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Journal

Health Promotion Practice, 5(3_suppl)

ISSN

1524-8399

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Publication Date

2004-07-01

DOI

10.1177/1524839904264601

Peer reviewed

Population Receptivity to Tobacco Advertising/ Promotions and Exposure to Anti-Tobacco Media: Effect of Master Settlement Agreement in California: 1992-2002

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Tobacco marketing contributes to adolescent smoking initiation, and the Master Settlement Agreement (MSA), therefore, included relevant restrictions. We analyzed data from large population surveys of Californians, conducted in 1992 (11,905 adults, ages 18 years and older), 1993 (5,531 adolescents, ages 12 to 17 years), and 1996 (6,252 adolescents, 18,616 adults) before the MSA, and in 1999 (6,090 adolescents, 14,729 adults) and 2002 (5,857 adolescents, 20,525 adults) following its implementation. Camel lost favorite-advertisement popularity after 1996, and between 1999 and 2002, there were large increases in the percentages declining to name a favorite advertisement. Ownership of tobacco promotional items declined from its peak in 1996. Furthermore, in 2002, close to 90% of adolescents and young adults reported seeing anti-tobacco messages on television in the past month, significantly higher than 1996. These trends indicate less receptivity to tobacco advertising and promotions following the MSA but leave room for additional restrictions to further reduce receptivity.

Keywords: *smoking; media; prevention; adolescents*

► LITERATURE REVIEW

During the 1990s, considerable evidence accumulated linking tobacco advertising and promotions to increased smoking behavior among adolescents younger than the age for legal purchase of cigarettes. This evidence included the attractiveness of R.J. Reynolds' cartoon character, Joe Camel (Cohen, 2000; DiFranza et al., 1991; Fischer, Schwartz, Richards, Goldstein, & Rojas, 1991; Pierce et al., 1991), and of tobacco promotional

items to children and adolescents (Coeytaux, Altman, & Slade, 1995; Cohen, 2000; Evans, Farkas, Gilpin, Berry, & Pierce, 1995; Feighery, Borzekowski, Schooler, & Flora, 1998; Gilpin, Pierce, & Rosbrook, 1997; Sargent et al., 1997; Schooler, Feighery, & Flora, 1996; Unger, Cruz, Schuster, Flora, & Johnson, 2001). In addition, time-series analyses linked increases in underage initiation of regular smoking to the start of innovative cigarette advertising campaigns (Pierce & Gilpin, 1995). Finally, longitudinal studies demonstrated that adolescents who were receptive to tobacco industry advertising and promotions were more likely to progress toward smoking (Biener & Siegel, 2000; Pierce, Choi, Gilpin, Farkas, & Berry, 1998; Sargent, Dalton, & Beach, 2000; Sargent, Dalton, Beach, Bernhardt, et al., 2000). Therefore, limiting the ability of the tobacco industry to advertise and promote its products to adolescents is a matter of future public health (Emery, Choi, & Pierce, 1999; Pierce, Gilpin, & Choi, 1999). The tobacco industry has increased its total budget for advertising and promotions greatly since the Master Settlement Agreement (MSA) and changed how these expenditures are allocated (Pierce & Gilpin, this issue).

Brand advertising is a form of persuasive communication that focuses on creating a public image or identity for a product that will encourage its use (Wells, Burnett, & Moriarty, 2000). Adolescents, who are experimenting with their own image and identity

Authors' Note: *Data for the California Tobacco Surveys were collected under contracts 89-97872 (1990, 1992), 92-10601 (1993), 95-23211 (1996), 98-15657 (1999), and 01-16370 (2002) from the California Department of Health Services, Tobacco Control Section, Sacramento, California. Preparation of this article was supported by the Tobacco Related Disease Research Program Grant #12RT0082 from the University of California, and by American Cancer Society Grant PDF #03-093-01-BHP. Correspondence and requests for reprints should be directed to John P. Pierce, Ph.D., Cancer Prevention and Control Program, Moores Cancer Center, University of California-San Diego, 9500 Gilman Drive, 0645, La Jolla, CA 92093-0645; e-mail: jppierce@ucsd.edu.*

Health Promotion Practice

Supplement to July 2004 Vol. 5, No. 3, 91S-98S

DOI: 10.1177/1524839904264601

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(Steinberg, 2002), appear particularly vulnerable to cigarette advertising when the images used have high salience with their peer groups (U.S. Department of Health and Human Services, 1994, 2001). Evidence for this vulnerability is the nomination of a favorite cigarette advertisement (Evans et al., 1995) or the willingness to “wear” the image/identity on clothing or gear (Cohen, 2000), both of which have been demonstrated to be antecedents to smoking experimentation (Biener & Siegel, 2000; Pierce, Choi, et al., 1998; Sargent, Dalton, & Beach, 2000; Sargent, Dalton, Beach, Bernhardt, et al., 2000). Advertising theory predicts that such receptivity to advertising messages will lead to curiosity about the product (Smith & Swinyard, 1988). When experimentation is considered low risk and low cost, a small incentive such as a special promotional offer may be sufficient to convert people who are curious into experimenters. Current public health counteradvertising has aimed to discourage cigarette use by increasing the public’s perceptions of the consequences of smoking, as well as by arousing negative emotions toward the manufacturers (Biener, McCallum-Keeler, & Nyman, 2000; Goldman & Glantz, 1998)

In 1998, a group of state attorneys general negotiated the MSA with the tobacco industry to end pending lawsuits brought by the states to recover smoking-related health care costs (National Association of Attorneys General, 1998). Because of the evidence implicating tobacco advertising and promotions to increases in adolescent smoking, the MSA placed restrictions on these marketing activities. Advertising was banned on billboards altogether, and in malls, arenas, stadiums, video arcades (MSA II[ii][1]-[2]), transit stations and on vehicles (see MSA II[xx] for exceptions to the general ban on transit advertising). Advertisements under 14 square feet in size on the property of stores selling tobacco products are still allowed (MSA II[ii]), as are event announcements (not advertising) within 14 days of an event to take place in an adult-only venue (MSA II[ii]). Furthermore, the use of cartoon characters or other types of caricatures was banned, resulted in the removal of Joe Camel (MSA III[b]). Although the distribution of tobacco promotional items was limited to adults with proof of age required, such items can be distributed at adult-only venues, and there was a delay in the implementation of some of these provisions until existing contracts were terminated (MSA III[f]). The MSA now allows only one sponsorship per year per company of sports, concerts, or other cultural events, whose paid participants include youth (MSA III[c]). In addition, provisions of the MSA led to the establishment of the American Legacy Foundation (MSA VI[d]), which early in 2000 launched an unprecedented, nationwide anti-tobacco media campaign that highlighted the deceptions in the tobacco industry’s public statements and marketing. The Legacy Truth® campaign was modeled on Florida’s successful campaign of the same name (Bauer, Johnson, Hopkins & Brooks, 2000; Sly, Trapido, & Ray, 2002).

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In this article, to assess the impact of the MSA, we used data from the large, population-based California Tobacco Surveys (CTS) that are conducted approximately every 3 years. However, it should be noted that California had its own aggressive, anti-tobacco media campaign beginning in the early 1990s, with increased media funding starting in FY 1996-1997. Several California cities banned tobacco advertising in sports stadiums beginning in 1996. Moreover, several cities (Los Angeles, San Francisco, and San Diego) placed restrictions on cigarette billboard advertising, which took effect in January 1998. Thus, the results of the analyses we present reflect the net effect of the MSA and events in California that occurred during the same time frame. We compare receptivity to tobacco advertising and promotions and recall of anti-tobacco media after the MSA (1999 and 2002 CTS), to before the MSA (1992/1993 and 1996 CTS). If the MSA has worked as intended, by the time of the 2002 CTS, we would expect to see reduced receptivity to tobacco advertising and promotions compared to the 1996 and earlier CTS among young adolescents 12 to 14 years of age, at the prime ages for smoking experimentation (U.S. Department of Health and Human Services, 1994).

► **METHOD**

Data Sources

California Tobacco Surveys (CTS). The CTS are large population-based random-digit-dialed surveys designed to monitor changes in tobacco use and attitudes in the state. They are conducted every 3 years as part of the evaluation of the California Tobacco Control Program (Bal, Kizer, Felton, Mozar, & Niemeyer, 1990). The methodology for the CTS are described in detail elsewhere (Social Sciences Data Collection, 1990-2002). Briefly, a household adult (age 18 years or older) provides information on all household residents, including

demographics and smoking status. A sample of household adults is then scheduled for an approximately 25-minute extended interview covering topics related to smoking behavior and attitudes. The probability of selection is much higher for those who were reported to have smoked in the previous 5 years. In 1993, 1996, and 2002, all enumerated adolescents (ages 12 to 17 years) were selected for the extended interview, however in 1999, only one was randomly selected. After parental permission was obtained, adolescents were called back several days later for an extended interview similar to length and scope to the adult interview. Table 1 shows the numbers of adolescents and adults interviewed in the various years whose responses were analyzed for the present report.

So that population estimates can be calculated, the data were weighted in a two-step procedure, first based on the probability of selection and then for nonresponse, using ratio adjustment to California census data (Social Sciences Data Collection, 1990-2002).

California program expenditures on anti-tobacco media. Data on expenditures for anti-tobacco media were provided by the California Department of Health Services. Although data for 1996-1997 through 2002-2003 were aggregated by fiscal year, the figures for 1995-1996 included one-half year's expenditures for 1995 that could not be factored out. The dollar amounts were adjusted to 2002 dollars using the Consumer Price Index (U.S. Department of Labor, 2002).

Survey Items Analyzed

The adult and adolescent extended interview questionnaires for 1992, 1993, 1996, 1999, and 2002 asked respondents: "What is the name of the cigarette brand of your favorite advertisement?" Respondents could respond with a brand name, say they do not have a favorite advertisement, state they do not know, or refuse to answer. Those refusing (<0.1% in each year), those who did not know (approximately 7.0% in each year), and those who did not have a favorite ad were grouped together as not having a favorite cigarette advertisement. Because the 1993 CTS did not ask this question of adults but only of adolescents, adult data from the 1992 CTS are presented.

In 1996, 1999, and 2002 respondents were asked: "Some tobacco companies offer promotional items identified with their brand, such as clothing and bags, that the public can buy or receive for free. In the past 12 months, have you . . . (a) exchanged coupons for an item with a tobacco brand name or logo on it? (b) received a gift or for free, any item with a tobacco brand name or logo on it? or (c) purchased any item with a tobacco brand name or logo on it?" Respondents answering affir-

matively to either a, b, or c above were considered to have obtained a tobacco promotional item in the past year. In 1993, the question in the adolescent questionnaire was different, with respect to the time frame ("ever" instead of "past 12 months") and wording: "Some tobacco companies provide promotional items to the public that you can buy or receive for free. Have you ever bought or received for free any product which promotes a tobacco brand or was distributed by a tobacco company?"; and adults were not asked this question.

TABLE 1
Adult and Adolescent Respondents to the California Tobacco Surveys

	1992-1993	1996	1999	2002
Adults (1992)				
Selected	11,532	25,546	21,538	32,672
Interviewed	8,224	18,616	14,729	20,525
Response rate	71.3%	72.9%	68.4%	62.8%
Adolescents (1993)				
Selected	6,892	8,778	8,069	8,782
Interviewed	5,531	6,252	6,090	5,850
Response rate	80.3%	71.2%	75.5%	68.5%

Furthermore, adolescents in 1993, 1996, 1999, and 2002, and adults in 1999 and 2002 were asked: "Do you think that you would ever use a tobacco industry promotional item, such as a tee shirt?" In 1996, 1999, and 2002, the surveys also asked, "In the past year, how often have you seen a sports event on television, in which you saw a logo or a tobacco product? Would you say, very often, a few times, rarely, or not at all?"

Adults and adolescents in 1996, 1999, and 2002 were also asked about anti-tobacco media exposures: "In the past month, have you seen anything on TV against smoking?" "In the past month, have you heard anything on the radio against smoking?" and "In the past month, have you seen a billboard with a message against smoking?" To each question, respondents could answer: a lot, a few, none, or don't watch/listen/see that form of media. Because we were estimating exposures, the percentages reporting "a lot" or "a few" were of the entire population, not just those who are exposed to the various forms of media. Few respondents in any year (<2.0%) refused or did not know.

Data Analysis

All percentages in the text, tables, and figures were computed using the survey weights and are shown together with 95% confidence intervals. To account for the complex survey design, analyses were performed using WesVarPC (Brick, Broene, James, & Severynse, 1996), which uses a jackknife procedure for variance estimation (Efron, 1982). Nonoverlapping 95% confi-

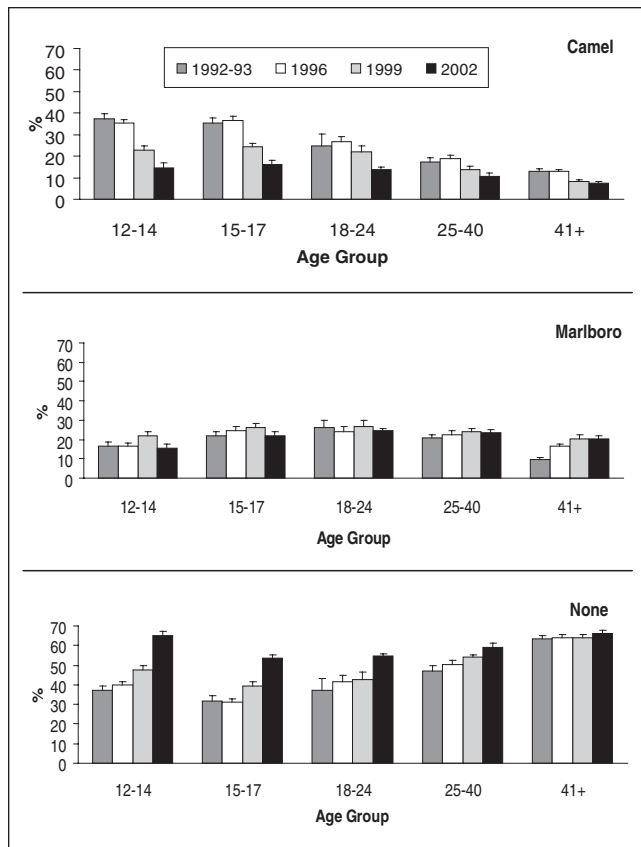


FIGURE 1 Favorite cigarette advertisement is Camel (top panel), Marlboro (middle panel), or have none (bottom panel), for adolescents (ages 12 to 14 years and 15 to 17 years), young adults (ages 18 to 24 years and 25 to 39 years and 40 years and older), and older adults (ages 25 to 39 years and 40 years and older).

dence intervals are an indication of statistically significant differences.

Results are reported for adolescents ages 12 to 14 years and ages 15 to 17 years, young adults ages 18 to 24 years, and adults ages 25 to 40 years and 41 years and older. Preliminary analyses indicated that girls and women tended to be less receptive to tobacco advertising and promotions than boys or men, however because the trends were very similar, only results by age group are reported.

► RESULTS

Favorite Cigarette Advertisements

Figure 1 shows the brand of the favorite ad nominated by respondents in the 1992/1993, 1996, 1999, and 2002 CTS by age group (top panel—Camel, middle panel—Marlboro, bottom panel—no favorite advertisement). The popularity of Camel brand advertisements declined significantly between 1996 and 1999 among adolescents and adults. In 1996, 35.4% ± 1.6% of ado-

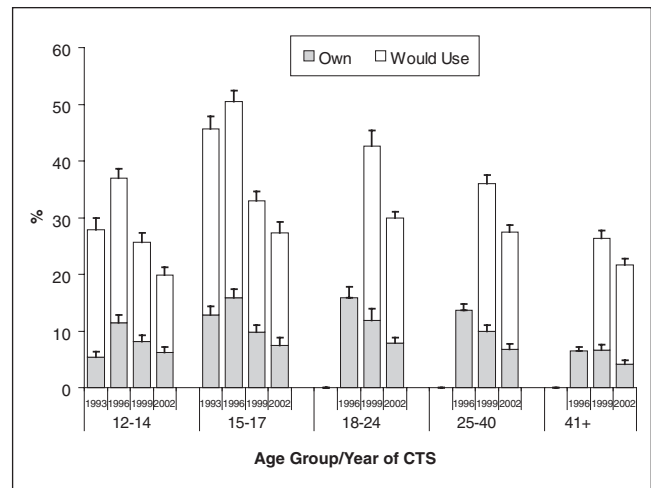


FIGURE 2 Own (shaded portion of bar) or would use (open portion of bar) a tobacco promotional item for adolescents (ages 12 to 14 years and 15 to 17 years), young adults (ages 18 to 24 years and 25 to 39 years and 40 years and older). In 1992, the question on ownership was not asked of adults, and in 1996 the question of willingness to use was not asked of adults. The total height of the bar shows the percentages of respondents who either own or would be willing to use a promotional item.

lescents ages 12 to 14 years favored Camel, compared to 23.0% ± 1.8% in 1999, and only 14.7% ± 2.2% in 2002, a decline between 1996 and 2002 of 58%. Older age groups showed a similar pattern, however fewer adults named Camel as the brand of their favorite advertisement. Adults, especially young adults (ages 18 to 24 years for the current report), tended to favor Marlboro advertisements.

From 1996 to 1999, all groups in general, but young adolescents ages 12 to 14 years significantly, appeared to have shifted their attention away from Camel to Marlboro. In addition, there were significantly more adolescents in 1999 compared to 1996 who did not name a brand. However, in 2002, Marlboro's popularity returned to pre-1999 levels, and Camel continued to lose popularity among adolescents and young adults. At the same time, there was a large and significant increase in the percentage in each age group, except the oldest (already at high level), who did not name a favorite advertisement, particularly among adolescents. In 2002, 62.2% ± 2.0% of adolescents ages 12 to 14 years, 53.4% ± 2.0% of adolescents ages 15 to 17 years, 54.8% ± 1.1% of young adults ages 25 to 39 years, 59% ± 2.0% of adults ages 25 to 40 years, and 66.3% ± 1.5% of those ages 41 and older did not name a favorite advertisement. Compared to 1999, in 2002, this percentage increased by 37% for young adolescents, by 35% for older adolescents, by 28% for young adults, and by 10% for adults ages 25 to 40 years. These increases were not because the percentages who refused or did not know changed significantly over time.

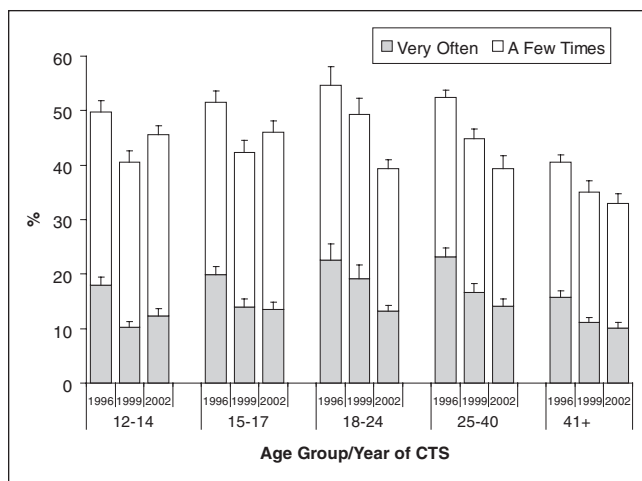


FIGURE 3 Saw tobacco logos on televised sports events very often (shaded portion of bar) or a few times (open portion of bar) in the last year for adolescents (ages 12 to 14 years and 15 to 17 years), young adults (ages 12 to 14 years and 15 to 17 years,) and older adults (ages 25 to 39 years and 40 years and older). The total height of the bar shows the percentages of respondents who saw logos very often or a few times.

Ownership or Willing-to-Use Tobacco Promotional Items

Among adolescents, ownership of tobacco promotional items peaked in 1996 at 11.5% ± 1.3% for adolescents ages 12 to 14 years and at 15.8% ± 1.6% for those ages 15 to 17 years (Figure 2, shaded portion of bar). The percentage for adolescents was not higher in 1993 because of the different format of the question, and data were not available for adults in 1993. In 1996, the percentage of young adults who owned a promotional item was 15.9% ± 1.9%. The percentage of adolescents and adults who owned a promotional item declined in 1999 and further declined in 2002. The decline between 1996 and 1999 was significant for all age groups except for adults ages 41 years and older. The further decline between 1999 and 2002 was significant for adults but not for adolescents. Between 1996 and 1999, the declines were also significant for either owning or being willing to use a promotional item (shaded plus open bar height), however between 1999 and 2002, the declines for adolescents were also significant. In 2002, 6.2% ± 1.0% of young adolescents, 7.5% ± 1.3% of older adolescents, and 7.9% ± 0.9% of young adults owned an item, declines of 46%, 52%, and 50% respectively, since the peak in 1996. However, the further decline among adolescents between 1999 and 2002 was not as large as it was for young adults.

Recall of Tobacco Logos on Televised Sports Events

Figure 3 shows the percentages of adolescents and adults who saw tobacco logos on televised sports events

TABLE 2
Expenditures on Anti-Tobacco Media by the California Tobacco Control (Program dollars in millions, adjusted to 2002 dollars)

Fiscal Year	Amount
1995 to 1996	14.16
1996 to 1997	17.27
1997 to 1998	17.14
1998 to 1999	15.15
1999 to 2000	20.48
2000 to 2001	46.02
2001 to 2002	46.02
2002 to 2003	21.10

in the past year. The shaded portion of the bar shows the percentage reporting seeing tobacco logos very often, and the open portion the percentage seeing such logos a few times. In 1996, 49.8% ± 2.0% adolescents ages 12 to 14 years, 51.5% ± 2.1% of those ages 15 to 17 years, and 54.7% ± 3.4% of young adults saw tobacco logos on televised sports events at least a few times. All age groups except young adults showed significant declines in these percentages between 1996 and 1999, and all adult age groups showed further significant declines between 1999 and 2002. However, among adolescents, the decline between 1996 and 1999 did not continue through 2002. In fact, it appears that a significantly higher percentage of young adolescents reported seeing a tobacco logo at least a few times in 2002 (45.6% ± 1.7%) than reported seeing them in 1999 (40.5% ± 2.2%). For older adolescents, these percentages were 46.0% ± 2.1% and 42.4% ± 2.1%, respectively, however these were not significantly different. In 2002, for the first time, higher percentages of adolescents recalled seeing tobacco logos on televised sports events than young adults (39.4% ± 1.5%).

Exposure to Anti-Tobacco Media

The amount of money spent by the State of California on anti-tobacco media between FY 1995-1996 and 2002-2003 is presented in Table 2. The data for 1995-1996 are for an 18-month period but nonetheless represent a lower media budget than subsequently. The real (adjusted for inflation) expenditures for anti-tobacco media by the state changed very little between FY 1996-1997 and 1997-1998, and it decreased slightly in 1998-1999. Because of MSA funds, California was able to increase the amount spent on anti-tobacco media considerably in FY 2000-2001 and 2001-2002, however in 2002-2003, these funds were diverted because of a budget crisis, resulting in less funds for the media campaign that year and in the foreseeable future.

Figure 4 indicates that the percentage of adolescents and adults who reported that in the past month they saw a lot of advertisements against smoking on televi-

sion (shaded portion of bar). In 1996, 74.7% \pm 1.8% of 12- to 14-year-olds, 76.8% \pm 1.5% of 15- to 17-year-olds, and 74.5% \pm 2.7% of young adults saw anti-tobacco messages on television at least a few times in the past month. These percentages increased markedly and significantly between 1996 and 1999. In some age groups (older adolescents and young adults), further significant increases were observed between 1999 and 2002. In 2002, 86.3% \pm 1.5% of young adolescents, 89.8% \pm 1.1% of older adolescents, and 85.6% \pm 1.0% of young adults saw media-campaign advertisements on TV in the past month, at least a few times (solid plus open portion of bar). Recall of anti-tobacco messages on billboards peaked in 1999 and was lower in 2002. For radio messages, recall in 2002 was similar to 1999. However, television accounts for the majority of reported exposure to anti-tobacco media.

► DISCUSSION

The MSA restrictions on tobacco advertising and promotions were intended to protect underage youth, particularly young adolescents ages 12 to 14 years, from becoming receptive to forms of tobacco advertising and promotions that encourage them to smoke. The data we present suggest that they have shown some effectiveness. There was a substantial increase in the percentage of the California population who did not name a brand of a favorite cigarette advertisement in 2002 compared to 1999. This increase was particularly notable among young adolescents. Although adolescents were less likely to own a tobacco promotional item in 2002 compared to 1996, the decline was less marked than in young adults. In addition, after a decline between 1996 and 1999, adolescents were no less likely to have seen a tobacco logo on television in 2002 compared to 1999. Encouragingly, however, is the increase in exposure to advertisements against smoking on television in the past month. Close to 90% of adolescents and young adults reported such exposure in 2002.

There are several plausible explanations for the increase in the percentage of the population who declined to name a brand of a favorite advertisement. Camel was very popular with adolescents, however after Joe Camel was removed, new younger cohorts may not remember Joe and, therefore, were perhaps less able to think of a favorite advertisement. However, older adolescents and young adults would likely remember Joe and, if they liked him when they were younger, this preference might have been expected to persist. Yet this was not observed. Another explanation is that since the MSA, and the American Legacy's hard-hitting Truth[®] campaign together with California's renewed media campaign, the public has developed a more negative view of the tobacco industry. Nationally, the Truth[®] campaign has been successful in changing population attitudes about the tobacco industry (Farrelly et al., 2002). As a result, people may be less inclined to

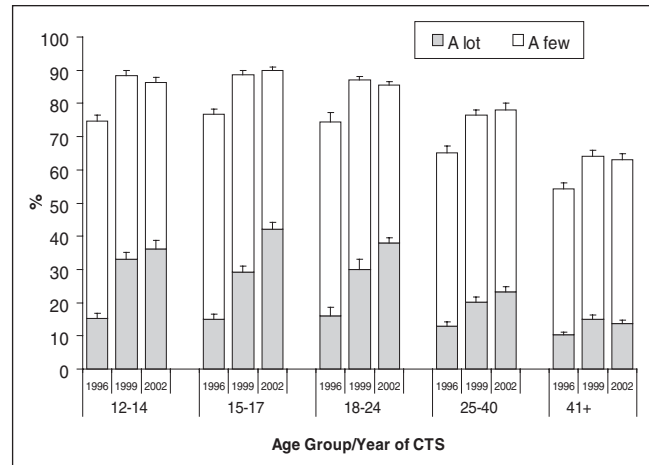


FIGURE 4 Saw anti-smoking commercials on television a lot (shaded portion of bar) or a few times (open portion of bar) in the Past month item for adolescents (ages 12 to 14 and 15 to 17 years), young adults (ages 18 to 24 years) and older adults (ages 25 to 39 years and 40 years and older). The total height of the bar shows the percentages of respondents who saw anti-smoking ads very often or a few times.

express anything favorable about the tobacco industry, including naming a favorite advertisement. Another possible explanation is that removal of tobacco advertising from billboards has resulted in less advertising overall, despite continued advertising in magazines (Hamilton, Turner-Bowker, Celebucki, & Connolly, 2002; King & Siegel, 2001) and at the point of sale (Feighery, Ribisl, Schliecher, Lee, & Halvorson, 2000), so that nonsmokers are less brand aware.

Although receptivity to tobacco promotional items and recall of tobacco logos on televised sports events has declined since the MSA, it still occurs. The tobacco industry was not required by the terms of the MSA to completely eliminate these forms of tobacco promotions. International sports events televised by satellite with tobacco company sponsorship and the attendant logos might be partly responsible for the continued recall of this form of advertisement by nearly one half of all California adolescents.

Fewer adults appear to have or be willing to use tobacco promotional items following the MSA. Perhaps because fewer adults have these items and because adults are a main source of these items for adolescents (as gifts) (Gilpin et al., 1997), adolescent possession and willingness to use promotional items has also declined. In 2002, although most adolescents received these items as gifts (4.5% \pm 0.6%), some still reported obtaining them by coupon exchange (1.5% \pm 0.3%) or by purchase (2.0% \pm 0.5%). Because these direct sources still have not been eliminated, as they should have been by the terms of the MSA, improved procedures for age verification are required.

It is interesting that so many more Californians reported seeing anti-tobacco media on television in

1999 compared to 1996, even though the amount of money spent on such media by the state did not increase during this period, and the American Legacy Campaign had not yet begun. It is possible that press coverage surrounding the negotiation and implementation of the MSA was interpreted by the public as anti-tobacco media. The major increase in expenditures for California's media campaign in FY 2000-2001 and 2001-2002 and a heightened emphasis on advertisements that could be considered critical of the tobacco industry, together with the American Legacy Foundation's Truth[®] campaign were likely responsible for the increased recall of advertisements against smoking on television in 2002. The State of California and the American Legacy Foundation face litigation initiated by the tobacco industry over the slant of the recent anti-tobacco media campaigns. The tobacco industry maintains that the ads should be limited to educating the public about the health dangers of smoking, however many of the current ads also aim to educate the public regarding the past and present deceptions and manipulations of the tobacco industry.

One limitation of the current study is our inability to assess the exposure to the California and Legacy anti-tobacco media campaigns separately. In addition, our questions assessed top-of-the-mind recall and not actual exposure to anti-tobacco media; respondents could have forgotten that they had seen both pro- and anti-tobacco media messages. Moreover, our anti-tobacco media questions did not gauge receptiveness to the media messages. While the Legacy campaign promoted its Truth[®] logo as a "brand," the California campaign was more multimedial in design. Nevertheless, we could have asked survey respondents if they had a favorite anti-tobacco advertisement. A positive response would indicate some degree of liking or receptivity to the anti-tobacco media. And if the favorite anti-tobacco advertisement could have been identified, there would have been a way to attribute it to the Truth[®] or to the California campaign.

► CONCLUSIONS AND IMPLICATIONS

The MSA restrictions appear to have reduced population receptivity to tobacco industry advertising and promotions. Along with other tobacco control measures, this should help reduce the number of adolescents who initiate smoking and lead to a long-term improvement in public health as morbidity and mortality from smoking-related diseases declines. However, receptivity to tobacco advertising and promotions is still present, although to a lesser extent since the MSA, which indicates room for further restrictions on advertising and promotions. It also indicates that additional restrictions would likely have an impact in further reducing population receptivity to tobacco advertising and promotions.

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