

Influence of a Counteradvertising Media Campaign on Initiation of Smoking: The Florida "truth" Campaign

Copyright 2001 by the American Public Health Association

ABSTRACT

Objectives. The purpose of this study was to assess the short-term effects of television advertisements from the Florida "truth" campaign on rates of smoking initiation.

Methods. A follow-up survey of young people aged 12 to 17 years ($n=1820$) interviewed during the first 6 months of the advertising campaign was conducted. Logistic regression analyses were used to estimate the independent effects of the campaign on smoking initiation while other factors were controlled for.

Results. Youths scoring at intermediate and high levels on a media effect index were less likely to initiate smoking than youths who could not confirm awareness of television advertisements. Adjusted odds ratios between the media index and measures of initiation were similar within categories of age, sex, susceptibility, and whether a parent smoked.

Conclusions. Exposure to the "truth" media campaign lowered the risk of youth smoking initiation. However, the analysis did not demonstrate that all such media programs will be effective. (*Am J Public Health*. 2001;91:233-238)

David F. Sly, PhD, Richard S. Hopkins, MD, MSPH, Edward Trapido, ScD, and Sarah Ray, MA

Media campaigns are being advocated to combat many public health problems.¹⁻⁴ Counteradvertising is salient in anti-tobacco campaigns.⁵⁻⁸ Anti-tobacco counteradvertising campaigns are under way in 7 states, and the American Legacy Foundation has initiated a national campaign. As tobacco settlement funds become available, the Centers for Disease Control and Prevention (CDC) expects 27 more states to initiate campaigns by 2002. Media campaigns are costly, and it is important to document evidence linking advertisements to reductions in the prevalence of tobacco use and to determine what ad strategies work best.⁹

Early evaluations of anti-tobacco media campaigns yielded mixed results.¹⁰⁻¹² More recently, 2 evaluations of statewide media campaigns reported positive results.^{13,14} Although both studies involved a longitudinal design, both also involved a dependent variable that did not directly measure behavior at 2 points in time. The researchers used a measure (having smoked 100 or more cigarettes in one's lifetime) difficult to interpret in conventional epidemiologic terms. This problem is compounded because in neither study was the measure used at both points in time, and no effects were reported for timing of cigarette use. The implications of having smoked 99 cigarettes the month before a second interview are different from the implications of having smoked the same number of cigarettes in the month after the first interview and having not smoked since. This difference is compounded when the period between interviews spans several years.

Our objective was to test the hypothesis that a counteradvertising campaign can lower the probability of smoking initiation. We used a longitudinal, multivariate design to examine an intense, statewide, industry manipulation counteradvertising campaign. Two levels of smoking behavior were measured at 2 points in time. Results showed that a measure of advertising effectiveness that rigorously assessed advertisement exposure, advertisement-specific

content, and cognitive awareness of the campaign message was related to maintenance or change in cigarette use.

Background

In August 1997, Florida reached a settlement with the tobacco industry,¹⁵ and the state embarked on an anti-tobacco campaign targeting young people aged 12 to 17 years starting in early 1998. An important and highly visible component of the initial effort was an intense counteradvertising campaign (the "truth" campaign). The strategy has been outlined in detail.¹⁶ The campaign was intended to empower young people with the feeling that they could take on the tobacco industry and its executives and be part of a tobacco-free generation. The "industry manipulation strategy" used in the campaign attacked the industry and portrayed its executives as predatory, profit hungry, and manipulative. It argued that the tobacco industry has targeted young people, lied to and hid the truth from them, and used them to its own ends, knowing that tobacco use is detrimental to young people's health.

David F. Sly is with the Center for the Study of Population, College of Social Sciences, Florida State University, Tallahassee, and the Office of Smoking and Health, Centers for Disease Control and Prevention, Atlanta, Ga. Richard S. Hopkins is with the Florida Department of Health, Tallahassee. Edward Trapido is with the Department of Epidemiology and the Tobacco Research and Evaluation Coordinating Center, Sylvester Comprehensive Cancer Center, University of Miami School of Medicine, Miami, Fla. Sarah Ray is with the Center for the Study of Population, College of Social Sciences, Florida State University.

Requests for reprints should be sent to David F. Sly, PhD, Center for the Study of Population, College of Social Sciences, Florida State University, Tallahassee, FL 32306 (e-mail: dsly@css.fsu.edu).

This article was accepted October 6, 2000.

Twelve advertisements were run statewide during the first 10 months of the campaign. The total media budget for the first year was approximately \$26.5 million. The first flight, or "buy," included 2 ads, and successive flights generally included 3. Gross rating points per quarter (theoretical ad exposures per 1000 expected viewers) averaged 1606 over the year, with a somewhat higher point total (1900) in the first 2 quarters.

We believe that this program has been one of the most thorough and rigorously evaluated anti-tobacco counteradvertising campaigns in the United States. The evaluation included a quasi-experimental design involving 4 cross-sectional surveys (a baseline survey and a 1-year survey of the Florida target population and a national comparison group not exposed to the campaign) and 2 intermediate tracking surveys.^{17,18} These surveys showed that at the end of 1 year (May 1999), there was a 91.5% confirmed awareness of the campaign and an 88.6% confirmed awareness of "truth" advertisements. There were significant increases in anti-tobacco attitudes and decreases in tobacco use prevalence in Florida but not in the national comparison group.

Ten months into the campaign, results from the Florida Youth Tobacco Survey showed an 11% decrease in smoking prevalence rates.^{18,19} All results from the various cross-sectional surveys suggested that the campaign was having its desired effects, but there was no way to relate individual behavior change to the media campaign via these cross-sectional sources.

A longitudinal study was designed to observe change and maintenance in smoking behaviors at the individual level and to allow investigation of the campaign's effects on smoking behaviors.^{18,20} The campaign was designed primarily with a prevention objective. Data from the longitudinal component were used to assess whether this objective was reached.

Methods

Follow-Up Sample

By the ninth month of the campaign, 4935 youths had been interviewed in one of the Florida Anti-Tobacco Media Evaluation (April, June, or September 1998) surveys; this was the sampling frame for the follow-up conducted in February 1999.^{18,20} Names were arranged alphabetically and assigned a random number that determined calling order. We called 3712 numbers and completed 1820 interviews. Refusal rates were 4.9% for parents and 3.7% for children. Telephone numbers for 436 (11.7%) individuals were reported to be no longer in

service. For 638 of the remaining 1100 numbers called, no contact was made after 5 callbacks; for 462 numbers, contact was made with the household, but not with a parent or the child, after 5 callbacks.

Interviews

Details on interviewer training and the telephone protocol have been reported elsewhere.^{17,18} Interviewers asked for a parent or guardian of the child, using the child's name. Parents were informed of the purpose of the call and the content of the survey. If a parent gave permission, informed consent was obtained from the child, who had the opportunity to not participate. Interviews were conducted in English or Spanish. Average completion time was just over 28 minutes. Respondents received an incentive of \$12.50.

Measures

To identify smokers, the CDC recommends a question that asks whether a person has smoked at all (even a puff or two) in the month before an interview. Some have rejected this criterion on the grounds that many youths smoke irregularly and cannot provide accurate information in regard to the 30-day referent. Researchers taking this position advocate a question asking whether a person has smoked 100 cigarettes in his or her lifetime.¹⁴ We use the CDC criterion for 2 reasons. First, the length of recall and use criteria are much simpler than a lifetime, specific number of cigarettes. It makes little sense to argue that one can recall a lifetime of experience better than the events of the previous 30 days. Second, in comparison with an adolescent aged 11 years, a youth aged 17 years has 2190 more days to have smoked 100 cigarettes, a youth aged 16 years has 1825 more days to have smoked that number of cigarettes, and so on. A single lifetime criterion applied at each age does not measure progression, because it reveals nothing about when an individual started or stopped smoking the 100 cigarettes.

To measure progression to dependence, we used the CDC criterion and included 2 additional items: number of days in which respondents smoked in the previous month and number of cigarettes respondents smoked on days on which they smoked. For respondents who had smoked in the previous 30 days, number of days smoked and cigarettes smoked per day were cross tabulated to form a matrix. Across surveys, consistent patterns and clustering have been found. Detailed epidemiologic analyses of the follow-up data show that 3 clusters—identified as situational, occasional, and dependent—are highly predictive of future cigarette use.²⁰

We used 2 measures of smoking. The first was the CDC-recommended question. Using this item, we determined whether each time-1 nonsmoker remained a nonsmoker (coded 1) or became a smoker at time 2 (coded 0). The second measure of change in smoking status was derived from the classification based on the matrix. In effect, we classified situational smokers as nonsmokers. Persons falling in the situational classification smoked on fewer than 6 days in the 30 days before the survey, and none reported smoking more than 5 cigarettes on days on which they smoked. More than 78% of "situational smokers" actually reported smoking no more than 1 cigarette on days on which they smoked. According to this definition, "smokers" are persons reporting smoking on 6 or more days in the previous 30 days and smoking 5 or more cigarettes on days on which they smoked. We refer to these individuals as "established" smokers.

Our measure of media effectiveness was designed to capture confirmed awareness of specific "truth" advertisements, their receptivity among target audiences, and the cognitive or perceived influence of the campaign as opposed to individual ads. If an ad is to be effective, its message needs to provoke a cognitive reaction. Also, campaigns are designed to present similar messages in different ads to communicate a general theme. If a campaign is to be effective, ad-specific messages must blend around a theme that becomes a salient feature of the decision-making matrix that influences targeted behaviors. Many advertising campaign assessments are based only on the former criterion, but ad campaigns are usually designed to communicate general messages that cut across and link various specific ads that are part of the campaign.

To tap the first dimension, we used an unaided as opposed to an aided approach. When an "aided" approach is used, respondents are provided with a description of the advertisement (in varying detail) and then are asked whether they can recall it. If they respond "yes," they are asked 1 or 2 additional questions. If a minimum of detail is provided in the description, respondents are asked for greater detail about the advertisement. The second item asks respondents to describe the major message of the specific advertisement. This item, referred to as a measure of confirmed awareness, is acknowledged to have shortcomings related to the detail of the ad's description provided, which can assist recall and even result in "coaching" for desired replies.

The more rigorous technique used in this study of measuring awareness involved asking a question that provides no advertisement-specific description but affords respondents the opportunity to offer such a description. We asked respondents whether they recalled hav-

ing seen antismoking advertisements since the previous spring (i.e., since the start of the "truth" campaign). If respondents answered "yes" or "maybe," they were asked to (1) describe the ad they most liked and (2) relate to the interviewer the major theme or message of the ad. This sequence was repeated for the advertisement rated as second most liked.

For each set of items, respondents were given a score ranging from 0 (they could describe no ad accurately) to 2 (they could describe the ad and recall the theme identified). Credit was given only for "truth" advertisements, although the sequence included ads that were not part of the "truth" campaign. Three Philip Morris "Think. Don't Smoke" advertisements ran before and during the interviewing. Even though these ads were the most current, only 3.6% of respondents mentioned any of them as one of their two favorites.

We had to rely on self-reports to measure cognitive reactions to specific advertisements and the extent to which these reactions were tied to the general campaign message. In making these assessments, we asked respondents who confirmed that they were aware of the campaign whether a particular advertisement made them think about whether or not they should smoke. This question was asked as part of the sequence for each ad confirmed. A code of 0 was assigned to respondents not confirming awareness; those confirming awareness were assigned a code of 1 if they reported that one advertisement made them think about whether or not they should smoke and a code of 2 if they reported that both advertisements had this effect.

To measure whether the campaign's advertisements influenced the (behavior) decision matrix of individuals, we used an item embedded in a sequence of 19 items. In this sequence, which occurred approximately 100 items after the ad awareness sequence, respondents were read a lead-in stating that we were going to read a list of things they might think about and consider in deciding whether or not to smoke. They were to respond by telling us whether each item influenced them not at all, a little, some, or a lot. The 16th item on the list, "You feel tobacco companies are just trying to use you," was specifically designed to capture the industry manipulation theme. It was carefully worded not to come from any specific advertisement but to tie the various ad-specific messages to the general message. Response codes (0 = none/a little, 1 = some/a lot) for this item were collapsed.

The advertisement effectiveness index was formed from these 3 variables. Respondents who did not confirm awareness of any advertisements were not asked whether an ad

made them think about whether or not they should smoke, but they were asked whether they felt tobacco companies were just trying to use them. Fewer than 2% of respondents who did not confirm awareness of "truth" ads gave a positive reply to this item. A code of 0 was assigned to all time 1 nonsmokers who did not confirm awareness (37.1%) of any ads, indicating that the advertising campaign had no effect on them. A code of 2 was assigned to time 1 nonsmokers who confirmed awareness of 2 ads, indicating that both made them think about whether or not they should smoke, and reported that the feeling that tobacco companies were just trying to use them influenced their decisions some or a lot (25.8%). The advertising campaign had a significant effect on these individuals. A code of 1 was assigned to all other time 1 nonsmokers (37.1%), and these individuals were treated as having been affected at a low level by the campaign.

Five additional variables were included: time 1 survey month, age, sex, susceptibility, and whether a parent smoked. These data were based on self-reports. Age was dichotomized (less than 16 years vs 16 years or older). Susceptibility was measured as having a best friend who smoked. Respondents were also asked separately whether they had a female and male parent or guardian in their household and whether each of these individuals smoked. If the respondent reported that either smoked, they were coded as having a parent smoker. SPSS (SPSS Inc, Chicago, Ill) was used in conducting statistical analyses.

Results

Smoking initiation rates per 100 time 1 nonsmokers at follow-up are shown in Table 1. Overall, for the 1480 time 1 nonsmokers, the smoking initiation rate (according to the CDC criterion) per 100 was 8.8. If we consider the established user definition, the rate was 5.2 per 100 time 1 nonsmokers. Estimated rates per year among young people aged 12 to 17 years at time 1 were 11.1 and 7.2, respectively.

Table 1 also shows the association between the advertisement effectiveness index and smoking initiation as well as the association of 5 other independent variables with initiation. Neither month of time 1 survey nor sex was significantly related to smoking initiation. Each of the other variables was related regardless of which definition of smoking was used. For each variable other than susceptibility, larger differentials were seen with the established user criterion.

For example, according to the CDC definition, those younger than 16 years had an initiation rate (7.8) 24.3% lower than the rate

(10.3) for those older than 16 years. The comparable difference in rates for established smokers (3.6 and 8.3, respectively) was 56.6%. In regard to susceptibility, the CDC-defined initiation rate for time 1 nonsusceptible nonsmokers was 5.2, as compared with a rate of 16.7 for susceptible nonsmokers (a difference of 68.9%). The comparable rates for established smokers were 2.3 and 6.7 (a difference of approximately 65%).

Finally, the advertisement effectiveness index was similarly related to smoking initiation. According to the CDC definition, those with low scores on the ad effectiveness index and those with high scores were 22.0% and 40.4%, respectively, less likely to take up smoking than those not affected by the media campaign. The comparable rates for progression to established smoking were 51.3% and 62.5%. For both definitions, smoking initiation rates were lower among those scoring high as opposed to low on the ad effectiveness index, and there was no differential (23.2% vs 23.9%) between the definitions.

We used 2 logistic regression equations to determine whether the ad campaign had an effect on behavior independent of other variables. In each equation, the dependent variable (change in smoking status) was coded 0 for time 1 nonsmokers who became smokers and 1 for nonsmokers who remained nonsmokers at time 2. Table 2 shows estimated odds ratios depicting the associations between each independent variable and the likelihood of smoking initiation for each definition of smoking. The patterns were similar. Month of time 1 survey, age, and sex were not related to smoking initiation. Not being susceptible and not having a parent who smoked reduced the odds of a nonsmoker's becoming a smoker, and those who scored low and those who scored high on the ad effectiveness index were more likely to remain nonsmokers than those who were not affected by the campaign.

When the CDC definition was used, those scoring low on the ad effectiveness index were 1.3 times more likely to remain nonsmokers than those not affected by the campaign; those scoring high were 1.7 times more likely to remain nonsmokers. The comparable ratios for the definition of established smoking were 1.8 and 2.4.

Although no significant interactions were detected, we wanted to further validate these results. Table 3 shows adjusted odds ratios for the ad effectiveness index and smoking initiation by categories of the independent variables, after control for the other independent variables. These data largely confirmed the results already reported. All of the patterns were maintained, and most of the odds ratios remained significant. When the CDC definition was used,

TABLE 1—Smoking Initiation Rates for Time 1 Nonsmokers (per 100) at Follow-Up Using 2 Criteria to Measure Transitions in Smoking Behavior: Florida, 1998–1999

	Persons Who Smoked a Minimum of Puff or 2		Established Smokers
	OR	P	
All persons	8.8		5.2
Time 1 survey			
April	9.0		5.4
June	9.4		5.1
September	8.4		5.2
Age, y			
<16	7.8*		3.6**
≥16	10.3		8.3
Sex			
Female	9.1		5.4
Male	8.6		5.0
Susceptibility			
Susceptible	16.7**		6.7**
Nonsusceptible	5.2		2.3
Parent smokes			
Yes	12.8**		8.8**
No	7.5		3.8
Ad effect index			
No ad effect	10.9**		8.0**
Low score	8.5		3.9
High score	6.5		3.0

P* = .01; *P* = .001.

TABLE 2—Odds Ratios Showing Effects of Independent Variables on the Likelihood of Time 1 Nonsmokers Remaining Nonsmokers at Time 2, After Control for Other Independent Variables: Florida, 1998–1999

	Persons Who Smoked a Minimum of Puff or 2			Established Smokers		
	OR	P	95% CI	OR	P	95% CI
Time 1 survey						
April	---			---		
June	0.964	.488	0.21, 2.72	1.043	.451	0.73, 2.07
September	0.983	.491	0.17, 3.14	1.091	.432	0.67, 2.19
Age	0.601	.257	0.34, 2.96	0.528	.011	0.23, 1.96
Sex	1.053	.397	0.41, 2.99	1.001	.487	0.41, 2.21
Susceptibility	0.290	.000	0.08, 2.13	0.278	.000	0.11, 1.14
Parent smoker	0.583	.003	0.33, 1.21	0.408	.001	0.16, 1.73
Ad effect index						
No ad effect	---			---		
Low score	1.295	.047	0.97, 2.31	1.800	.010	1.19, 3.01
High score	1.720	.013	1.19, 2.92	2.379	.041	1.57, 4.12

Note. OR = odds ratio; CI = confidence interval.

the effect of the ad index was significant among those without a parent who smoked but not among those with a parent who smoked. Among youths 16 years or older and among male youths, having a low score on the ad effectiveness index did not produce a significant effect, but having a high score did. The association between the ad index and progression to established smoking held in all categorical comparisons with 1 exception; among male youths, a low score on the ad effectiveness index produced no effect, but a high score did.

Discussion

The present analysis suggests that an intense media campaign can help prevent youth smoking initiation. We used 2 definitions of smoking. The first treated any use of cigarettes in the 30 days before an interview as smoking. The second defined smoking as cigarette use on 6 or more days and more than 5 cigarettes smoked on days on which smoking occurred. The basic campaign effect on each type of smoking was maintained in adjusted odds ra-

tios within age, sex, susceptibility, and parent smoking categories and when the remaining variables were taken into account.

The stronger implied effect of the advertising program on progression to established smoking than on any use may be important. The difference and its consistency suggest that the campaign may operate at 2 levels. First, it may prevent young nonsmokers from beginning any use. Second, it may affect young people who do take up smoking by making them more conscious of how often and how much they smoke. We cannot explore the link directly with the data available, but most of the ads produced for the Florida industry manipulation campaign had subthemes related to the addictive and health/mortality effects of tobacco.

As encouraging as these results appear, they need to be interpreted within at least 3 constraints. First, they are short-term findings. The work reported was designed to assess the 10-month effects of the "truth" campaign. Control for month of first survey within the context of this time frame showed no effect. Youth smoking behavior can be erratic; however, the fact that the time 1 measurements were derived from 3 different months and had no effect on either dependent variable suggests that the short-term effects observed captured real differences. We do not know whether the campaign's prevention effects will be maintained, but 2 recent reports involving different measurement techniques suggest long-term effects.^{13,14} Moreover, even though the "truth" campaign had youths as its target, mass media campaigns reach persons outside their targets. In this case, we are most interested in younger people who are moving into high-risk age groups and who are likely to have been exposed to the campaign. These people will enter the target ages already exposed to a substantial dose of the "truth" message. If campaign effects are cumulative, we should observe lower risks of smoking initiation for these cohorts at later points in time. The data demonstrate that it is possible to achieve a significant effect from a media program in a relatively short time frame. They do not demonstrate, however, that this effect can be sustained.

Second, our results cannot be generalized to all anti-tobacco ad campaigns. The Florida campaign was unique in several respects. It was well funded, permitting an intense advertising dose resulting in nearly a 90% confirmed awareness of television ads by the time of the follow-up. Also, the campaign had a focused industry manipulation theme communicated through particularly hard-hitting, blatant, and direct advertisements. Furthermore, steps were taken to involve youths directly in decisions related to the campaign. These issues are im-

TABLE 3—Adjusted Odds Ratios Showing Effects of the Advertising Index on the Likelihood of Time 1 Nonsmokers Remaining Nonsmokers at Time 2, by Various Characteristics: Florida, 1998–1999

	Persons Who Smoked a Minimum of Puff or 2			Established Smokers		
	OR	P	95% CI	OR	P	95% CI
Aged <16 y						
No ad effect						
Low score	2.61	.004	1.31, 3.72	1.44	.041	0.87, 3.63
High score	2.68	.003	1.49, 3.98	1.69	.037	1.16, 3.59
Aged ≥16 y						
No ad effect						
Low score	1.20	.069	0.89, 2.41	1.42	.042	0.95, 2.65
High score	1.63	.032	1.09, 2.63	1.83	.029	1.19, 2.88
Female						
No ad effect						
Low score	1.68	.029	1.11, 3.01	2.68	.017	1.24, 4.12
High score	1.72	.022	1.24, 3.46	2.38	.029	1.21, 3.96
Male						
No ad effect						
Low score	0.95	.411	0.27, 2.22	1.16	.073	0.34, 2.94
High score	2.12	.012	1.07, 3.73	2.53	.026	1.33, 4.09
Nonsusceptible						
No ad effect						
Low score	1.59	.031	1.03, 3.12	2.55	.021	1.23, 4.31
High score	2.09	.020	1.16, 4.21	3.29	.001	1.97, 6.02
Susceptible						
No ad effect						
Low score	1.76	.021	1.07, 3.19	1.24	.052	0.43, 3.18
High score	1.87	.017	1.19, 3.65	1.38	.043	0.91, 3.22
No parent smokes						
No ad effect						
Low score	1.36	.046	0.87, 2.43	1.64	.040	1.19, 2.89
High score	2.04	.022	1.07, 4.17	1.79	.029	1.26, 3.01
Parent smokes						
No ad effect						
Low score	1.21	.073	0.53, 3.32	1.99	.017	1.19, 3.33
High score	1.29	.079	0.61, 3.36	2.10	.011	1.24, 4.11

Note. The remaining independent variables were controlled. OR = odds ratio; CI = confidence interval.

portant, because we do not know what might have occurred if any of the campaign characteristics had been altered. For example, the same effect might not have been achieved with a different message theme or less youth involvement. The data demonstrate that, within the context of the campaign's parameters, significant outcomes were achieved.

Third, our measurements of the outcome variable were different from those used in other recent analyses examining much longer term effects.^{13,14} Yet, our results are consistent with the results reported in these investigations. Both recent studies documenting media effects have assessed these effects over a period of several years using time 1 data collected over a longer period of time. Both studies used the 100-cigarettes-in-a-lifetime criterion (at time 2) to measure progression to dependence. Our measure of established use captures movement toward dependence in a clearly defined time frame; it approximates the measures used in these studies, with the major difference being

our shorter term period of observation. Given this, and the somewhat different ages observed, one would expect our effects to be larger than those reported in the earlier studies, and this is the case. Along with these differences in measurement of outcome variables, differences in measurement of advertisements might have contributed to the effect differences observed.

Finally, the adjusted odds ratios showed that although the campaign had an effect on both sexes, less of an effect was required to influence young women than young men. While we do not have data to directly address this issue, it is possible that the effect of the "truth" campaign on young men continues to be weakened, in part, by the influence of cigarette advertising that emphasizes male images and legitimizes masculinity in terms of risk taking. The adjusted odds ratios also suggest that the campaign was more effective in preventing smoking initiation among youths without parents who smoked than among youths with a parent who smoked. However, the data show

that progression to established smoking was affected by the campaign independently of whether or not a parent smoked. This suggests that the availability of cigarettes (in the home) or the role modeling of parents offset the campaign's effects on experimentation but not on progression to established use. □

Contributors

D.F. Sly designed the follow-up survey methodology, participated in data analysis, and prepared the original draft manuscript. R. S. Hopkins participated in the study design, data analysis, and final draft preparation. E. Trapido assisted in questionnaire development and data analysis. S. Ray assisted in questionnaire construction and coordinated the data collection and statistical analysis teams.

Acknowledgments

This research was supported by contracts from the Office of Tobacco Control, Florida Department of Health.

We wish to express our appreciation to Jeffrey McKenna and Terry F. Pechacek for comments on an earlier version of this paper.

References

1. *Best Practices for Comprehensive Tobacco Control Programs*. Atlanta, Ga: National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 1999.
2. Columbia Marketing Panel. Tobacco counter-marketing strategy recommendations. Paper presented at: Fifth Annual National Conference on Tobacco and Health; August 1999; Kissimmee, Fla.
3. Simon-Morton BG, Davis CA, Haynie DL, Saylor KE, Eitel P, Yu K. Health communication in the prevention of alcohol, tobacco, and drug use. *Health Educ Behav*. 1995;5:544–554.
4. *The National Youth Anti-Drug Media Campaign: Communication Strategy Statement*. Washington, DC: Office of National Drug Control Policy; 1998.
5. McKenna J, Williams K. Crafting effective tobacco counter-advertisements: lessons from a failed campaign directed at teenagers. *Public Health Rep*. 1993;108(suppl 1):85–89.
6. Sly DF, Heald G, Hopkins RS, Moore T, McClosky M, Ray S. The industry manipulation attitudes of smokers and nonsmokers. *J Public Health Manage Pract*. 2000;6:49–56.
7. McKenna J, Gutierrez K, McCall K. Strategies for an effective youth counter-marketing program: recommendations from commercial marketing experts. *J Public Health Manage Pract*. 2000;6:7–13.
8. Goldman L, Glantz S. Evaluation of antismoking advertising campaigns. *JAMA*. 1998;297:772–777.
9. Flay B. *Selling the Smokeless Society: Fifty-Six Evaluated Mass Media Programs and Campaigns Worldwide*. Washington, DC: American Public Health Association; 1987.
10. Bauman K, Padgett C, Koch G. A media based campaign to encourage personal communication among adolescents about not smoking cigarettes: participation, selection and consequences. *Health Educ Res*. 1989;4:35–44.

11. Murny D, Price P, Luepker RV, Pallonen U. Five- and six-year follow-up results from four seventh grade smoking prevention strategies. *J Behav Med.* 1989;12:207-218.
12. Bauman K, Laprelle J, Brown J, Koch G, Padgett C. The influence of three mass media campaigns on variables related to adolescent cigarette smoking: results of a field experiment. *Am J Public Health.* 1991;81:597-604.
13. Popham W, Potter L, Hetrick M, Muthen L, Duerr J, Johnson M. Effectiveness of the California 1990-1991 tobacco education media campaign. *Am J Prev Med.* 1994;10:319-326.
14. Siegel M, Biener L. The impact of an anti-smoking media campaign on progression to established smoking: results of a longitudinal youth study. *Am J Public Health.* 2000;90:380-386.
15. *Florida v American Tobacco Company*, Civil Action 95-1466 AH (Fl Cir 1997).
16. Zucker D, Hopkins RS, Sly DF, Ulrich J, Kershaw JM, Solari S. Florida's "truth" campaign: a counter-marketing, anti-tobacco media campaign. *J Public Health Manage Pract.* 2000; 6:1-6.
17. Sly DF, Heald G. *Florida Anti-Tobacco Media Evaluation: One Year Assessment With National Comparisons*. Miami, Fla: Tobacco Research and Evaluation Coordinating Center, University of Miami; 1999.
18. Sly DF, Heald G, Ray S. The Florida "truth" anti-tobacco media evaluation: design, first year results and implications for planning future state media evaluations. *Tob Control.* In press.
19. Bauer UE, Johnson TM, Hopkins RS, Brooks RG. Changes in youth cigarette use and intentions following implementation of a tobacco control program: findings from the Florida Youth Tobacco Survey, 1998-2000. *JAMA.* 2000;284: 723-728.
20. Sly DF, Heald G. *Smoking-Related Behavioral Change and Maintenance During the "Truth" Campaign: Follow-Up Survey Results*. Miami, Fla: Tobacco Research and Evaluation Coordinating Center, University of Miami; 1999.