

RJR Nabisco's Cartoon Camel Promotes Camel Cigarettes to Children

Joseph R. DiFranza, MD; John W. Richards, Jr, MD; Paul M. Paulman, MD; Nancy Wolf-Gillespie, MA; Christopher Fletcher, MD; Robert D. Jaffe, MD; David Murray, PhD

Objectives.—To determine if RJR Nabisco's cartoon-theme advertising is more effective in promoting Camel cigarettes to children or to adults. To determine if children see, remember, and are influenced by cigarette advertising.

Design.—Use of four standard marketing measures to compare the effects of Camel's Old Joe cartoon advertising on children and adults.

Subjects.—High school students, grades 9 through 12, from five regions of the United States, and adults, aged 21 years and over, from Massachusetts.

Outcome Measures.—Recognition of Camel's Old Joe cartoon character, product and brand name recall, brand preference, appeal of advertising themes.

Results.—Children were more likely to report prior exposure to the Old Joe cartoon character (97.7% vs 72.2%; $P < .0001$). Children were better able to identify the type of product being advertised (97.5% vs 67.0%; $P < .0001$) and the Camel cigarette brand name (93.6% vs 57.7%; $P < .0001$). Children also found the Camel cigarette advertisements more appealing ($P < .0001$). Camel's share of the illegal children's cigarette market segment has increased from 0.5% to 32.8%, representing sales estimated at \$476 million per year.

Conclusion.—Old Joe Camel cartoon advertisements are far more successful at marketing Camel cigarettes to children than to adults. This finding is consistent with tobacco industry documents that indicate that a major function of tobacco advertising is to promote and maintain tobacco addiction among children.

(JAMA 1991;266:3149-3153)

WITH the number of US smokers declining by about 1 million each year, the tobacco industry's viability is critically dependent on its ability to recruit replacement smokers.¹ Since children and teenagers constitute 90% of all new smokers, their importance to the industry is obvious.² Many experts are convinced that the industry is actively promoting nicotine addiction among youth.^{3,4}

See also pp 3145, 3154, and 3185.

Spokespersons for the tobacco industry assert that they do not advertise to people under 21 years of age, the sole purpose of their advertising being to promote brand switching and brand loyalty

From the Department of Family Practice, University of Massachusetts Medical School, Fitchburg (Dr DiFranza); Department of Family Medicine, Medical College of Georgia, Augusta (Dr Richards); Department of Family Practice, University of Nebraska Medical Center, Omaha (Dr Paulman and Ms Wolf-Gillespie); Department of Family, Community and Emergency Medicine, University of New Mexico School of Medicine, Albuquerque (Dr Fletcher); Department of Family Practice, University of Washington, Seattle (Dr Jaffe); and Department of Epidemiology, University of Minnesota, Minneapolis (Dr Murray).

Reprint requests to University of Massachusetts Medical School, Department of Family Practice, 47 Ashby State Rd, Fitchburg, MA 01420 (Dr DiFranza).

among adult smokers.⁵⁻⁸ However, industry advertising expenditures cannot be economically justified on this basis alone.⁹ This study was therefore undertaken to determine the relative impact of tobacco advertising on children and adults.

There is abundant evidence that tobacco advertising influences children's images of smoking.¹⁰ In Britain, the proportion of children who gave "looks tough" as a reason for smoking declined after tough images were banned from cigarette advertisements.¹¹ Children as young as the age of 6 years can reliably recall tobacco advertisements¹² and match personality sketches with the brands using that imagery.¹⁰ In fact, cigarette advertising establishes such imagery among children who are cognitively too immature to understand the purpose of advertising.¹³ Subsequently, children who are most attuned to cigarette advertising have the most positive attitudes toward smoking, whether or not they already smoke.¹¹ Children who are more aware of, or who approve of, cigarette advertisements are more likely to smoke,^{10,11,13-16} and those who do smoke buy the most heavily advertised brands.^{14,17}

Historically, one brand that children

have not bought is Camel. In seven surveys, involving 3400 smokers in the seventh through 12th grades, conducted between 1976 and 1988 in Georgia, Louisiana, and Minnesota, Camel was given as the preferred brand by less than 0.5% (Saundra MacD. Hunter, PhD, Weihang Bao, PhD, Larry S. Webber, PhD, and Gerald S. Berenson, MD, unpublished data, 1991; D.M., unpublished data, 1991).^{14,18,19} In 1986, Camels were most popular with smokers over the age of 65 years, of whom 4.4% chose Camels, and least popular among those 17 to 24 years of age, of whom only 2.7% preferred Camels.²⁰

In 1988, RJR Nabisco launched the "smooth character" advertising campaign, featuring Old Joe, a cartoon camel modeled after James Bond and Don Johnson of "Miami Vice."²¹ Many industry analysts believe that the goal of this campaign is to reposition Camel to compete with Philip Morris' Marlboro brand for the illegal children's market segment. To determine the relative impact of Camel's Old Joe cartoon advertising on children and adults, we used four standard marketing measures.

1. Recognition. We compared the proportions of teenagers and adults aged 21 years and over who recognize Camel's Old Joe cartoon character.

2. Recall. We compared the ability of teenagers and adults to recall from a masked Old Joe advertisement the type of product being advertised and the brand name.

3. Appeal. We compared how interesting and appealing a series of Old Joe cartoon character advertisements were to teenagers and adults.

4. Brand preference. We compared brand preferences of teenaged smokers prior to the Old Joe cartoon character campaign with those 3 years into the campaign to determine if the campaign had been more effective with children or with adults, and to determine if Camel had been repositioned as a children's brand.

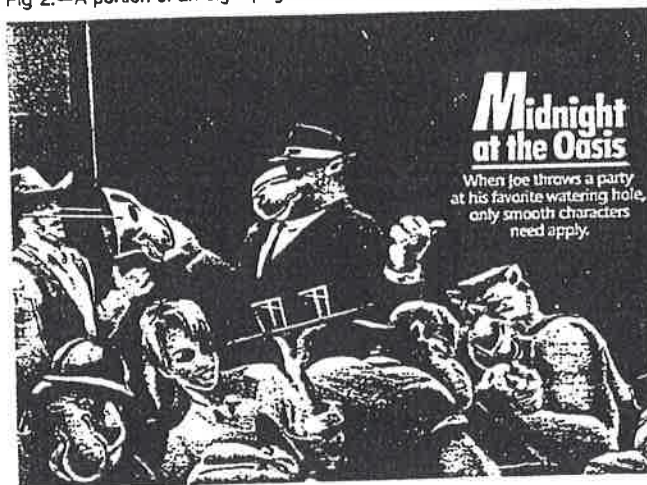
METHODS Subjects

Since adolescent brand preferences may vary from one geographic location to another (Saundra MacD. Hunter,



Fig 1.—Masked Old Joe Camel cartoon advertisement.

Fig 2.—A portion of an eight-page Camel advertising supplement.



PhD, Weihang Bao, PhD, Larry S. Weber, PhD, and Gerald S. Berenson, MD, unpublished data, 1991; D.M., unpublished data, 1991),^{14,18,19} we selected children from Georgia, Massachusetts, Nebraska, New Mexico, and Washington, representing five regions. One school in each state was selected based on its administration's willingness to participate. Schools with a smoking prevention program focused on tobacco advertising were excluded.

A target of 60 students in each grade, 9 through 12, from each school was set. In large schools, classes were selected to obtain a sample representative of all levels of academic ability. Students were told that the study concerned advertising and were invited to participate anonymously.

Since adult brand preferences are available from national surveys, adult subjects were recruited only at the Massachusetts site. All drivers, regardless of age, who were renewing their licenses at the Registry of Motor Vehicles on the days of the study during the 1990-1991 school year were asked to participate. Since licenses must be renewed in person, this is a heterogeneous population.

Materials

Seven Camel Old Joe cartoon character advertisements were obtained from popular magazines during the 3 years prior to the study. One ad was masked to hide all clues (except Old Joe) as to the product and brand being advertised (Fig 1).

The survey instrument collected demographic information and information on past and present use of tobacco, including brand preference. Children were

considered to be smokers if they had smoked one or more cigarettes during the previous week. Previously validated questions were used to determine children's intentions regarding smoking in the next month and year²² and their attitudes toward the advertised social benefits of smoking.^{23,24}

Subjects rated the ads as "cool or stupid" and "interesting or boring." Subjects were asked if they thought Old Joe was "cool" and if they would like to be friends with him. Each positive response to these four questions was scored as a one, a negative response as a zero. The "appeal score" was the arithmetic sum of the responses to these four questions, with the lowest possible score per respondent being a zero and the highest a four.

Procedure

Subjects were first shown the masked ad and asked if they had seen the Old Joe character before. They were then asked to identify the product being advertised and the brand name of the product. Subjects who could not answer these questions were required to respond "Don't know" so they would not be able to write in the correct answer when the unmasked advertisements were shown. The subjects were then shown, one at a time, the six unmasked advertisements and asked to rate how the advertisements and the Old Joe cartoon character appealed to them. Subjects then completed the remainder of the survey instrument.

Adolescent brand preference data from this study were compared with the data obtained by seven surveys completed prior to the kickoff of Camel's

Old Joe cartoon character campaign early in 1988 (Saundra MacD. Hunter, PhD, Weihang Bao, PhD, Larry S. Weber, PhD, and Gerald S. Berenson, MD, unpublished data, 1991; D.M., unpublished data, 1991).^{14,18,19}

Tests of significance were made using the Two-tailed Student's *t* Test for continuous data and the χ^2 and Fisher's Exact Test for discrete data. A *P* value of less than .05 was used to define statistical significance.

The study was conducted during the 1990-1991 school year.

RESULTS

A total of 1060 students and 491 subjects from the Registry of Motor Vehicles were asked to participate. Usable surveys were obtained from 1055 students (99%) and 415 license renewal applicants (84.5%). Seventy drivers were under 21 years of age, leaving 345 adults aged 21 years or older. Students ranged in age from 12 to 19 years (mean, 15.99 years) and adults from 21 to 87 years (mean, 40.47 years). Females represented 51.0% of the students and 54.8% of the adults.

Children were much more likely than adults to recognize Camel's Old Joe cartoon character (97.7% vs 72.2%; $P < .0001$) (Table). It is not plausible that the children were simply saying they had seen Old Joe when they had not, since they also demonstrated a greater familiarity with the advertisement on the two objective measures.

When shown the masked advertisement, the children were much more successful than the adults in identifying the product being advertised (97.5% vs 67.0%; $P < .0001$) and the Camel brand

Comparison of Student and Adult Responses to Camel's Old Joe Cartoon Character Advertisements

	Georgia Students	Massachusetts Students	Nebraska Students	New Mexico Students	Washington Students	Total Students*	Total Adults†
No. of subjects‡	212	224	232	210	177	1055	345
Have seen Old Joe, %	98.1	99.6	96.6	95.7	98.9	97.7§	72.2§
Know product, %	95.3	100	97.8	95.7	98.9	97.5§	67.0§
Know brand, %	92.9	97.3	91.8	90.0	96.6	93.6§	57.7§
Think ads look cool, %	62.4	54.1	57.4	61.2	55.1	58.0§	39.9§
Ads are interesting, %	83.4	73.9	77.3	62.3	69.9	73.6§	55.1§
Like Joe as friend, %	46.2	31.1	33.9	31.4	32.6	35.0§	14.4§
Think Joe is cool, %	51.0	38.6	44.1	40.9	40.0	43.0§	25.7§
Mean appeal score	2.4	2.0	2.1	1.9	2.0	2.1§	1.4§
Smoke Camel (%)‡	29/76 (38.2)	12/55 (21.8)	13/52 (25.0)	23/43 (53.5)	9/35 (25.7)	86/261 (33.0)§	8/92 (8.7)§

*Age range, 12 to 19 years.

†Age range, 21 to 87 years.

‡This is the total number of subjects in each category; due to incomplete questionnaires, respondents for some questions may be fewer.

§ $P < .0001$.

||See text for explanation.

‡Percentage of smokers who identify Camel as their favorite brand.

name (93.6% vs 57.7%; $P < .0001$). Even when the analysis was limited to those subjects who were familiar with the Old Joe cartoon character, children were still more likely than adults to remember the product (98.6% vs 89.6%; $P < .0001$) and the Camel brand name (95.0% vs 79.1%; $P < .0001$). This confirms that Old Joe cartoon advertisements are more effective at communicating product and brand name information to children than to adults.

Because Massachusetts adults may not be representative of adults in the other four states where children were surveyed, the above analyses were repeated comparing only Massachusetts children and adults. In all cases the differences between adults and children were significant and of even greater magnitude ($P < .0001$), excluding the possibility that the above findings were due to a lighter level of advertising exposure in the Massachusetts area.

On all four measures, the children found the Camel cartoon advertisements more appealing than did the adults. Children were more likely to think the advertisements looked "cool" (58.0% vs 39.9%; $P < .0001$) or "interesting" (73.6% vs 55.1%; $P < .0001$). More of the children thought Old Joe was "cool" (43.0% vs 25.7%; $P < .0001$) and wanted to be friends with him (35.0% vs 14.4%; $P < .0001$).

The brand preference data revealed a dramatic reversal in the market segment pattern that existed prior to Camel's Old Joe cartoon character campaign. Camel was given as the preferred brand by 32.8% of children up to the age of 18 years who smoked, 23.1% of Massachusetts adult smokers aged 19 and 20 years, and 8.7% of those 21 years of age and over. The figures for the Massachusetts adults were significantly higher than the national market share for Camel, 4.4%,²⁵ suggesting that Massachusetts adults

may be more familiar with the Old Joe Camel campaign than adults in general. Camel cigarettes are now most popular with children and progressively less popular with older smokers.

About equal proportions of adults (28.2%) and children (29.0%) reported some current cigarette use, making it unlikely that this factor influenced any of the above findings. Although there were some statistically significant differences in the responses of children from different regions, these were not the focus of this study (Table).

When compared with nonsmokers, children who were currently smoking gave higher approval ratings to the advertisements (mean approval score of 2.8 for smokers vs 1.8 for nonsmokers; $P < .0001$). Approving attitudes toward cigarette advertisements seem to precede actual smoking. Among the non-smoking children, those who either were ambivalent about their future smoking intentions or expressed a definite intention to smoke were more approving of the advertisements than those children who intended not to smoke (mean approval scores of 2.6 and 1.8, respectively; $P < .001$).

Children were more likely to smoke if they believed that smoking is pleasurable (relative risk [RR], 6.6; $P < .0001$) and that it makes a person more popular (RR, 2.0; $P < .0001$), and attractive (RR, 2.5; $P < .0001$), all common themes in cigarette advertising. Among nonsmoking children, those who believed that smoking would make them more attractive were eight times more likely to express an intention to smoke in the next year ($P < .001$).

COMMENT

Our data demonstrate that in just 3 years Camel's Old Joe cartoon character had an astounding influence on children's smoking behavior. The propor-

tion of smokers under 18 years of age who choose Camels has risen from 0.5% to 32.8%. Given that children under 18 years account for 3.3% of all cigarette sales,²⁶ and given a national market share of 4.4% for Camel,²⁵ we compute that Camel's adult market share is actually 3.4%. Given a current average price of 153.3 cents per pack,²⁷ the illegal sale of Camel cigarettes to children under 18 years of age is estimated to have risen from \$6 million per year prior to the cartoon advertisements to \$476 million per year now, accounting for one quarter of all Camel sales.

From both a legal and moral perspective, it is important to determine if the tobacco industry is actively promoting nicotine addiction among youngsters. However, from a public health perspective it is irrelevant whether the effects of tobacco advertising on children are intentional. If tobacco advertising is a proximate cause of disease, it must be addressed accordingly. In the following discussion we will examine the evidence produced by this study, the marketing practices of the tobacco industry as a whole as revealed in industry documents, and the marketing practices used by RJR Nabisco, in particular, to promote Camel cigarettes. The quotations cited below are from tobacco industry personnel and from documents obtained during litigation over Canada's ban of tobacco advertising.

Our data show that children are much more familiar with Camel's Old Joe cartoon character than are adults. This may be because children have more exposure to these advertisements, or because the advertisements are inherently more appealing to youngsters. The tobacco industry has long followed a policy of preferentially placing selected advertisements where children are most likely to see them.^{3,23,29} For example, print advertisements are placed in magazines

"specifically designed to reach young people."²⁹ Paid cigarette brand promotions appear in dozens of teen movies.³⁰ Camels are featured in the Walt Disney movies *Who Framed Roger Rabbit?* and *Honey I Shrank the Kids*.

The industry targets poster advertisements for "key youth locations/meeting places in the proximity of theaters, records [sic] stores, video arcades, etc."²⁹ It is common to see Old Joe poster advertisements in malls, an obvious gathering spot for young teens. Billboards, T-shirts, baseball caps, posters, candy cigarettes, and the sponsorship of televised sporting events and entertainment events such as the Camel "Mud and Monster" series are all used to promote Camels. All are effective marketing techniques for reaching children.^{3,23,31-34}

The fact that children are much more attracted to the themes used in the Old Joe cartoon character advertisements may also explain why they are more familiar with them. The themes used in tobacco advertising that is targeted at children are the result of extensive research on children conducted by the tobacco industry to "learn everything there was to learn about how smoking begins."³⁵⁻³⁸ Their research identifies the major psychological vulnerabilities of children, which can then be exploited by advertising to foster and maintain nicotine addiction.

The marketing plan for "Export A" cigarettes describes their "psychological benefits": "Export smokers will be perceived as . . . characterized by their self-confidence, strength of character and individuality which makes them popular and admired by their peers."³⁹

Consider a child's vulnerability to peer pressure. According to one industry study, "The goading and taunting that exists at the age of 11 or 12 to get non-smokers to start smoking is virtually gone from the peer group circles by 16 or 17."^{35,36} If peer influence is virtually gone by the age of 16 years, who is the intended target group for RJR-MacDonald's Tempo brand, described as individuals who are "[e]xtremely influenced by their peer group"?⁴⁰ (RJR-MacDonald is a wholly owned subsidiary of RJR Nabisco.) The recommended strategy for promoting this brand is the "[m]ajor usage of imagery which portrays the positive social appeal of peer group acceptance."⁴⁰ In one Camel advertisement, a cowboy (a Marlboro smoker?) is being denied admission to a party because "only smooth characters [ie, Camel smokers] need apply" (Fig 2). It appears that Camel advertisements are also targeted at individuals who are influenced by their peer group.

Children use tobacco, quite simply,

because they believe the benefits outweigh the risks. To the insecure child, the benefits are the "psychological benefits" promised in tobacco advertisements: confidence, an improved image, and popularity.^{22,40,41} Children who believe that smoking will make them more popular or more attractive are up to 4.7 times more likely to smoke.^{23,24}

Previous research makes it clear that children derive some of their positive images of smoking from advertising.^{11,13,34} Children who are aware of tobacco advertising, and those who approve of it, are also more likely to be smokers.^{10,11,13-16} Children's favorable attitudes toward smoking and advertising precede actual tobacco use and correlate with the child's intention to smoke, suggesting that the images children derive from advertising encourage them to smoke.⁴² Our data confirm these earlier findings. Among nonsmoking children, those who were more approving of the Old Joe advertisements were more likely either to be ambivalent about their smoking intentions or to express a definite intention to smoke. Nonsmoking children who believed that smoking would make them more popular were eight times more likely to express an intention to smoke in the future.

Since a child's intention to smoke is considered to be a good predictor of future smoking behavior,⁴³ it seems reasonable to conclude that a belief in the psychological benefits of smoking, derived from advertising, precedes, and contributes to, the adoption of smoking.

There are other lines of evidence indicating that tobacco advertising increases the number of children who use tobacco. In countries where advertising has been totally banned or severely restricted, the percentage of young people who smoke has decreased more rapidly than in countries where tobacco promotion has been less restricted.⁴⁴ After a 24-year decline in smokeless tobacco sales, an aggressive youth-oriented marketing campaign has been followed by what has been termed "an epidemic" of smokeless tobacco use among children, with the average age for new users being 10 years.^{45,46}

Many of the tobacco industry documents cited above provide abundant evidence that one purpose of tobacco advertising is to addict children to tobacco. In the words of one advertising consultant, "Where I worked we were trying very hard to influence kids who were 14 to start to smoke."⁴⁷ Two marketing strategy documents for Export A also reveal that it is the youngest children they are after.^{48,49} "Whose behavior are we trying to affect?: new users."⁴⁸ The goal is "[o]ptimizing product and user

imagery of Export 'A' against young starter smokers."⁴⁹ The average age for starter smokers is 13 years.⁵⁰

The industry also researches the best ways of keeping children from quitting once they are "hooked on smoking."⁵⁶ The purpose of one tobacco industry study was to assess the feasibility of marketing low-tar brands to teens as an alternative to quitting.⁵⁶ The study found that for boys, "[t]he single most commonly voiced reason for quitting among those who had done so . . . was sports."⁵⁶ The tobacco industry's sponsorship of sporting events, such as the Camel Supercross motorcycle race, should be seen in relation to its need to discourage teenage boys from quitting. Similarly, its emphasis on slimness serves as a constant reinforcement of teenage girls' fears of gaining weight as a result of quitting.

Our study provides further evidence⁵¹ that tobacco advertising promotes and maintains nicotine addiction among children and adolescents. A total ban of tobacco advertising and promotions, as part of an effort to protect children from the dangers of tobacco,^{52,53} can be based on sound scientific reasoning.

This project was supported by grants from the University of Massachusetts Medical Center, the Massachusetts chapter of the American Cancer Society, and Doctors Ought to Care.

We would like to thank the participating schools and the following for their contributions to this study: the Massachusetts Registry of Motor Vehicles, Bruce Churchill, MD, Della C. de Baca, Sharon DiFranza, Sandra MacD. Hunter, Melinda Raboin, MD, Mary Sherhart, and the Canadian Council on Smoking and Health.

References

1. Pierce JP, Fiore MC, Novotny TE, et al. Trends in cigarette smoking in the United States—projections to the year 2000. *JAMA*. 1989;261:61-65.
2. Kandel DB, Logan JA. Patterns of drug use from adolescence to young adulthood, I: periods of risk for initiation, continued use, and discontinuation. *Am J Public Health*. 1984;74:660-666.
3. Tye JB. RJ Reynolds targets teens with sophisticated marketing campaign. *Tobacco Youth Rep*. 1987;2(1):1-16.
4. Borsch B. How Madison Avenue seduces children. *Pediatr Management*. March 1991:14-24.
5. *Voluntary Initiatives of a Responsible Industry*. Washington, DC: The Tobacco Institute; 1983.
6. *Cigarette Advertising Code*. Washington, DC: The Tobacco Institute; 1964:1-8.
7. *Code of Cigarette Sampling Practices*. Washington, DC: The Tobacco Institute; 1971:1-4.
8. RJ Reynolds Tobacco Company advertisement. *Times*. April 9, 1984:91.
9. Tye JB, Warner KE, Glantz SA. Tobacco advertising and consumption: evidence of a causal relationship. *J Public Health Policy*. 1987;8:492-508.
10. Aitken PP, Leather DS, O'Hagan FJ, Squair SI. Children's awareness of cigarette advertisements and brand imagery. *Br J Addict*. 1987;82:615-622.
11. Chariton A. Children's advertisement-awareness related to their views on smoking. *Health Educ J*. 1986;45(2):75-78.
12. Aitken PP, Leather DS, O'Hagan FJ. Children's perceptions of advertisements for cigarettes. *Soc Sci Med*. 1985;21:785-797.

13. Aitken PP, Leather DS, Squair SI. Children's awareness of cigarette brand sponsorship of sports and games in the UK. *Health Educ Res.* 1986;1:203-211.
14. Goldstein AO, Fischer PM, Richards JW, Cretin BA. Relationship between high school student smoking and recognition of cigarette advertisements. *J Pediatr.* 1987;110:488-491.
15. Chapman S, Fitzgerald B. Brand preference and advertising recall in adolescent smokers: some implications for health promotion. *Am J Public Health.* 1982;72:491-494.
16. Alexander HM, Callcott R, Dobson AJ, et al. Cigarette smoking and drug use in schoolchildren. IV: factors associated with changes in smoking behavior. *Int J Epidemiol.* 1983;12:59-66.
17. McNeill AD, Jarvis MJ, West RJ. Brand preferences among schoolchildren who smoke. *Lancet.* 1985;2:271-272.
18. Hunter SM, Webber LS, Berenson GS. Cigarette smoking and tobacco usage behavior in children and adolescents: Bogalusa Heart Study. *Prev Med.* 1980;9:701-712.
19. Hunter SM, Croft JB, Burke GL, Parker FC, Webber LS, Berenson GS. Longitudinal patterns of cigarette smoking and smokeless tobacco use in youth: the Bogalusa Heart Study. *Am J Public Health.* 1986;76:193-195.
20. Centers for Disease Control. Cigarette brand use among adult smokers—United States, 1986. *MMWR.* 1990;39:665-673.
21. Bird L. Joe Smooth for President. *Adweek's Marketing Week.* May 20, 1991:20-22.
22. Barton J, Chassin L, Presson CC. Social image factors as motivators of smoking initiation in early and middle adolescence. *Child Dev.* 1982;53:1499-1511.
23. McAlpine KE, DiFranza J. Social attitudes of children to cigarette smoking. *Am Assoc Adv Sci.* 1988;88:215. Abstract 725.
24. DiFranza JR, Murphy PJ, Ellefsen K. Counteradvertising: an image oriented school smoking prevention program. Presented at the annual meeting of the Society of Teachers of Family Medicine; May 8, 1986; San Diego, Calif.
25. PM keeps cig lead. *Advertising Age.* December 3, 1990:56.
26. DiFranza JR, Tyē JB. Who profits from tobacco sales to children? *JAMA.* 1990;263:2784-2787.
27. *The Tax Burden of Tobacco.* Washington, DC: The Tobacco Institute; 1990;25:109.
28. Davis RM. Current trends in cigarette advertising and marketing. *N Engl J Med.* 1987;316:725-732.
29. RJR-MacDonald Document 286, p 1980-1 (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
30. Tyē JB. Cigarette ads in kid's movies. *Tobacco Youth Rep.* 1989;4(1):1-2.
31. Blum A. Medicine vs Madison Avenue: fighting smoke with smoke. *JAMA.* 1980;244:739-740.
32. Klein JD, Forehand B, Oliveri J, Patterson CJ, Kupersmidt JB, Strecher V. Candy cigarettes: do they encourage children's smoking? *Pediatrics.* In press.
33. Blum A. The Marlboro Grand Prix: circumvention of the television ban on tobacco advertising. *N Engl J Med.* 1991;324:913-917.
34. Ledwith F. Does tobacco sports sponsorship on television act as advertising to children? *Health Educ J.* 1984;43:35-38.
35. *Report for Imperial Tobacco Ltd.* Montreal, Quebec: Kwechansky Marketing Research Inc; 1977. Project 16 (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
36. *Report for Imperial Tobacco Ltd.* Kwechansky Marketing Research Inc; 1982. Project PLUS/MINUS (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
37. *Youth 1987.* The Creative Research Group Ltd; 1987. Prepared for RJR-MacDonald (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
38. *Report to RJR-MacDonald Inc: Third Family Qualitative Concept Test.* Toronto, Ontario: Cogemic Marketing; 1981 (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
39. RJR-MacDonald. Export Family Strategy Document, 1982 (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
40. J. Walter Thompson. Report to RJR-MacDonald: Third Family Creative Direction Recommendation, 1984. (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
41. Chassin L, Presson CC, Sherman SJ, Olshavsky RW. Self-images and cigarette smoking in adolescence. *Personality Soc Psychol Bull.* 1981;7:670-676.
42. Aitken PP, Leather DS, Squair SI. Children's opinions on whether or not cigarette advertisements should be banned. *Health Educ J.* 1986.
43. *Tenage Smoking, Immediate and Long-term Patterns.* Washington, DC: National Institute of Education; 1979. US Dept of Health, Education, and Welfare, contract 400-79-0010.
44. Toxic Substances Board. *Health or Tobacco: An End to Tobacco Advertising and Promotion.* Wellington, New Zealand: Dept of Health; 1989.
45. US Dept of Health and Human Services, Public Health Service. *The Health Consequences of Using Smokeless Tobacco: A Report of the Advisory Committee to the Surgeon General.* Bethesda, Md: National Institutes of Health; 1986. NIH 86-2874.
46. Connolly GN, Winn DM, Hecht SS, Henningfield JE, Walker B, Hoffman D. The reemergence of smokeless tobacco. *N Engl J Med.* 1986;314:1020-1027.
47. *Report to Congress Pursuant to the Cigarette Smoking Act 1973: An Action Oriented Research Program for Discovering and Creating the Best Possible Image for Viceroy Cigarettes, Ted Bates Advertising, 1975.* Washington, DC: Federal Trade Commission; 1975. Document AD11345.
48. RJR-MacDonald. Export A Brand, Long Term Strategy (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
49. RJR-MacDonald. Export Family Strategy Document (*RJR-MacDonald Inc & Imperial Tobacco v The Attorney General of Canada*).
50. Johnston LD, O'Malley PM, Bachman JG. *Use of Licit and Illicit Drugs by America's High School Students: 1975-1984.* Rockville, Md: National Institute on Drug Abuse; 1985.
51. Mintz M. Marketing tobacco to children. *The Nation.* May 6, 1991:cover, 591, 592, 594, 596.
52. Media advertising for tobacco products. *JAMA.* 1986;255:1033.
53. Blasi V, Monaghan HP. The First Amendment and cigarette advertising. *JAMA.* 1986;256:502-509.