	Print	Internet	Other
Overall (n=8628)	44.6 [42.3–47.1]	36.5 [34.2–38.8]	6.6 [5.4–7.9]	20.1 [18.1–21.2]
Males (n=4340)	42.8 [39.4–46.2]	33.2 [30.0–36.4]	7.3 [5.5–9.1]	20.8 [17.9–23.7]
Females (n=4288)	46.7 [43.3–50.1]	40.0 [36.6–43.3]	5.9 [4.1–7.6]	19.3 [16.6–22.0]
Whites (n=4516)	48.4 [45.2–51.6]	40.6 [37.5–43.8]	6.9 [5.2–8.6]	20.7 [17.9–23.4]
African-Americans (n=1288)	33.2 [27.9–38.6]	24.5 [19.7–29.3]	6.0 [3.1–8.9]	19.8 [15.1–24.5]
Hispanics (n=1755)	40.4 [36.2–44.6]	29.9 [26.0–33.8]	6.6 [4.3–8.8]	20.0 [16.5–23.4]
Asian/Pacific Islanders (n=619)	35.1 [24.7–45.6]	32.3 [22.0–42.7]	2.6 [1.4–3.9]	10.2 [6.0–14.4]
Other (n=416)	44.4 [34.8–53.9]	33.2 [23.9–42.4]	7.8 [2.9–12.7]	20.6 [13.1–28.1]
Closed to Smoking (n=5431)	43.5 [40.5–46.6]	35.8 [32.8–38.7]	6.2 [4.7–7.7]	18.5 [16.1–20.9]
Open to Smoking (n=1746)	47.3 [42.0–52.7]	40.1 [34.8–45.3]	7.0 [4.3–9.8]	22.2 [17.6–26.8]
Prior Experimenters (n=990)	41.8 [30.9–52.6]	36.5 [25.9–47.1]	10.7 [2.4–19.0]	19.6 [10.3–28.8]
Current Smokers (n=374)	48.4 [41.4–55.4]	35.9 [29.2–42.5]	5.4 [2.3–8.5]	24.5 [18.2–30.8]

Table A-2: Awareness of Pro-Tobacco Messages by Media Source, Ages 15–17 — All LMTS [95% Confidence Interval]

	Any Medium	Print	Internet	Other
Overall (n=7836)	51.1 [48.5–53.8]	44.3 [41.7–46.9]	5.8 [4.6–7.0]	20.4 [18.2–22.6]
Males (n=3723)	50.0 [46.2–53.8]	42.8 [39.0–46.6]	6.7 [4.7–8.6]	20.8 [17.7–23.9]
Females (n=4113)	52.3 [48.7–55.9]	45.8 [42.2–49.5]	4.8 [3.4–6.3]	20.0 [16.9–23.0]
Whites (n=4289)	55.6 [52.2–59.1]	49.1 [45.6–52.6]	6.0 [4.4–7.6]	21.6 [18.7–24.5]
African-Americans (n=1162)	39.7 [33.4–46.0]	30.4 [24.5–36.2]	5.2 [2.9–7.5]	17.5 [12.8–22.2]
Hispanics (n=1475)	40.2 [35.8–44.6]	33.9 [29.7–38.2]	6.1 [4.0–8.3]	17.9 [14.7–21.2]
Asian/Pacific Islanders (n=662)	49.0 [38.6–59.3]	43.1 [32.6–53.7]	4.3 [1.3–7.4]	13.9 [7.6–20.1]
Other (n=229)	45.7 [33.6–57.8]	38.0 [26.3–49.7]	3.2 [0.2–6.2]	21.1 [11.3–30.8]
Closed to Smoking (n=3544)	49.8 [45.9–53.7]	43.8 [39.8–47.8]	5.9 [3.9–7.9]	18.9 [15.7–22.2]
Open to Smoking (n=1085)	53.2 [46.0–60.5]	44.9 [37.7–52.1]	8.3 [3.8–12.9]	21.3 [15.3–27.3]
Prior Experimenters (n=1988)	54.2 [49.0–59.4]	45.5 [40.3–50.7]	4.5 [2.6–6.3]	23.3 [18.7–27.8]
Current Smokers (n=1164)	48.6 [42.1–55.1]	43.3 [36.8–49.7]	5.8 [3.4–8.2]	19.2 [14.2–24.1]

Table A-3: Awareness of Pro-Tobacco Messages by Media Source, Ages 18–24 — All LMTS [95% Confidence Interval]

	Any Medium	Print	Internet	Other
Overall (n=11514)	50.0 [48.1–51.8]	43.4 [41.5–45.2]	3.6 [2.9–4.3]	19.7 [18.3–21.1]
Males (n=5003)	51.1 [48.4–53.9]	44.5 [41.7–47.2]	4.1 [3.0–5.1]	20.8 [18.6–23.0]
Females (n=6501)	48.7 [46.3–51.2]	42.2 [39.8–44.6]	3.1 [2.3–3.9]	18.6 [16.7–20.5]
Whites (n=5891)	51.9 [49.5–54.3]	46.0 [43.6–48.4]	3.6 [2.7–4.6]	18.9 [17.1–20.8]
African-Americans (n=1920)	41.1 [36.6–45.7]	33.5 [29.1–37.9]	2.7 [1.5–3.9]	20.3 [16.3–24.3]
Hispanics (n=2189)	49.3 [45.7–52.8]	40.4 [36.8–43.9]	4.6 [3.1–6.1]	24.5 [21.2–27.8]
Asian/Pacific Islanders (n=1062)	44.2 [36.9–51.6]	39.8 [32.4–47.1]	3.8 [1.7–5.9]	15.8 [11.1–20.6]
Other (n=415)	50.0 [41.1–58.8]	41.2 [32.6–49.8]	2.1 [0.6–3.6]	18.1 [11.1–25.1]
Closed to Smoking (n=3559)	46.9 [43.5–50.3]	41.2 [37.8–44.5]	5.1 [3.4–6.8]	17.9 [15.4–20.5]
Open to Smoking (n=464)	47.5 [38.4–56.7]	39.7 [30.7–48.6]	5.3 [2.2–8.3]	18.8 [11.1–26.5]
Prior Experimenters (n=3749)	54.0 [50.7–57.3]	47.7 [44.4–51.0]	2.6 [1.6–3.6]	19.9 [17.3–22.4]
Current Smokers (n=3647)	49.0 [45.8–52.3]	41.6 [38.5–44.8]	3.0 [2.1–4.0]	21.0 [18.5–23.6]

Table A-4: Awareness of Promotions / Signs in Retail Outlets, Ages 12–14 — All LMTS [95% Confidence Interval]

	Ads for Cigarette Brands	"Must be 18" and "We Card" Signs
Overall (n=8628)	36.1 [33.7–38.4]	37.3 [35.0–39.7]
Males (n=4340)	37.7 [34.3–41.1]	36.0 [32.6–39.3]
Females (n=4288)	34.4 [31.2–37.7]	38.8 [35.5–42.1]
Whites (n=4516)	38.5 [35.4–41.7]	40.7 [37.5–43.9]
African-Americans (n=1288)	31.7 [26.2–37.2]	28.8 [28.5–36.6]
Hispanics (n=1755)	32.6 [28.5–36.6]	34.2 [30.0–38.3]
Asian/Pacific Islanders (n=619)	18.0 [11.1–24.9]	22.5 [15.1–29.8]
Other (n=416)	35.7 [26.8–44.7]	31.9 [23.6–40.2]
Closed to Smoking (n=5431)	33.0 [30.0–35.9]	36.1 [33.1–39.1]
Open to Smoking (n=1746)	37.4 [32.3–42.6]	39.9 [34.6–45.2]
Prior Experimenters (n=990)	48.6 [41.5–55.6]	37.0 [30.3–43.6]
Current Smokers (n=374)	37.8 [27.1–48.4]	43.8 [32.8–54.7]

Table A-5: Awareness of Promotions / Signs in Retail Outlets, Ages 15–17 — All LMTS [95% Confidence Interval]

	Ads for Cigarette Brands	"Must be 18" and "We Card" Signs
Overall (n=7836)	40.0 [37.4–42.6]	43.7 [41.0–46.3]
Males (n=3723)	42.5 [33.8–40.9]	43.8 [40.0–47.7]
Females (n=4113)	37.4 [38.7–46.3]	43.5 [39.9–47.1]
Whites (n=4289)	42.2 [38.8–45.7]	47.8 [44.3–51.3]
African-Americans (n=1162)	34.7 [28.5–40.8]	33.2 [26.9–39.4]
Hispanics (n=1475)	34.9 [30.6–39.1]	36.2 [31.9–40.5]
Asian/Pacific Islanders (n=662)	34.8 [23.9–45.6]	31.7 [22.9–40.5]
Other (n=229)	41.5 [29.7–53.4]	37.3 [25.3–49.3]
Closed to Smoking (n=3544)	36.7 [32.8–40.6]	39.8 [35.9–43.8]
Open to Smoking (n=1085)	35.4 [28.5–42.3]	45.8 [38.4–53.1]
Prior Experimenters (n=1988)	43.0 [37.8–48.1]	47.1 [41.9–52.3]
Current Smokers (n=1164)	45.1 [38.6–51.5]	45.9 [39.5–52.4]

Table A-6: Awareness of Promotions / Signs in Retail Outlets, Ages 18–24 — All LMTS [95% Confidence Interval]

	Ads for Cigarette Brands	"Must be 18" and "We Card" Signs
Overall (n=11514)	44.4 [42.5–46.2]	51.0 [49.2–52.9]
Males (n=5003)	47.1 [44.3–49.9]	52.1 [49.3–54.9]
Females (n=6501)	41.5 [39.0–43.9]	49.8 [47.4–52.3]
Whites (n=5891)	46.1 [43.7–48.6]	54.7 [52.3–57.1]
African-Americans (n=1920)	40.9 [36.4–45.5]	44.4 [39.7–49.0]
Hispanics (n=2189)	41.8 [38.2–45.3]	43.1 [39.6–46.7]
Asian/Pacific Islanders (n=1062)	29.7 [22.9–36.6]	34.1 [26.8–41.4]
Other (n=415)	41.8 [33.2–50.5]	42.3 [33.6–50.9]
Closed to Smoking (n=3559)	37.6 [34.3–40.9]	45.9 [42.5–49.3]
Open to Smoking (n=464)	43.8 [34.5–53.0]	47.9 [38.7–57.1]
Prior Experimenters (n=3749)	45.2 [41.9–48.5]	52.5 [49.2–55.7]
Current Smokers (n=3647)	49.2 [46.0–52.4]	53.9 [50.7–57.1]

Table A-7: Attendance at/Awareness of Bar/Club/Concert/Festival Promotions, Ages 12-14 — All LMTS [95% Confidence Interval]

	Attend Ever?	Awareness of Promotions
Overall (n=8628)	49.8 [47.4-52.2]	29.4 [26.4-32.4]
Males (n=4340)	50.0 [46.6-53.5]	32.1 [27.7-36.4]
Females (n=4288)	49.5 [46.2-52.9]	26.6 [22.4-30.8]
Whites (n=4516)	49.5 [46.3-52.8]	29.1 [25.1-33.1]
African-Americans (n=1288)	48.2 [42.5-54.0]	30.8 [23.3-38.3]
Hispanics (n=1755)	52.7 [48.5-56.9]	32.2 [26.5-37.9]
Asian/Pacific Islanders (n=619)	48.4 [36.9-59.9]	27.7 [9.5-45.8]
Other (n=416)	57.8 [48.8-66.8]	23.2 [13.2-33.2]
Closed to Smoking (n=5431)	43.5 [40.4-46.5]	26.4 [22.4-30.4]
Open to Smoking (n=1746)	58.6 [53.4-63.9]	28.7 [22.7-34.8]
Prior Experimenters (n=990)	65.2 [58.7-71.8]	37.2 [29.0-45.5]
Current Smokers (n=374)	51.1 [40.1-62.0]	35.2 [22.2-48.3]

Table A-8: Attendance at/Awareness of Bar/Club/Concert/Festival Promotions, Ages 15-17 — All LMTS [95% Confidence Interval]

	Attend Ever?	Awareness of Promotions
Overall (n=7836)	65.8 [63.3-68.3]	37.0 [33.8-40.3]
Males (n=3723)	66.3 [62.6-69.9]	38.4 [31.0-40.1]
Females (n=4113)	65.3 [62.0-68.7]	35.6 [33.8-43.0]
Whites (n=4289)	66.5 [63.2-69.8]	39.2 [35.0-43.5]
African-Americans (n=1162)	62.8 [56.9-68.8]	27.9 [19.9-35.8]
Hispanics (n=1475)	66.6 [62.3-70.9]	35.9 [30.3-41.4]
Asian/Pacific Islanders (n=662)	66.9 [58.1-75.7]	36.3 [21.8-50.7]
Other (n=229)	60.5 [49.0-72.0]	26.5 [14.0-39.0]
Closed to Smoking (n=3544)	55.8 [52.0-59.7]	34.0 [28.7-39.3]
Open to Smoking (n=1085)	70.0 [63.4-76.6]	37.8 [29.3-46.3]
Prior Experimenters (n=1988)	68.9 [64.0-73.9]	35.4 [29.5-41.3]
Current Smokers (n=1164)	79.2 [74.1-84.3]	42.4 [35.0-49.9]

Table A-9: Attendance at/Awareness of Bar/Club/Concert/Festival Promotions, Ages 18–24 — All LMTS [95% Confidence Interval]

	Attend Ever?	Awareness of Promotions
Overall (n=11514)	75.3 [73.8–76.9]	35.1 [33.1–37.2]
Males (n=5003)	80.3 [78.2–82.5]	36.6 [33.6–39.6]
Females (n=6501)	70.1 [67.8–72.4]	33.4 [30.7–36.1]
Whites (n=5891)	76.3 [74.3–78.4]	34.3 [31.7–37.0]
African-Americans (n=1920)	70.5 [66.6–74.5]	30.1 [25.2–35.0]
Hispanics (n=2189)	76.7 [73.8–80.0]	43.1 [38.9–47.2]
Asian/Pacific Islanders (n=1062)	70.4 [63.5–77.4]	33.4 [25.2–41.4]
Other (n=415)	71.6 [63.3–79.8]	38.2 [28.7–47.6]
Closed to Smoking (n=3559)	66.4 [63.2–69.5]	35.4 [31.4–39.5]
Open to Smoking (n=464)	67.3 [57.9–76.7]	29.8 [21.2–38.4]
Prior Experimenters (n=3749)	75.7 [72.9–78.4]	35.9 [32.3–39.6]
Current Smokers (n=3647)	83.3 [80.9–85.7]	34.9 [31.6–38.3]

Table A-10: Pro-Tobacco Promotional Merchandise, Ages 12–14 — All LMTS [95% Confidence Interval]

	Owns Pro-Tobacco Gear	Willing to Own Pro-Tobacco Gear
Overall (n=8628)	7.1 [5.8–8.4]	13.9 [12.2–15.6]
Males (n=4340)	7.6 [5.8–9.5]	16.7 [14.1–19.3]
Females (n=4288)	6.5 [4.7–8.3]	10.9 [8.8–13.0]
Whites (n=4516)	6.5 [4.8–8.1]	13.3 [11.1–15.5]
African-Americans (n=1288)	10.0 [5.5–14.4]	16.6 [12.0–21.2]
Hispanics (n=1755)	7.1 [5.2–9.1]	13.3 [10.8–15.8]
Asian/Pacific Islanders (n=619)	4.8 [1.4–8.2]	10.2 [1.1–19.3]
Other (n=416)	9.6 [3.2–16.0]	20.7 [12.3–29.1]
Closed to Smoking (n=5431)	4.8 [3.4–6.1]	7.8 [6.1–9.5]
Open to Smoking (n=1746)	9.5 [6.1–13.0]	15.7 [11.7–19.6]
Prior Experimenters (n=990)	9.7 [5.4–14.0]	25.3 [19.4–31.2]
Current Smokers (n=374)	14.8 [7.3–22.3]	40.0 [29.4–50.5]

Table A-11: Pro-Tobacco Promotional Merchandise, Ages 15–17 — All LMTS [95% Confidence Interval]

	Owns Pro-Tobacco Gear	Willing to Own Pro-Tobacco Gear
Overall (n=7836)	9.0 [7.5–10.4]	26.3 [23.8–28.7]
Males (n=3723)	10.5 [8.2–12.8]	30.1 [26.4–33.7]
Females (n=4113)	7.3 [5.5–9.2]	22.2 [19.0–25.5]
Whites (n=4289)	9.2 [7.2–11.2]	28.5 [25.2–31.8]
African-Americans (n=1162)	6.4 [3.8–8.9]	17.7 [12.4–23.0]
Hispanics (n=1475)	8.5 [5.9–11.1]	27.3 [23.0–31.6]
Asian/Pacific Islanders (n=662)	14.6 [3.5–25.6]	18.3 [9.8–26.8]
Other (n=229)	10.2 [3.5–16.9]	15.3 [8.4–22.2]
Closed to Smoking (n=3544)	5.2 [3.5–6.8]	11.3 [8.9–13.7]
Open to Smoking (n=1085)	8.3 [3.9–12.7]	23.2 [16.6–29.7]
Prior Experimenters (n=1988)	6.9 [4.5–9.4]	27.7 [22.9–32.6]
Current Smokers (n=1164)	19.9 [14.9–24.9]	57.2 [50.8–63.5]

Table A-12: Pro-Tobacco Promotional Merchandise, Ages 18–24 — All LMTS [95% Confidence Interval]

	Owns Pro-Tobacco Gear	Willing to Own Pro-Tobacco Gear
Overall (n=11514)	9.3 [8.2–10.4]	34.3 [32.5–36.1]
Males (n=5003)	10.8 [9.1–12.5]	40.3 [37.5–43.0]
Females (n=6501)	7.7 [6.4–9.0]	27.9 [25.6–30.2]
Whites (n=5891)	10.5 [9.0–11.9]	37.2 [35.0–39.6]
African-Americans (n=1920)	4.2 [2.7–5.7]	26.5 [22.2–30.7]
Hispanics (n=2189)	9.2 [7.0–11.4]	29.7 [26.3–33.1]
Asian/Pacific Islanders (n=1062)	5.1 [3.3–6.9]	30.4 [23.3–37.6]
Other (n=415)	9.2 [5.2–13.2]	26.0 [19.0–32.9]
Closed to Smoking (n=3559)	3.3 [1.9–4.6]	13.3 [11.0–15.6]
Open to Smoking (n=464)	2.8 [0.9–4.6]	27.3 [18.7–35.9]
Prior Experimenters (n=3749)	8.0 [6.0–10.0]	27.0 [23.9–30.0]
Current Smokers (n=3647)	15.8 [13.6–17.9]	58.1 [54.9–61.3]

Table A-13: Brand of Favorite Ad (of Those with a Favorite Ad), Ages 12-14 — All LMTS [95% Confidence Interval]

	Marlboro	Camel	Newport	Virginia Slims
Overall (n=8628)	37.0 [32.4-41.7]	39.0 [34.2-43.7]	7.6 [5.5-9.7]	4.1 [2.2-6.0]
Males (n=4340)	41.7 [35.1-48.3]	37.2 [30.6-43.8]	7.2 [4.4-10.0]	1.3 [0.4-2.2]
Females (n=4288)	31.9 [25.3-38.5]	40.9 [34.1-47.7]	8.1 [5.0-11.2]	7.2 [4.4-10.0]
Whites (n=4516)	41.8 [35.5-48.1]	42.0 [35.7-48.4]	2.6 [1.0-4.1]	4.7 [2.1-7.2]
African-Americans (n=1288)	6.6 [2.8-10.4]	27.5 [17.1-37.9]	34.6 [24.0-45.3]	1.5 [0.2-2.7]
Hispanics (n=1755)	43.5 [35.2-51.8]	40.1 [31.9-48.4]	4.0 [0.7-7.2]	1.1 [0.0-2.5]
Asian/Pacific Islanders (n=619)	53.6 [30.3-76.8]	23.9 [7.6-40.1]	7.7 [0.0-23.5]	10.1 [0.0-23.5]
Other (n=416)	25.6 [10.2-41.0]	34.3 [14.1-54.5]	12.2 [0.0-25.0]	9.2 [0.0-25.0]
Closed to Smoking (n=5431)	37.9 [31.8-44.0]	41.4 [35.2-47.6]	5.4 [3.2-7.5]	4.1 [1.6-6.5]
Open to Smoking (n=1746)	31.3 [22.6-40.0]	36.6 [27.0-46.2]	9.7 [3.8-7.5]	6.3 [1.1-11.5]
Prior Experimenters (n=990)	39.8 [25.3-54.2]	36.8 [23.0-50.6]	10.0 [3.9-16.0]	2.8 [0.4-5.1]
Current Smokers (n=374)	45.8 [25.4-66.2]	32.7 [12.6-52.8]	11.6 [2.9-20.2]	0.1 [0.0-0.3]

Table A-14: Brand of Favorite Ad (of Those with a Favorite Ad), Ages 15-17 — All LMTS [95% Confidence Interval]

	Marlboro	Camel	Newport	Virginia Slims
Overall (n=7836)	40.0 [35.3-44.8]	33.2 [28.8-37.6]	9.7 [6.5-12.9]	3.8 [1.9-5.7]
Males (n=3723)	39.5 [32.8-46.2]	32.1 [26.2-38.0]	11.8 [6.5-17.1]	2.4 [0.0-4.9]
Females (n=4113)	40.6 [33.8-47.5]	34.5 [28.0-41.0]	7.2 [4.2-10.2]	5.5 [2.7-8.4]
Whites (n=4289)	44.1 [37.5-50.7]	34.4 [28.3-40.5]	4.1 [1.2-7.0]	3.5 [0.8-6.2]
African-Americans (n=1162)	8.3 [4.0-12.6]	32.5 [21.8-43.1]	42.4 [29.5-55.3]	2.5 [0.4-4.6]
Hispanics (n=1475)	49.1 [41.0-57.2]	32.0 [25.0-38.9]	5.2 [2.0-8.4]	4.9 [1.1-8.6]
Asian/Pacific Islanders (n=662)	46.6 [26.4-66.9]	25.9 [8.7-43.0]	1.2 [0.0-2.2]	9.8 [0.0-21.6]
Other (n=229)	58.2 [33.6-82.8]	26.9 [5.6-48.1]	7.3 [0.0-17.2]	2.3 [0.0-5.3]
Closed to Smoking (n=3544)	33.2 [26.3-40.2]	35.1 [28.3-41.9]	10.5 [4.9-16.1]	6.0 [2.1-10.0]
Open to Smoking (n=1085)	40.5 [27.6-53.5]	37.2 [25.0-49.4]	10.6 [0.0-21.4]	2.3 [0.4-4.3]
Prior Experimenters (n=1988)	44.0 [34.9-53.1]	28.5 [21.0-36.1]	8.3 [2.6-14.0]	3.7 [0.0-7.6]
Current Smokers (n=1164)	44.1 [32.8-55.4]	35.3 [24.4-46.3]	10.2 [3.8-16.5]	1.3 [0.0-2.9]

Table A-15: Brand of Favorite Ad (of Those with a Favorite Ad), Ages 18–24 — All LMTS [95% Confidence Interval]

	Marlboro	Camel	Newport	Virginia Slims
Overall (n=11514)	39.4 [36.1–42.8]	33.5 [30.4–36.4]	7.3 [5.7–9.0]	4.0 [2.8–5.2]
Males (n=5003)	40.8 [35.9–45.7]	31.7 [27.5–35.9]	8.2 [5.6–10.8]	1.2 [0.5–1.9]
Females (n=6501)	37.9 [33.6–42.2]	35.5 [31.2–39.8]	6.4 [4.4–8.3]	7.3 [4.9–9.6]
Whites (n=5891)	43.4 [39.0–47.8]	33.0 [29.0–36.9]	4.1 [2.3–6.0]	3.6 [2.1–5.0]
African-Americans (n=1920)	14.6 [7.5–21.7]	35.4 [27.6–43.1]	27.2 [19.9–34.6]	3.1 [1.4–4.9]
Hispanics (n=2189)	47.0 [40.8–53.1]	32.3 [26.3–38.4]	5.1 [2.5–7.8]	6.0 [2.4–9.7]
Asian/Pacific Islanders (n=1062)	37.0 [24.4–49.5]	30.9 [18.4–43.3]	3.4 [0.4–6.5]	6.6 [1.5–11.6]
Other (n=415)	16.7 [6.8–26.6]	44.9 [25.7–64.1]	17.0 [2.5–31.5]	5.0 [0.0–10.8]
Closed to Smoking (n=3559)	40.6 [33.9–47.4]	34.7 [28.4–40.9]	7.0 [3.3–10.6]	4.3 [2.0–6.7]
Open to Smoking (n=464)	48.4 [32.6–64.1]	24.5 [13.9–35.1]	8.7 [0.0–18.0]	0.5 [0.0–1.1]
Prior Experimenters (n=3749)	40.3 [34.6–45.9]	36.3 [31.0–41.6]	5.3 [3.4–7.3]	3.7 [1.9–5.5]
Current Smokers (n=3647)	37.4 [32.0–42.8]	30.9 [26.0–35.7]	9.3 [6.1–12.4]	4.0 [2.0–6.0]

Table A-16: Exposure to Portrayals of Smoking in Television and Film — All LMTS [95% Confidence Interval]

	Ages 12–14	Ages 15–17	Ages 18–24
Overall (n=27978)	55.0 [52.6–57.4]	54.2 [51.6–56.8]	47.4 [45.5–49.2]
Males (n=13066)	57.3 [53.9–60.7]	56.2 [52.3–60.0]	49.6 [46.8–52.4]
Females (n=14912)	52.5 [49.1–55.9]	52.2 [48.5–55.8]	45.0 [42.6–47.4]
Whites (n=14696)	55.6 [52.4–58.8]	52.9 [49.4–56.4]	45.1 [42.7–47.5]
African-Americans (n=4368)	56.4 [50.6–62.3]	63.0 [56.8–69.2]	56.6 [52.1–61.2]
Hispanics (n=5419)	51.3 [47.1–55.4]	54.8 [50.3–59.4]	52.4 [48.9–56.0]
Asian/Pacific Islanders (n=2343)	48.9 [37.3–60.4]	45.1 [35.2–55.0]	39.5 [32.3–46.6]
Other (n=1060)	56.4 [46.7–66.1]	52.8 [40.5–65.1]	51.6 [42.9–60.6]
Closed to Smoking (n=12534)	51.1 [48.0–54.2]	54.6 [50.7–58.5]	47.0 [43.6–50.4]
Open to Smoking (n=3295)	57.4 [52.1–62.7]	53.2 [45.9–60.5]	43.3 [34.1–52.4]
Prior Experimenters (n=6727)	63.9 [57.1–70.6]	52.2 [47.0–57.4]	47.7 [44.4–51.0]
Current Smokers (n=5185)	66.7 [56.5–76.9]	56.9 [50.5–63.4]	48.1 [44.9–51.4]

