

State variation in retail promotions and advertising for Marlboro cigarettes

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Abstract

Background—There is some evidence that tobacco companies marketing efforts undermine the effects of comprehensive tobacco control programmes.

Objective—To determine whether point-of-purchase advertising and promotions are more pervasive in states where comprehensive tobacco control programmes are underway.

Design—Cross sectional survey using 1996 data, with merged records of the existence of local tobacco advertising restrictions.

Participants and setting—581 tobacco retail stores located in close proximity to high schools in mainland USA.

Main outcome measures—Existence of gift-with-purchase, number of interior advertisements, and exterior store advertisements for Marlboro cigarettes.

Results—After controlling for store type and existence of advertising restrictions, offer of a gift-with-purchase for Marlboro cigarettes was significantly more likely in states with comprehensive tobacco control programmes than those without programmes (odds ratio 2.59, 95% confidence interval 1.57 to 4.26). Although not significant, results show an increase in the number of interior and exterior store advertisements for stores located in states with a comprehensive tobacco control programme than those in other states.

Conclusion—Results suggest some point-of-purchase tobacco promotions and advertising are more pervasive in states with comprehensive tobacco control programmes. These efforts are likely to act against the objectives of programmes and need to be accounted for in programme evaluations.

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Where statewide comprehensive tobacco control programmes have been launched in the USA, the tobacco industry has been an active player in seeking to delay, dilute, and dismantle programme implementation.¹⁻³ Tobacco companies have also shown themselves to be highly adaptive to restrictions placed upon their ability to advertise in some media, by increasing their expenditures on advertising and promotion in other venues.⁴ In California, Pierce and colleagues documented the gradual transfer in proportional expenditure by the industry from advertising, to promotions and incentives to retailers, and discussed how this may have partly undermined the effectiveness

of the California Tobacco Control Program.⁵ Early analysis of tobacco industry documents, along with these developments, provides further evidence that promotional offers and advertising placement are far from some sort of random process, but are rather part of a very sophisticated strategy that aims to offset the impact of tobacco control efforts.^{6,7}

The point-of-purchase environment has increasingly become an important avenue for promoting cigarettes. In this study, we sought to examine the variation in advertising and promotion for cigarettes at the point-of-purchase in states with and without comprehensive statewide tobacco control programmes.

Method

The data used for this study were taken from a survey of tobacco retail stores, conducted in the spring of 1996, located near a nationally representative sample of high schools across the USA. Each high school represents one primary sampling unit (PSU). A two stage sampling procedure was used to select schools. First, counties were selected as the PSUs and a sample of 100 was drawn with a probability for inclusion proportionate to the population. An additional 100 counties were selected from a sampling frame of 40 counties most populated with African Americans, 40 most populated with Hispanic Americans, and 20 most populated with low income households (median income of \leq US\$15 000 annually). Within each selected PSU, one high school was then randomly selected based on a probability for inclusion proportionate to the size of the respective grade to be sampled (grades 9-12, ages 14-18 years). In the event of school refusal, four substitute schools were drawn within each of the PSUs, so that they would match the selected school with respect to degree of urbanisation, type and size of school, per cent minority enrolment, and income level. When a selected school declined to participate in the survey, one of the four substitutes was then contacted for participation. It is important to note that it was necessary to obtain school consent because, although this study uses no student data, surveys were also administered to students as part of the overall data collection effort. At the school level, 73% of the schools, selected as either a primary sample or reserve sample, participated in the survey, resulting in 203 participating schools.

Since Marlboro is the usual brand smoked by 60% of US teenagers who have smoked in the past 30 days,⁸ we focused upon promotions and advertising for this brand. Information on Marlboro store advertising and promotions were collected from up to three different types of stores within a one mile radius from each participating

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Table 1 Comparison of stores in states with comprehensive tobacco control programmes versus all other states

	Stores in programme states (n=130) (%)	Stores in non-programme states (n=451) (%)	p Value
Gift with purchase	24.6	11.8	< 0.001
Any exterior ads	38.5	37.7	0.45
Mean number exterior ads	1.26	0.97	0.13
Any interior ads	58.5	56.1	0.35
Mean number interior ads	1.9	1.60	0.14
Advertising restrictions	95.4	36.6	< 0.001
Store type			
Convenience store	49.2	52.8	0.27
Supermarket	26.2	18.8	0.05
Gas (petrol) station	11.5	14.0	0.29

Programme states: Arizona (9 stores), California (115 stores), and Massachusetts (9 stores). Non-programme states: Alabama, Arkansas, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, Mississippi, Montana, North Carolina, Nebraska, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

school, with the possibility to expand the radius in the event that not all three stores were located. If there were more than three stores within the one mile radius, the three closest to the school were selected for inclusion. Store types included convenience/small grocery/delicatessen, supermarket, gas station, and drug stores. Trained field staff collected information from store clerks on the presence of a Marlboro promotion that offered a gift with purchase and counts of the number of Marlboro advertisements visible on the exterior of the store and inside the store. (A gift with purchase is defined as receiving a "freebie" such as a lighter, CD, or some other product when purchasing a pack or packs of cigarettes. Advertisements consisted of any signage that promoted the Marlboro brand—that is, sale price, image, promotion including "gift with purchase" or "two for one" offers, etc). To each location, we added a variable that indicated whether there was a law placing restrictions on tobacco advertising (most often pertaining to billboards) in the county or city in which the school was located. (Advertising restrictions can be a city or county policy that primarily restricts tobacco advertising on billboards, public transportation, outdoor signage within a specified distance from certain locations such as schools and playground, and retail point-of-purchase.) These records were from the American Nonsmokers' Rights Foundation in San Francisco, California. In addition, we created a variable for the existence of a substantial statewide tobacco control

programme—with a portion of revenue from cigarette taxes earmarked to fund the programme—in the spring of 1996, where California, Massachusetts, and Arizona were denoted as having such programmes, and other states were not.

Data were analysed using SAS version 8.0. We undertook a logistic regression analysis to examine whether the presence of Marlboro gift-with-purchase promotions was more common in stores in states with comprehensive statewide tobacco control programmes and states with advertising restrictions. We undertook Poisson regression analyses, using a negative binomial to correct for over dispersion, to investigate whether the extent of exterior advertising and interior advertising was related to the presence of the comprehensive statewide tobacco control programme as well as advertising restrictions. We ran separate models for comprehensive statewide tobacco control programmes, advertising restrictions, and the two indicator variables combined while controlling for store type (see results of zero order and combined models in table 2).

Results

Of the 581 stores in the sample, 130 (22.4%) were located in states with comprehensive tobacco control programmes. Table 1 shows the characteristics of stores in states with and without comprehensive programmes.

Table 2 shows that after controlling for store type, stores in states with comprehensive tobacco control programmes were significantly (odds ratio (OR) 2.59, 95% confidence interval (CI) 1.57 to 4.26) more likely to have a gift-with-purchase promotion than those in other states, and that this was still significantly higher (OR 2.48, 95% CI 1.37 to 4.51) when accounting for the existence of laws restricting tobacco advertising. Although both models show significant results, the combined model indicates that the effect of ad restrictions is taken up by tobacco control states. For interior advertising, there was a trend for states with programmes to have counts of interior tobacco advertisements that were 22% higher on average than states without programmes ($p = 0.10$) and this did not change appreciably (21% higher) when adjustment was made for

Table 2 Odds ratios (OR) and 95% confidence intervals (CI) for likelihood of Marlboro gift with purchase and greater extent of Marlboro store advertising in states with tobacco control programmes, controlling for store type

	Gifts with purchase†		Exterior advertising‡		Interior advertising‡	
	OR	95% CI	OR	95% CI	OR	95% CI
<i>Zero order models</i>						
Tobacco control programme (adjusting for store type)	2.59***	(1.57 to 4.26)	1.49*	(1.05 to 2.11)	1.22	(0.93 to 1.60)
Local community tobacco ad restrictions (adjusting for store type)	1.638*	(1.02 to 2.63)	0.218*	(0.13 to 0.38)	1.10	(0.88 to 1.38)
<i>Combined model</i>						
Tobacco control programme	2.48**	(1.37 to 4.51)	1.24	(0.83 to 1.86)	1.21	(0.88 to 1.66)
Local community tobacco ad restrictions	1.07	(0.61 to 1.90)	1.25	(0.89 to 1.76)	1.01	(0.77 to 1.32)
	χ^2 19.47		748.23	552.47		
	df 5		575 df	575 df		
	$p < 0.0016$		$p = 1.30$	$p = 0.96$		

Odds ratios were calculated by exponentiating the coefficients.

†Logistic regression analysis; ‡Poisson regression analysis.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

tobacco advertising laws ($p = 0.13$). For exterior advertising, stores in programme states had a 49% greater amount of advertising ($p = 0.03$) than states without programmes. The strength of this effect was attenuated when adjustment was made for the existence of advertising laws (24% higher), but was still related in the expected direction ($p = 0.17$).

Discussion

Our findings show that in 1996, the offer of a gift with purchase of Marlboro cigarettes was significantly more common in states with comprehensive tobacco control programmes and, although not significant, results also indicate exterior and interior store advertising for Marlboro to be more pervasive in these states. The pattern of findings for promotions was not explained by different laws restricting advertising in each of the communities in which stores were located. However, another possibility for this finding could be a tobacco industry strategy using gift with purchase or value added promotions to maintain established customer loyalty in the wake of an ever increasing competitive market and increased tobacco control efforts.^{6,7} In addition, while the findings for store advertising were weakened by taking account of the existence of advertising laws, the majority of which are billboard restrictions, there was still a relation showing both interior and exterior advertising to be more pervasive in states with programmes. One explanation for this could be that our model is not strengthened by adding ad restrictions, rather the tobacco control state model accounts for all the variance explained by ad restrictions.

This study has several limitations. First, data on promotional and advertising efforts for all other brands was not collected at the point-of-purchase, in order to reduce the time spent with store clerks and maximise accuracy of recording. Other brands, and other types of promotional efforts, such as multi-pack discounts, may not have evidenced similar state variation. Second, a maximum of only three stores was selected for observation in the vicinity of schools and it may be that sampling a greater number of stores may have given a different picture. However, these stores were those near to schools and therefore likely to be those to which children will be exposed. Finally, since the school sample was designed to be nationally representative, it may be that school locations within each state were not representative of the state as a whole. However, our method of aggregating states with and without comprehensive tobacco control programmes minimised this concern.

Notwithstanding these limitations, these results imply that evaluation of comprehensive tobacco control programmes, and efforts to measure the "strength" of tobacco control efforts,⁹ ought to take into account measures of the "strength" of tobacco industry marketing strategies. Measures that apportion national expenditures on a pro-rata basis⁵ will be likely to underestimate the degree of tobacco industry spending within some states with comprehensive programmes and overestimate

What this paper adds

Previous studies and evidence from tobacco industry documents suggest that tobacco company promotional offers and advertising placement are strategically designed to offset the impact of tobacco control efforts.

In the first observational study of tobacco retail stores located near a nationally representative sample of high schools across the USA, it was confirmed that some point-of-purchase tobacco promotions and advertising are more pervasive in states with comprehensive tobacco control programmes. These efforts are likely to act against the objectives of programmes and may need to be accounted for in programme evaluations.

it within others without comparable programmes, and may therefore understate the impact of comprehensive tobacco control programmes on tobacco use.

Promotional and advertising strategies at the point-of-purchase have gained greater prominence since billboard advertising was eliminated in April 1999 under the terms of the Master Settlement Agreement.^{10,11} As a result of the Supreme Court's decision last year, the Food and Drug Administration's proposed marketing restrictions, including those applying to the point-of-purchase, will not be implemented. Without federal, state, or local regulation, point-of-purchase advertising and promotion are likely to become an even more important component of tobacco companies' marketing strategies.

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