

Anti-tobacco advertisements by Massachusetts and Philip Morris: what teenagers think

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Objective: To assess teenagers' receptivity to anti-tobacco television advertisements produced by public health organisations and by tobacco companies. Reactions were examined as a function of the message type as well as the respondents' demographics and smoking status.

Design: A 1999 telephone survey of teenagers in households identified during a random digit dial survey of adults conducted during the prior four years. Respondents were asked to describe an ad they had seen in the past 30 days, and then to rate its perceived effectiveness.

Participants: Respondents were 733 youth between the ages of 14 and 17 years.

Intervention: The most prominent anti-tobacco advertisements broadcast in Massachusetts during the time covered by the survey consisted of those produced by the Massachusetts Tobacco Control Program and those produced by the Philip Morris tobacco company. The ads described by respondents were grouped into four categories based on their sponsor and their approach.

Main outcome measures: Perceived effectiveness of anti-tobacco advertisements seen during the month before the survey as measured on an 11 point scale.

Results: Ads featuring the serious consequences of smoking were seen as significantly more effective by youth than both Massachusetts ads that did not discuss illness ($p < 0.001$) and Philip Morris "Think, Don't Smoke" ads ($p < 0.001$).

Conclusion: Youth prevention programmes should not shy away from anti-tobacco ads that feature the serious consequences of smoking. These types of ads are the ones perceived as most effective by teenagers regardless of their smoking status, age, sex or ethnicity.

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State governments, public health agencies, and private foundations increasingly have been involved in mounting mass media campaigns designed to reduce tobacco use. State funded anti-tobacco media campaigns are now being conducted in at least seven states.^{1,2} The American Legacy Foundation, established as part of the Master Settlement Agreement between 46 states and the five major tobacco companies, is conducting a national anti-tobacco television campaign focused on youth. In addition to these public sector efforts to reduce youth smoking, two major tobacco companies—Philip Morris and Lorillard—are sponsoring anti-smoking television advertisements for youth.

Although evidence is emerging that television advertisements against smoking can be an effective component of youth prevention campaign,^{3,4} efforts to specify the optimal features of such advertisements have yielded ambiguous conclusions. An anti-tobacco advertisement is a multidimensional stimulus: it can vary in terms of the message it conveys, in terms of the amount and type of affect it arouses, and in terms of executional properties such as number of cuts, age of models, and use of music and colour. The dimension which has received the most attention in the literature to date has been the theme or message being communicated. Goldman and Glantz,⁵ for example, categorised 118 anti-tobacco advertisements into the following thematic categories: industry manipulation, second-hand smoke, addiction, cessation, youth access, short term effects, long term health effects, and romantic rejection. Relying on selected descriptions of focus group reactions, the authors concluded that messages which aim at secondhand smoke and the manipulative practices of the tobacco industry are effective in reaching all audiences, and that advertisers should avoid messages focusing on youth access to tobacco, short term effects (such as yellow teeth and bad breath), long term health effects of smoking, and romantic rejection of smokers.

Pechmann and Goldberg⁶ devised a message based typology of a large number of anti-smoking ads for youth based on ratings by advertising and public health experts, and validated by 7th and 10th grade students. The subtypes consist of three which use "fear appeals" (smoking causes serious health problems, tobacco company deception results in disease and death, and smoking endangers the family unit), three which relate to "peer norms" (smoking is unattractive, youth smokers have taken the wrong life path, and most kids do not smoke), and one which shows how tobacco marketing persuades people to smoke. The authors then compared rated intentions to smoke after having viewed a set of ads of a particular type versus viewing a set of "placebo" ads on a different topic. The authors found that students who viewed three of the subtypes subsequently reported lower intentions to smoke in comparison to students who viewed the placebo ads. The three subtypes were "smoking endangers the family unit", "young smokers have taken the wrong path", and "most kids don't smoke". Thus, Pechmann and Goldberg's work suggests that ads focused on youth norms and those which show the health impact of smoking and secondhand smoke on the family are the most effective.

Rather than focusing on message variations, Biener and colleagues⁷ investigated the responses of a population based sample of adults to nine television ads that varied in terms of their affective characteristics. Among nine specific ads studied, the more "moving" an execution was rated to be by an independent panel of judges, the more effective it was rated by survey respondents who recalled having seen it. That study also showed that certain dimensions were highly correlated, making independent assessment of the components difficult. For example, ads that conveyed the message that cigarette smoking leads to serious health problems, were also highly

emotional, arousing sadness or fear. Ads that aroused positive emotion (that is, humour), tended to be viewed by judges as not arousing strong emotion.

The purpose of this paper is to assess how youth in Massachusetts responded to four types of anti-smoking television advertisements that were broadcast in the state in 1999. The sponsors of the ads were the Massachusetts Tobacco Control Program and the Philip Morris Tobacco Company. The primary dependent variable in this study is respondents' perception of the ads' effectiveness.

APPROACHES USED BY MASSACHUSETTS AND BY PHILIP MORRIS

The Massachusetts Tobacco Control Program has produced a broad array of advertisements over the six years of the programme. Many of them are highly arousing executions featuring individuals who report true stories of the suffering they or a family member have endured as a consequence of smoking cigarettes. Although some of the ads have garnered advertising industry awards, they have also provoked criticism by researchers who believe that the approach is ineffective with youth.^{8,9} In 1999 Massachusetts launched a series of ads with the tagline, "Where's the Outrage?" featuring stark statements of the number of deaths caused by smoking and also depicting the cynicism of the tobacco industry in recruiting youth smokers. Other ads have used a variety of approaches: making teens who smoke look foolish, showing positive role models who do not smoke, and demonstrating how smoking interferes with success at sports or dating.

In 1998 Philip Morris implemented a series of anti-smoking ads directed at youth with the tagline "Think, don't smoke". The first group of these ads featured an off camera adult asking teenagers in various locations whether or not they smoked. The teens interviewed were all non-smokers who answered the interviewer by saying that they didn't need to smoke to be cool.

METHODS

Overview

Data for this study are from a random digit dial telephone survey of Massachusetts youth between the ages of 14 and 17 years conducted during the spring and summer of 1999. In addition to answering questions about their smoking status and history, respondents were asked whether they had seen any anti-tobacco ads on television in the previous month. If they had, they were asked to describe up to two in detail, and after describing each ad, to rate its effectiveness.

Sample

The sample consisted of all households interviewed for the Massachusetts Adult Tobacco Survey between March 1995 and December 1998 in which the informant reported the presence of a resident who had the potential of being between the ages of 14 and 17 in 1999. These included cases which met the following criteria:

- (1) Households interviewed in 1995 or 1996 reporting at least one resident between 5 and 11 or between 12 and 17 years of age, or
- (2) Households interviewed in 1997 or 1998 reporting at least one resident between 12 and 17 years of age.

A total of 2878 households met these criteria. Several screening questions were asked before random selection of a teenager and the interview occurred. Firstly, interviewers determined whether the household contained *any* teens aged 14 to 17. Then, in households with eligible teenagers, the interviewer attempted to obtain parental permission to interview the teen. If more than one youth lived in the household, one was randomly selected from those eligible.

Measures

Type of advertisement

Respondents were asked, "In the past month, how many different ads against cigarettes have you seen on TV?". If they indicated that they had seen at least one, they were asked, "Could you describe one TV ad that you saw?" If they indicated seeing more than one ad, they were asked to describe and then rate a second ad. Their verbatim descriptions were entered into the CATI system by interviewers and later extracted and formatted for coding. Before starting their coding task, trained coders were first shown the various ads that had appeared in Massachusetts during the previous months. Coders were also given written descriptions of the ads that had been aired. Whenever possible, the coders identified the specific ad that the respondent was describing. If the description was ambiguous, they attempted to assign it to one of four major categories: ads depicting illness, get outraged ads, other Massachusetts ads, Philip Morris ads. If the description was too vague to assign the ad to one of those categories, the respondent was not included in these analyses. Coders' work was reviewed and verified by research staff members. When research staff disagreed with a coder's decision, the discrepancy was resolved by the author. After the coders had completed their task, the author grouped the specific ads identified into the four major categories: "Illness", "Outrage", "Other Massachusetts", and "Philip Morris". The Illness and Outrage categories include ads that both arouse negative emotion (fear, sadness and/or anger) and present the serious health consequences of smoking. Approximately 10% of the ads recalled by respondents had an environmental tobacco smoke (ETS) message. When this message focused on a person becoming ill from ETS, it was categorised as an Illness ad. The Other Massachusetts category includes ads that do not discuss health consequences in a serious manner, but tend to focus on normative issues such as smoking isn't cool, smoking makes it hard to do well at sports, smoking sets a bad example for siblings, or shows celebrities who do not smoke. ETS ads that just showed an individual inhaling secondhand smoke, but did not demonstrate illness or suffering, were also included in the Other Massachusetts category. The Philip Morris ads, as described earlier, featured an off-camera interviewer talking to teens who explained that they did not have to smoke to be cool or different.

Perceived effectiveness

After describing an ad they recalled seeing, respondents were asked, "How would you rate it on a scale from 0 to 10, where 0 means it is a not a good anti-smoking ad and 10 means it is a very good ad?". This scale has been used in prior research⁷ and has been shown to be highly correlated with other indicators of perceived effectiveness. Attitude toward advertisements assessed on evaluative rating scales like this one have often been used in consumer research, and have been shown to be related to acceptance of the message, and in commercial advertising to intentions to purchase.¹⁰⁻¹²

Smoking status

Respondents were considered smokers if they reported having smoked at least one cigarette in the past 30 days.

Demographic characteristics

The respondent's age and sex was assessed during the interview. When the household was originally screened, the household informant (usually a parent of the youth) provided information about his or her educational attainment and ethnicity. The ethnicity of the informant was used as a proxy for the ethnicity of the adolescent.

Analysis

Data were analysed using survey weights to adjust for the probability of selection, non-response, and to reflect accurately

Table 1 Mean (n) perceived effectiveness by type of advertisement recalled and respondent characteristics

| | Illness (n = 271) | Outraged (n=30) | Other Massachusetts (n=199) | Philip Morris (n=89) |
|----------------|----------------------|--------------------|--------------------------------|-------------------------|
| Mean rating* | 8.27 ^a | 8.14 ^a | 7.03 ^b | 5.83 ^b |
| Age (years) | | | | |
| 14–15 | 8.17 (148) | 8.53 (20) | 6.71 (97) | 6.99 (42) |
| 16–17 | 8.36 (123) | 7.12 (10) | 7.31 (102) | 4.63 (47) |
| Sex | | | | |
| Male | 8.01 (145) | 8.29 (19) | 6.71 (110) | 5.69 (46) |
| Female | 8.55 (126) | 7.88 (11) | 7.32 (89) | 6.04 (43) |
| Race/ethnicity | | | | |
| White | 8.28 (221) | 7.84 (23) | 7.00 (145) | 5.38 (69) |
| Non-white | 8.20 (50) | 9.07 (7) | 7.14 (54) | 8.36 (20) |
| Smoking status | | | | |
| Smoker | 8.16 (44) | 7.48 (7) | 6.19 (34) | 3.29 (11) |
| Non-smoker | 8.29 (227) | 8.83 (23) | 7.34 (165) | 6.42 (78) |

*Cells with different superscripts^{a,b} are significantly different from each other at the 0.001 level of confidence.

the education (12 years or less versus 13 or more years) and minority status (white versus minority) of Massachusetts households with teens. Analyses of variance were conducted using STATA taking account of the complex sampling design.

RESULTS

Response rate

We attempted to contact a total of 2878 households. Of these, 854 were determined to have one or more eligible teens in residence and 1167 households contained no eligible respondent. Thus, we determined the eligibility status of 2021 households and found that approximately 42.3% of households contained an eligible teen. Eligibility could not be determined in the remaining 857 households primarily because of our inability to locate the household interviewed for the MATS survey. Applying the eligibility rate from the screened households to the 857 unscreened households, we estimated that 360 of them would have been eligible. From the 1214 eligible households, we completed 733 interviews, for a response rate of 60.3%.

Ad exposure

Ninety six per cent of the respondents (n = 690) reporting seeing at least one anti-smoking advertisement on television during the month before the interview, and 89.4% (n = 619) of that group provided a description of one ad that they had seen. Although 90% of respondents reported seeing more than one ad during the prior month, only 54% could provide a second description. Data for only the first ad described and rated are included in this study. Coders were able to categorise 98% of the descriptions of the first ad into either specific ads or ad

categories. The largest proportion of respondents (50%) described ads that depicted illness. The next largest group (25%) were respondents who described a Massachusetts sponsored ad that did not depict illness. Nineteen per cent of the respondents described one of the Philip Morris ads, and 6% described one of the Get Outraged ads. These recall rates tend to match the volume of ads aired in each of those categories during period covered in the survey.

Perceived effectiveness of ads by category

Illness and Outraged ads were rated as significantly more effective than both the Philip Morris ads and the Other Massachusetts ads. The mean ratings of the Illness and Outraged ads did not differ significantly (table 1). A series of bivariate analyses were performed to compute the mean ratings of each ad type as a function of age, sex, ethnicity, and smoking status. As table 1 indicates, with a few exceptions, most groups rated the Illness and Outraged ads more highly effective than the Other Massachusetts and Philip Morris ads. A five way analysis of variance was run to test the significance of the main effects of sex, age, ethnicity, and smoking status as well as the two way interactions between ad type and each of the four respondent characteristics. The results of that analysis are displayed in table 2. The significant main effects for sex and smoking status indicate that regardless of type of ad, girls rated them significantly more effective than boys, and smokers rated all ads as significantly less effective than did the non-smokers. The one significant two way interaction that emerged indicates that response to the four types of ads differed in the younger versus older respondents. Although

Table 2 Analysis of variance of ratings of effectiveness of anti-smoking television advertisements as a function of ad type, respondent age, sex, race/ethnicity, and smoking status

| Source | Mean square | df | F Value | p Value |
|--------------------------|-------------|----|---------|---------|
| Ad type | 37.21 | 3 | 9.3 6 | <0.001 |
| Sex | 22.07 | 1 | 5.55 | 0.019 |
| Age group | 6.34 | 1 | 1.59 | 0.207 |
| Race/ethnicity | 4.94 | 1 | 1.24 | 0.265 |
| Smoking status | 52.58 | 1 | 13.23 | <0.001 |
| Ad type × sex | 2.82 | 3 | 0.71 | 0.547 |
| Ad type × age group | 10.54 | 3 | 2.65 | 0.048 |
| Ad type × ethnicity | 4.18 | 3 | 1.05 | 0.369 |
| Ad type × smoking status | 6.21 | 3 | 1.56 | 0.197 |

both groups rated the Illness and Outraged ads more highly than the Philip Morris ads, younger respondents rated the Philip Morris ads more highly than older respondents.

DISCUSSION

The findings from this study suggest that youth respond to anti-tobacco television advertisements in a manner similar to adults. The ads they rate as most effective are those that depict the serious consequences of tobacco use. Most of the ads recalled by Massachusetts teenagers in the spring and summer of 1999 were those presenting real people telling their own true stories. This has been a dominant approach of the Massachusetts Tobacco Control Program. Previous research has shown that these ads, when viewed and rated by independent youth judges, are seen as arousing strong negative emotions of fear and sadness. The "Get Outraged" ads also present smoking as a serious and deadly habit using a stark and emotional tone designed to arouse anger—usually at tobacco companies or at lax tobacco control policies. The Philip Morris ads, which feature youth telling an offstage interviewer that they do not smoke, never discuss the health consequence of smoking. These ads are rated as less effective than those that do. Younger teens respond more favourably to the tobacco company advertisements than older teens. This may be due to the fact that the campaign is designed to target youth age 10–14 years. It is possible that the clear association of a tobacco company with these anti-smoking advertisements (the Philip Morris logo appears at the end of each ad) reduces their credibility to teenagers. Future research should attempt to distinguish between teenagers' reactions to normative messages conveyed by tobacco companies and those conveyed by public health agencies.

Although there are exceptions,^{13,14} most of the published advice on the optimal design of anti-smoking television advertisements for youth recommends against building messages around the long term health consequences of smoking.^{3,15} According to our results, this advice needs to be seriously reconsidered. Indeed, ads featuring long term health consequences were perceived as the most effective ads of all recalled by Massachusetts youth.

One might argue that "perceived effectiveness" as measured in this study is not necessarily an indicator of actual effectiveness in terms of preventing onset of smoking. Such ratings, however, do provide information about the attitudes of the audience and emerging data suggest that they are a reasonable proxy for actual effectiveness, at least among adults.¹⁶ Unfortunately, it is very difficult to perform the ultimate test of the hypothesis that ads featuring long term health consequences of smoking are more likely to prevent smoking initiation than ads focusing on short term consequence or normative issues. Populations cannot be prevented from viewing the variety of approaches broadcast by multiple sponsors. Although experimental studies that control exposure can offer suggestive information, it is difficult to generalise findings to mass media campaigns targeting the population at large. The current findings are not meant to imply that there is no place in a mass media campaign for humour or variation in approach from execution to execution. Rather they do indicate that individual advertisements focusing on long term health consequences can be an important component of a broad based comprehensive tobacco control media campaign.

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What this paper adds

Efforts to specify the optimal features of anti-tobacco advertisements for youth have yielded ambiguous conclusions. Prior research on adults indicates advertisements which focus on the serious consequences of tobacco use in an emotionally evocative way work well, but common advice for designing ads for youth holds that a focus on long term health consequences will be ineffective either because youth see themselves as immortal or because their attraction to risk could reduce the efficacy of such an approach. Some studies have suggested that approaches focusing on teen norms (for example, smoking isn't cool; you can be cool without smoking) are more effective. This approach is one of several that has been used by the Massachusetts Tobacco Control Program, and is the primary approach taken by Philip Morris and Lorillard in their smoking prevention media campaigns.

This study, using a telephone survey of a representative sample of Massachusetts youth, demonstrates that ads featuring the serious consequences of smoking were seen as significantly more effective by youth than both Massachusetts ads that did not discuss illness and Philip Morris "Think, Don't Smoke" ads. It suggests that youth prevention programmes should not shy away from anti-tobacco ads that feature the serious, long term consequences of smoking.

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