

Getting to the Truth: Evaluating National Tobacco Countermarketing Campaigns

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In early February 2000, the American Legacy Foundation (Legacy) launched “truth,” a national tobacco countermarketing campaign conducted by an alliance of advertising firms led by Arnold Communications, Legacy staff, and nationwide youths. “truth” targets primarily 12- to 17-year-olds who are susceptible to smoking.¹⁻³ The core strategy of the campaign is to market its message as a brand, like other youth brands (e.g., Nike, Sprite), to appeal to youths most at risk of smoking. “truth” TV and print commercials feature what advertising experts call “edgy” youths (i.e., those who are on the cutting edge of trends), promotional items (e.g., T-shirts, stickers), street marketing, and a Web site (www.thetruth.com). Although “truth” is a national multiethnic campaign, special components were developed to reinforce its appeal to African Americans, Hispanics, and Asians.

While drawing youths to “truth,” the campaign delivers stark facts about tobacco and tobacco industry marketing practices, rather than sending directive “just say no” messages such as those used in the Philip Morris Company’s “Think. Don’t Smoke.” campaign, which began in 1998. Specifically, many of the “truth” advertisements are based on historical statements from the industry itself that reveal its youth marketing and obfuscation of tobacco’s health effects. In unmasking these practices, “truth” seeks to replace the attractive identity portrayed by tobacco advertising with a “truth” alternative identity.⁴

The “truth” brand builds a positive, tobacco-free identity through hard-hitting advertisements that feature youths confronting the tobacco industry. This rebellious rejection of tobacco and tobacco advertising channels youths’ need to assert their independence and individuality, while countering tobacco marketing efforts. For example, one well-known “truth” commercial, known as “Body Bags,” features youths piling body bags outside of a tobacco company’s headquarters and broad-

casting loudly via megaphones that these represent the 1200 people killed daily by tobacco.

Empirical evidence for the potential benefits of the national “truth” campaign’s approach comes from the dramatic decline in youth tobacco use associated with the Florida^{5,6} and Massachusetts⁷ campaigns, as well as from other studies that have found campaigns focusing on tobacco industry practices to be effective.⁸⁻¹⁰

Legacy’s model is that “truth” will change youths’ attitudes toward smoking, and that this in turn will change their smoking behavior, prevent them from initiating smoking, or both.¹¹ Thus, attitude shifts are an intermediate outcome on the path to changing smoking behavior. A telephone survey of youths in Florida and nationwide demonstrated that attitudes toward tobacco changed dramatically among Florida youths compared with youths in the rest of the United States after the first year (1998) of Florida’s “truth” campaign, compared with a national sample of youths whose attitudes remained relatively constant.¹² The accompanying change in smoking prevalence was at first statistically nonsignificant, but results from the Florida Youth Tobacco Survey showed drops in smoking among middle-school and high-school students of 18% and 8%, respectively, after year 1 and of 40% and 18% after year 2.⁵

Objectives. This study examines how the American Legacy Foundation’s “truth” campaign and Philip Morris’s “Think. Don’t Smoke” campaign have influenced youths’ attitudes, beliefs, and intentions toward tobacco.

Methods. We analyzed 2 telephone surveys of 12- to 17-year-olds with multivariate logistic regressions: a baseline survey conducted before the launch of “truth” and a second survey 10 months into the “truth” campaign.

Results. Exposure to “truth” countermarketing advertisements was consistently associated with an increase in anti-tobacco attitudes and beliefs, whereas exposure to Philip Morris advertisements generally was not. In addition, those exposed to Philip Morris advertisements were more likely to be open to the idea of smoking.

Conclusions. Whereas exposure to the “truth” campaign positively changed youths’ attitudes toward tobacco, the Philip Morris campaign had a counterproductive influence. (*Am J Public Health.* 2002;92:901-907)

Some assert that a portion of this decline can be attributed to the November 1998 \$0.45-per-pack price increase.¹³ Cigarette prices increased by roughly 30% during 1998, year 1 of the Florida program, and by 7% during year 2.¹⁴ With price increases of this magnitude, economic studies projected a 10% to 20% decline in youth smoking prevalence for 1998 and a 2% to 5% decline for 1999.¹⁵⁻¹⁷ This suggests that although a significant fraction of the decline in smoking after the first year of Florida’s program may have been due to price increases, the price increases alone cannot account for all of the 1998 decline or for the continued decline in smoking in 1999.

In the present study, we used the results of 2 national youth surveys to compare exposures to Legacy’s “truth” and Philip Morris’s “Think. Don’t Smoke.” campaigns. We then analyzed changes in youths’ attitudes, beliefs, and intentions regarding the tobacco industry and tobacco use 10 months into the “truth” campaign as a function of levels of exposure to each campaign.

METHODS

To monitor the impact of the “truth” campaign on attitudes and behavior, in 1999 Legacy began sponsoring the Legacy Media

Tracking Surveys (LMTSs), which were designed to yield nationally representative samples of youths aged 12 to 17 and of young adults aged 18 to 24. We limited our analysis to 12- to 17-year-olds, the target audience for “truth.” These 2-stage stratified-design surveys measured exposure to environmental tobacco smoke, access to tobacco products, knowledge and attitudes about tobacco, awareness of pro- and anti-tobacco advertising, and self-reported tobacco use and intentions. Before the “truth” campaign was launched (on February 7, 2000), the baseline telephone survey (LMTS-I) was conducted between December 6, 1999, and February 6, 2000. The next telephone survey (LMTS-II) was conducted between September 8, 2000, and December 23, 2000.

We enhanced representation of African Americans, Asians, and Hispanics by oversampling telephone exchanges concentrated in areas with high proportions of each of these racial/ethnic groups. Furthermore, Asian and Hispanic households were oversampled by supplementing the random-digit telephone dialing with lists of households with Asian and Hispanic surnames. Finally, the sample was drawn to ensure national representation in both urban and nonurban areas and in states with and without state-funded countermarketing campaigns. All analyses include an individual weighting factor that adjusts for age and oversampling by racial/ethnic group and residence in states with funded countermarketing campaigns. To adjust the standard error calculations for the clustered design, we used Stata Version 7 (Stata Corp, College Station, Tex).

To maximize the chances of finding adolescents and their parents at home, telephone calls were spread across all days of the week and times of day, including evenings and weekends. For each case, up to 12 callbacks were made, with a minimum of 2 daytime attempts per case. Finally, up to 2 refusal-conversion attempts per case were made unless the respondent or parent was adamant about not participating in the survey.¹⁸

Tobacco Attitudes, Beliefs, and Counteradvertising Exposure

The LMTS asked youths how strongly they agreed or disagreed (on a 5-point scale)

with a series of attitude, belief, and behavioral-intent statements about the tobacco industry, youths’ perceptions of tobacco’s social acceptability, and youths’ intentions to smoke during the next year. Nonsmokers were asked to report their likelihood of smoking any time in the next year. To show how these attitudes, beliefs, and intentions changed between the baseline and the follow-up surveys, we report the percentage (with 95% confidence intervals) of 12- to 17-year-olds who agreed or strongly agreed with the targeted attitudes.

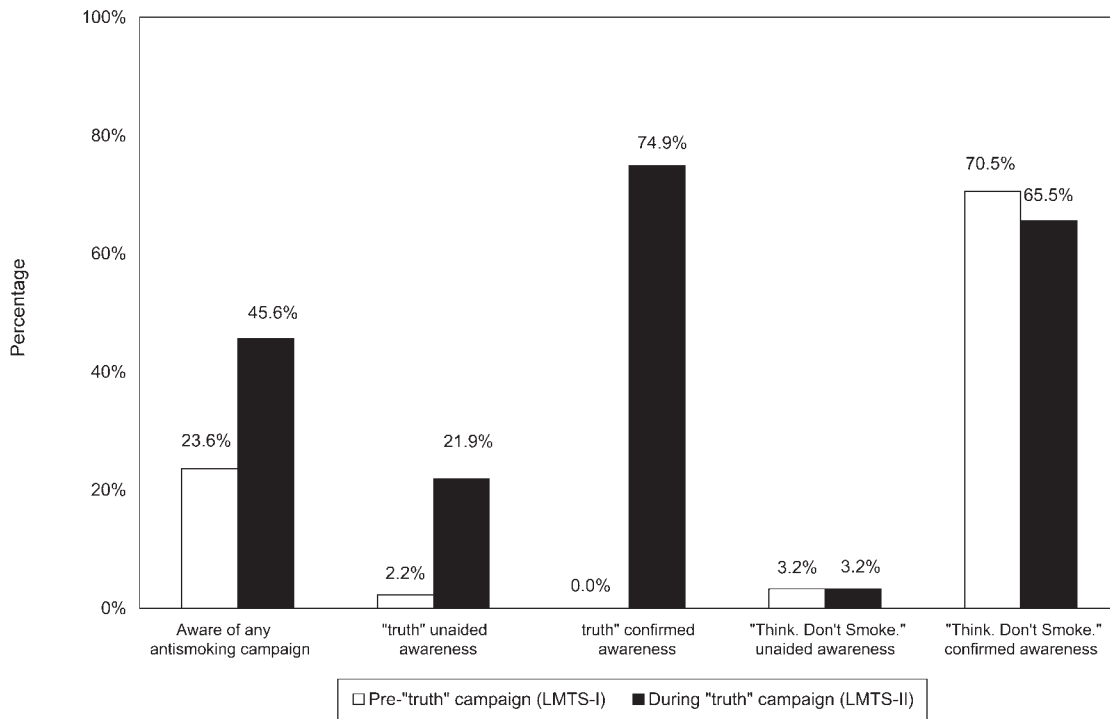
The LMTS contained questions to measure awareness of television advertisements from “truth” and “Think. Don’t Smoke.” First, respondents were asked in an open-ended question to report any antismoking or anti-tobacco campaigns of which they were aware. This measure of unaided recall allows us to track which campaigns are most prominent in the minds of youths over time. We then queried youths about their awareness of specific campaign advertisements by asking them whether they had “recently seen an anti-smoking or anti-tobacco ad on TV that —,” followed by a brief description of the beginning of the advertisement. Questions were crafted to provide respondents with enough information to recognize the advertisement in question but not enough for them to “fake” awareness of it.¹² A respondent who indicated recognition was then asked to report further ad details to confirm awareness. Confirmed awareness of 1 or more advertisements indicated campaign awareness or exposure. Questions pertaining to the various advertisements were presented in random order to control for order effects and included all advertisements from both campaigns aired within 6 weeks of the survey’s start. For each youth surveyed, we quantified the exposure dose by measuring the total number of advertisements seen for each campaign.

Statistical Analyses

We combined the 2 LMTSs and used a cross-section time-series approach to elucidate the relationship between shifts in attitudes and beliefs and exposure to the “truth” and “Think. Don’t Smoke.” campaigns.¹⁹ The attitudes and beliefs in the LMTS address to-

bacco industry behavior, the social acceptability of tobacco use, and intentions to smoke during the next year. We estimated separate multivariable logistic regressions to assess how “truth” and “Think. Don’t Smoke.” have affected these outcomes. For these regressions, the outcomes were dichotomized so that 1 represented an anti-tobacco attitude—indicated by a reply of “strongly agrees” or “agrees” (or “strongly disagrees” or “disagrees” as appropriate)—and 0 represented no anti-tobacco attitude. The cross-section time-series models were used to estimate the odds that respondents agreed with a given attitude, belief, or intention as a function of their exposure to the “truth” and “Think, Don’t Smoke.” campaigns and other variables. The other control variables included sociodemographics (age, gender, race/ethnicity, weekly available spending money, working status, and religiousness), household environment (lives in a 2-parent household, hours of television watched per day, lives with a smoker, has parents who discourage smoking, household smoking restrictions), and perceptions of the prevalence of peer and adult smoking. To assess dose-response effects, we estimated a second set of regression models using number of campaign advertisements seen.

To control for the possibility that the changes in attitudes are part of a secular trend, we included an indicator variable (0/1) for respondents in the LMTS-II. This variable captures influences on national attitudes, such as news about lawsuits against tobacco companies. Because youths’ responses may be influenced by parents or others household members, we controlled for interviewer perception that someone else was listening on the telephone during the survey (yes/no indicator). Finally, we controlled for the potential influence of state tobacco control programs and policies by including state-specific indicator variables. We calculated odds ratios for agreeing (or disagreeing) with an attitude or a belief, according to exposure to media campaigns and controlling for other influences noted above. To calculate 95% confidence intervals to account for probability sampling and stratification reflected in the LMTS design, we used Stata Version 7 (Stata Corp, College Station, Tex).



Note. LMTS = Legacy Media Tracking Survey.

FIGURE 1—Aided and unaided awareness of the American Legacy Foundation’s “truth” campaign and Philip Morris’s “Think. Don’t Smoke.” campaign among 12- to 17-year-olds.

RESULTS

The total sample size for the LMTS-I was 6897 (3439 12- to 17-year-olds and 3458 18- to 24-year-olds). The LMTS-II was larger and focused more on 12- to 17-year-olds, with 10 692 surveyed (6233 12- to 17-year-olds and 4459 18- to 24-year-olds). The response rates for LMTS-I and LMTS-II were 52.5% and 52.3%, respectively, based on a standardized response rate calculation (American Association of Public Opinion Research response rate calculation no. 4).²⁰ Discovery Research Group (Salt Lake City, Utah) and Issues and Answers (Virginia Beach, Va) collected data for the LMTS-I, and Discovery Research Group collected data for the LMTS-II.

Changes in Exposure to Tobacco Countermarketing Campaigns

The percentage of 12- to 17-year-olds who reported awareness of any tobacco countermarketing campaign (Figure 1) doubled dur-

ing the first 10 months of the “truth” campaign—from 23.6% to 45.6% ($P < .05$). Awareness of the “truth” campaign accounted for much of this increase. With no prompting (unaided awareness), 22% of 12- to 17-year-olds in the LMTS-II indicated that they were aware of the “truth” campaign, compared with 3% who indicated awareness of “Think. Don’t Smoke.” Confirmed awareness of specific campaign advertisements among 12- to 17-year-olds was 75% for “truth” and 66% for “Think. Don’t Smoke.” The distribution of exposure to 1, 2, 3, and 4 or more advertisements was 23%, 19%, 14%, and 19% for “truth” and 37%, 21%, 6%, and 1% for “Think. Don’t Smoke.” in the LMTS-II.

Attitudes and Beliefs About Tobacco and Intentions to Smoke

Between surveys, the percentage of 12- to 17-year-olds who agreed with several attitudes and beliefs that are central to the “truth” campaign changed by an amount that

ranged from 6.6% to 26.4% (Table 1). These attitudes and beliefs center on tobacco industry behavior (e.g., denying the health effects and addictive nature of tobacco), attitudes toward the tobacco industry (e.g., “should go out of business”), social acceptability of tobacco use (e.g., “not smoking is a way to express your independence” and “smoking makes you look cool”), and intention to smoke during the next year. The prevalence of youths who agreed (or disagreed if that was the target direction of attitudinal change) increased ($P < .05$) for all of these statements. The percentage of current nonsmokers who said that they probably or definitely would not smoke 1 year from the time of the survey also increased, but the change was not statistically significant. To clarify how changes in attitudes, beliefs, and intentions are related to exposure to the “truth” and “Think. Don’t Smoke.” campaigns, we estimated logistic regression models for each outcome by using 2 key independent variables representing expo-

TABLE 1—Percentages (With 95% Confidence Intervals) of 12- to 17-Year-Olds Who Agreed With Indicated Attitudes at Baseline and 10-Month Surveys

Attitude	LMTS-I (95% CI)	LMTS-II (95% CI)	% Change
Cigarette companies try to get young people to start smoking.	74.0 (71.3, 76.7)	83.0 (81.4, 84.6)	12.2
Cigarette companies lie.	74.7 (72.0, 77.3)	83.8 (82.2, 85.4)	12.3
Cigarette companies deny that cigarettes cause cancer and other harmful diseases.	48.4 (45.3, 51.5)	58.6 (56.4, 60.8)	21.0
Cigarette companies deny that cigarettes are addictive.	57.9 (54.8, 60.9)	64.0 (61.8, 66.1)	10.6
I would like to see cigarette companies go out of business.	70.4 (67.6, 73.2)	78.9 (77.0, 80.7)	12.0
I want to be involved in efforts to get rid of smoking.	65.2 (62.2, 68.1)	82.4 (80.7, 84.2)	26.4
Taking a stand against smoking is important to me.	72.1 (69.4, 74.9)	83.2 (81.4, 85.0)	15.4
Not smoking is a way to express your independence.	57.4 (45.9, 52.1)	70.1 (53.8, 58.6)	22.2
Smoking cigarettes makes people your age look cool or fit in. ^a	86.4 (84.2, 88.6)	92.1 (90.9, 93.3)	6.6
Do you think you will smoke a cigarette at any time during the next year? ^b	94.3 (92.8, 95.9)	95.9 (95.0, 96.8)	1.6

Note. LMTS = Legacy Media Tracking Survey; CI = confidence interval.

^aDisagreed or strongly disagreed.

^bDefinitely not or probably not.

TABLE 2—Logistic Regression Models Showing Effect of Exposure to American Legacy Foundation’s “truth” Campaign and Philip Morris’s “Think. Don’t Smoke.” (TDS) Campaign on Attitudes, Beliefs, and Intentions Among 12- to 17-Year-Olds

Outcome	Confirmed Awareness, OR (P)		Dose, ^a OR (P)	
	“truth”	TDS	“truth”	TDS
Cigarette companies try to get young people to start smoking.	1.292 (0.097)	1.154 (0.224)	1.107 (0.005)	1.026 (0.694)
Cigarette companies lie.	1.972 (0.000)	1.123 (0.321)	1.280 (0.000)	0.971 (0.659)
Cigarette companies deny that cigarettes cause disease.	1.354 (0.015)	0.755 (0.003)	1.045 (0.119)	0.864 (0.003)
Cigarette companies deny that cigarettes are addictive.	1.153 (0.252)	0.953 (0.619)	1.036 (0.194)	0.970 (0.557)
I would like to see cigarette companies go out of business.	0.987 (0.936)	0.792 (0.044)	1.014 (0.670)	0.901 (0.072)
I want to be involved in efforts to get rid of smoking.	1.353 (0.077)	1.086 (0.483)	1.053 (0.198)	0.998 (0.971)
Taking a stand against smoking is important to me.	2.633 (0.000)	1.082 (0.520)	1.213 (0.000)	1.047 (0.482)
Not smoking is a way to express independence.	1.459 (0.003)	1.329 (0.004)	1.082 (0.007)	1.102 (0.066)
Smoking makes people your age look cool or fit in. ^b	1.521 (0.047)	1.343 (0.065)	1.099 (0.063)	1.106 (0.299)
Do you think you will smoke a cigarette at any time during the next year? ^c	1.657 (0.088)	0.644 (0.050)	1.076 (0.347)	0.770 (0.017)

Note. OR = odds ratio.

^aNumber of advertisements seen.

^bDisagreed or strongly disagreed.

^cDefinitely not or probably not.

sure—simple awareness (yes/no) and dose (the total number of advertisements seen, including 0) (Table 2). Exposure to “truth” was associated with youths’ attitudes toward the tobacco industry’s marketing practices, its efforts to conceal tobacco’s harmful effects, and the industry as a whole; for example, youths exposed to “truth” were more likely to agree that “cigarette companies try to get young people to start smoking” (odds ratio [OR]=

1.29; $P<.097$). Furthermore, a significant dose–response effect was seen with increased exposure to “truth”(OR=1.2; $P<.005$). There was no association between this belief and either measure of exposure for “Think. Don’t Smoke.”

Exposure to “truth” was associated with a doubling of the odds that youths would agree that “cigarette companies lie” (OR=1.97; $P<.001$), and increases in exposure to additional

advertisements were associated with concomitant increases in the odds of agreeing with this statement (OR=1.28 per additional advertisement; $P<.001$). Exposure to “Think. Don’t Smoke.” advertisements showed no such associations (Table 2). Although neither campaign influenced the percentage of youths who were aware of cigarette companies’ past efforts to conceal tobacco’s addictive properties, exposure to “truth” increased youths’

awareness of how the industry concealed tobacco's deleterious health effects (OR=1.35; $P<.02$) whereas exposure to "Think. Don't Smoke." had the opposite effect (OR=0.755; $P<.003$).

In contrast, the odds of agreeing that cigarette companies have denied that cigarettes cause disease declined by 24% with exposure to any "Think. Don't Smoke." advertisement ($P<.003$), and exposure to additional advertisements reinforced this effect ($P<.003$). Although no association was seen between exposure to "truth" and the opinion "I would like to see cigarette companies go out of business," the odds ratio for exposure to any "Think. Don't Smoke." for this attitude was 0.79 ($P<.04$), and each additional advertisement decreased the odds of agreeing to this statement by 10% ($P<.07$).

We constructed 4 models of youths' intentions and attitudes toward smoking (Table 2). The first model examined youths' endorsement of the statement "I want to get involved in efforts to get rid of smoking" and the second examined their agreement that "taking a stand against smoking [was] important" to them. Exposure to the "truth" campaign was associated with a 35% ($P<.08$) and a 163% ($P<.01$) increase, respectively, in the odds of agreement with either of these statements. In addition, the more "truth" advertisements seen, the greater the odds of wanting to take a stand against smoking ($P<.01$). Exposure to "Think. Don't Smoke." advertisements did not influence youths' level of agreement with either of these statements.

In the 2 other models, youths were asked whether they agreed that "not smoking is a way to express independence" and disagreed with the assertion that smoking makes youths "look cool or fit in." The odds ratios for "truth" campaign exposure were 1.46 and 1.52, respectively. The results for "Think. Don't Smoke." were similar, but the result for "looking cool" was only marginally statistically significant ($P<.07$). Logistic regressions that include the number of advertisements (i.e., the dose effect) generally confirm these results.

Exposure to "truth" was associated with a marginally statistically significant decrease in the odds of current nonsmokers' expressing an intention to smoke any time in the next

TABLE 3—Association Between Attitudes and Beliefs and Intention to Smoke in 1 Year Among 12- to 17-Year-Olds

Belief Item	Odds Ratio (P)
Cigarette companies try to get young people to start smoking.	1.225 (.413)
I want to be involved with efforts to get rid of cigarette smoking.	3.542 (.000)
Cigarette companies lie.	0.836 (.490)
Cigarette companies deny that cigarettes cause disease.	1.95 (.002)
Cigarette companies deny that cigarettes are addictive.	0.988 (.953)
I would like to see cigarette companies go out of business.	1.801 (.013)
Taking a stand against smoking is important to me.	2.223 (.000)
Not smoking is a way to express independence.	1.542 (.038)
Smoking makes people your age look cool or fit in. ^a	2.459 (.000)

Note. Intention not to smoke is coded as 1 and intention to smoke as 0.

^aDisagreed or strongly disagreed.

year (OR=1.66; $P<.09$); however, the dose-response relationship was not statistically significant. In contrast, exposure to "Think. Don't Smoke." was associated with an increase in the odds of youths' intending to smoke in the next year ($P<.05$), and the dose-response relationship was statistically more robust ($P<.02$).

We estimated a logistic regression model of intention to smoke among nonsmokers as a function of each attitude reported in Table 2, with intention to smoke coded 0 and no intention to smoke coded 1. We found that 6 of the 9 attitudes were strongly associated with smoking intentions ($P<.05$), with odds ratios ranging from 1.54 for "not smoking is a way to express independence" to 3.54 for "I want to be involved with efforts to get rid of cigarette smoking" (Table 3). Respondents' attitudes toward the tobacco industry that were associated with smoking intentions were wanting to see cigarette companies go out of business (OR=1.80) and agreeing that cigarette companies deny the harmful effects of tobacco (OR=1.95). Attitudes about smoking and youth activism were all strongly and negatively associated with intention to smoke. The largest odds ratios were for agreement with the statements "I want to be involved in efforts to get rid of smoking" (OR=3.54) and "taking a stand against smoking is important" (OR=2.22) and disagreement with the assertion that "smoking cigarettes makes people [my] age look cool or fit in" (OR=2.46). These findings suggest that if "truth" contin-

ues to affect attitudes toward smoking and the tobacco industry, the prevalence of smoking is likely to decline as the campaign progresses.

DISCUSSION

Results from the 2 nationally representative surveys demonstrate that 10 months into the "truth" campaign, tobacco was more prominent in the minds of youths. Unaided awareness of tobacco countermarketing campaigns has nearly doubled. The "truth" campaign resonates more with youths than "Think. Don't Smoke," even though the "Think. Don't Smoke." campaign began in 1998 and aired for more than 12 months before the initial 10-month run of the "truth" campaign reported here.

Exposure to the "truth" campaign also appears to have changed the way youths think about tobacco. The percentage of youths who held anti-tobacco attitudes and beliefs increased by an amount that ranged from 6.6% to 26.4% during the first 10 months of the campaign, which compares favorably with the 10% average increase in Florida during the first year of the campaign.¹² Our results parallel the experience of Florida's "truth" campaign, in which strong shifts in attitudes preceded changes in behavior, despite a somewhat lower level of campaign awareness than was achieved in Florida.¹²

The attitudes that changed most dramatically were "taking a stand against smoking is important," "not smoking is a way to express

independence,” and “cigarette companies deny that cigarettes cause cancer and other harmful diseases.” These concepts are central to the strategy of “truth” and underlie advertisements such as “Body Bags,” which featured teens challenging the tobacco industry by dragging body bags in front of a cigarette company’s offices to remind them that they market a product that kills. These attitudinal changes were shown to be associated with youths’ exposure to the “truth” campaign.

We believe that Philip Morris’s “Think. Don’t Smoke.” campaign is clearly designed not to draw attention to tobacco industry marketing tactics or behavior; thus, the attitudes that relate to the tobacco industry do not represent a test of the success of its campaign. Interestingly, however, we found that exposure to “Think. Don’t Smoke.” engendered more favorable feelings toward the tobacco industry than we found among those not exposed to “Think. Don’t Smoke.” advertisements. This discovery lends support to the assertion of tobacco control activists that the purpose of the Philip Morris campaign is to buy respectability and not to prevent youth smoking.²¹ In addition, the campaign slogans “Think. Don’t Smoke.” (Philip Morris) and “Tobacco Is Whacko, if You Are a Teen” (Lorillard) are distinctly counter to recommendations made by the Columbia Expert Panel on youth tobacco countermarketing. This panel advises against directive messages such as those telling youths not to smoke and that smoking is uncool and for adults only.¹⁰

Although the way in which exposure to “Think. Don’t Smoke.” affects young people’s attitudes toward the tobacco industry may not be an appropriate measure by which to judge the performance of the campaign, the attitudes toward smoking included in our analyses are relevant to “Think. Don’t Smoke.” Our analyses indicate that although the level of confirmed awareness for both campaigns is roughly equal, “truth” has had a more consistent impact on attitudes toward smoking. Our quantitative analysis supports the findings of a focus-group study of 120 12- to 16-year-olds in Arizona, California, and Massachusetts. This study indicated that “Think. Don’t Smoke.” advertisements were the least effective among a group of advertisements including 10 representing several state

campaigns.⁹ Youths rated advertisements that graphically, dramatically, and emotionally portrayed the serious consequences of smoking highest in terms of making them “stop and think about not using tobacco.”⁹

The current study uses a quasi-experimental cross-sectional design. Thus, youths who recall tobacco countermarketing messages may be different in some way from those who do not. As a result, some of the association between changes in attitudes and exposure to the “truth” campaign may reflect the possibility that those who have stronger anti-tobacco attitudes may be more attentive to the campaign. In addition, those with favorable attitudes toward the tobacco industry may be more attentive to Philip Morris’s efforts to curb youth smoking.

Another possible limitation may be the difficulty in separating the independent effects of each campaign if there is insufficient variation in exposure to both campaigns (i.e., multicollinearity). This possibility could explain why we find that “Think. Don’t Smoke.” appears to move youths’ attitudes in a pro-tobacco direction. Our examination of this question through changing model specifications suggested that multicollinearity across the 2 campaign exposures was not present. To determine whether or not this multicollinearity is a concern, we dropped the “truth” exposure variable from the logistic regression models and examined whether the odds ratios were influenced. Results showed that all of the odds ratios remained stable.

In summary, our findings suggest that an aggressive national tobacco countermarketing campaign can have a dramatic influence within a short period of time on attitudes toward tobacco and the tobacco industry. These attitudinal changes were also associated with reduced intentions to smoke among those at risk. If these changes in attitude are predictive of future changes in tobacco use, as demonstrated in Florida,^{6,12} they indicate that the “truth” campaign is on its way to curbing tobacco use among youths. ■

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This article was accepted January 30, 2002.

Contributors

M.C. Farrelly designed the survey questionnaire and methodology, directed the data analysis, and prepared the original draft manuscript. C.G. Heaton participated in preparation of the final draft. K.C. Davis participated in preparing the original draft manuscript and conducted all analyses. P. Messeri participated in the data analysis and in preparation of the final draft. J.C. Hersey participated in survey questionnaire development and methodology and data analysis. M.L. Haviland participated in preparation of the final draft.

Acknowledgments

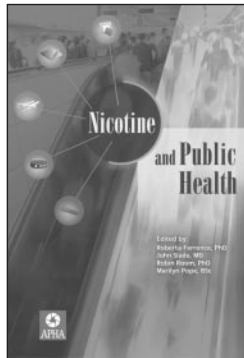
We express our appreciation to David Sly for his contributions to the design of the survey questionnaire and methodology. We are also grateful to Rachel Royce for insightful comments on the final draft, Don Akin for sample design and variance estimation, and Susan Murchie for editorial review.

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ISBN 0-87553-249-7
 2000 ■ 512 pages ■ softcover
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