

Adolescents' Responses to Cigarette Advertisements for Five "Youth Brands" and One "Adult Brand"

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Almost all smoking initiation takes place during adolescence, and the appeal of cigarette advertising is frequently proposed as one of the reasons adolescents begin smoking, but few studies have investigated adolescents' responses to cigarette ads. This study examined responses to cigarette advertisements among 400 adolescents ages 12 to 17 years in Arizona and Washington, who were surveyed in shopping malls. Adolescents were presented with two ads for each of five youth brands (Marlboro™, Newport™, Camel™, Kool™, and Winston™) and one ad for an adult brand (Merit™), and were asked how often they had seen the ad, how much they liked the ad, and whether or not the ad made smoking more appealing. A substantial proportion of adolescents, especially smokers, liked the ads for the youth brands and believed the ads made smoking more appealing. The ads for Marlboro and the new Camel and Winston ads were especially attractive to adolescents. In contrast, few adolescents liked the ad for the adult brand and few believed that it made smoking more appealing.

In recent years, the issue of adolescents' responses to cigarette advertising has been widely discussed and hotly debated, within academia as well as in the broader public forum. Joe Camel™, the cartoon character created by RJR-Nabisco in 1987 to promote Camel cigarettes, was widely criticized for promoting smoking among young people. Some scholars presented evidence indicating that Joe Camel was highly popular among young people, and they interpreted this evidence as demonstrating that Joe

Camel encouraged young people to take up and maintain smoking (Arnett & Terhanean, 1998; DiFranza et al., 1991; Fischer, Schwartz, Richards, Goldstein, & Rojas, 1991). RJR-Nabisco disputed this evidence, and other scholars also called into question the extent to which the evidence indicated that Joe Camel promoted youth smoking (Dubow, 1992; Henke, 1995; Mizerski, 1995). Nevertheless, in response to public criticism, as well as litigation in the state of California, in 1997 RJR-Nabisco withdrew the Joe Camel character from their cigarette advertisements.

In 1998, the issue of adolescents' responses to cigarette advertisements was central to the settlement of litigation brought by attorneys general from over 40 states against the major tobacco companies for compensation of the states' health-care costs due to illnesses caused by smoking. In the settlement, the tobacco companies agreed to a permanent ban on billboard cigarette advertisements, so that children and adolescents would not be exposed to such ads. They also agreed to fund a massive antismoking campaign directed toward adolescents at the peak ages (10 to 17) for smoking initiation. Furthermore, the tobacco companies agreed not to target minors "directly or indirectly" with any future cigarette advertisements—although they continued to deny that any past advertisements had targeted minors.

Three main types of research have been conducted concerning adolescents and cigarette advertising: content analyses, epidemiological studies, and direct studies of adolescents' responses. Content analyses have found that cigarette advertisements in magazines frequently present images with youthful themes (Pollay, 1993). For example, Albright et al. (1988) analyzed 778 cigarette ads that appeared in magazines during 1960 to 1985 and found that cigarette ads in magazines with relatively high youth readership (under age 18) were more likely than other cigarette ads to feature images of risk-taking and youthful recreation (e.g., surfing). Similarly, Basil et al. (1991) analyzed 1,171 cigarette ads in magazines and found that cigarette ads in youth magazines were especially likely to feature youthful recreation and erotic-romantic contact. Also, in an analysis of 1,100 ads appearing from 1954 to 1986, King, Reid, Moor, and Ringold (1991) found that the most frequent themes of cigarette ads in magazines with relatively high youth readership were independence and recreation.

Several epidemiological studies have tracked the relation between specific cigarette advertising campaigns and adolescent smoking. For example, Pollay et al. (1996) traced tobacco companies' brand-specific advertising expenditures in relation to cigarette brand choice among adolescents (ages 12–18) and adults over the period 1979 to 1993. They concluded that the effect of advertising on brand choice was three times as strong for adolescents as for adults. Also, Pierce, Lee, and Gilpin, (1994; see also Gilpin & Pierce, 1997) used data from the National Health Interview Surveys to con-

struct rates of smoking initiation during the period 1944 to 1988. The most notable finding of the study was that a sharp rise in smoking initiation among females 14 to 17 years of age took place during 1967 to 1973, when three new brands directed at females were introduced (Virginia Slims™, Silva Thins™, and Eve™). There was no corresponding rise among females 18 to 20 years old or 10 to 13 years old, or among males.

Only a few studies have explored adolescents' responses to cigarette ads more directly, by asking them their opinions of the ads and how they perceived the ads in relation to the appeal of smoking. (The furor over the Joe Camel campaign focused mainly on studies of the responses of young children, not adolescents; DiFranza et al., 1991; Henke, 1995; Mizerski, 1995). In a study by Huang, Burton, Howe, and Sosin, (1992), 224 seventh- and eighth-grade adolescents were shown 13 print advertisements (for nine different brands), and for each ad they indicated on a questionnaire, "How much do you like the advertisement?" and "If you smoked, would you like to buy these cigarettes?" They also rated each ad model for the presence of 19 character attributes (cool, fun, tough, smart, etc.). The two ads featuring Joe Camel were the most popular ads, liked by over 70% of adolescents. Also popular were the Marlboro ads, and ads for three brands featuring young, attractive models (Salem™, Capri™, and Virginia Slims). There were significant correlations between liking an ad and indicating that the brand would be purchased if the adolescent smoked. The findings on character attributes indicated that: Joe Camel was perceived as cool, fun, macho, and tough; the Marlboro Man was perceived as independent, mature, macho, and tough; and the models in the ads for Salem, Capri, and Virginia Slims were perceived as slim, mature, and good looking.

Arnett and Terhanian (1998) examined responses to cigarette advertisements among 534 adolescents in grades 6 through 12 from seven schools in four states. Adolescents were shown one print ad for each of five cigarette brands (Marlboro, Camel, Kool, Benson & Hedges™, and Lucky Strike™), and were asked to indicate on a structured questionnaire how many times they had seen the ad (or one almost like it), how much they liked the ad, whether they thought the ad made smoking more appealing, and whether the ad made them want to smoke cigarettes of that brand. The ads for Marlboro and Camel were more likely than the ads for the other brands to be seen, liked, and viewed as making smoking appealing, and to make adolescents want to smoke cigarettes of that brand. Over 95% of the adolescents had seen an ad featuring Joe Camel or the Marlboro Man at least once, and over 50% had seen these ads six or more times. Nearly half the adolescents believed that the Joe Camel ad made smoking more appealing, and 40% believed that the Marlboro Man ad made smoking more ap-

pealing. Adolescent smokers were more likely than nonsmokers to believe the ads for Camel and Marlboro made smoking more appealing.

Although studies that directly investigated adolescents' responses to cigarette ads have been few, there is indirect evidence that adolescents respond strongly to some cigarette ads. The three most heavily promoted brands (Centers for Disease Control, 1994)—Marlboro, Newport, and Camel—are also the three brands most popular among adolescents. These three brands dominate 85% of the adolescent market for cigarettes (Marlboro, 60%; Newport, 18%; and Camel, 7%; *Monitoring the Future*, 1999). In contrast, the adult market is highly fragmented, with only Marlboro having a market share (22%) above single digits (Cummings, Hyland, Pechacek, Orlandi, & Lynn, 1997). This suggests that adolescents are affected more than adults by cigarette advertising and promotion.

From a developmental perspective, two cigarette ad themes that might be especially appealing to adolescents are independence and peer acceptance. Marlboro, by far the most popular brand among adolescents, rose to its dominant position during the 1960s on the basis of the ad campaign featuring the Marlboro Man (Hilts, 1996), who represents an ideal of independence and self-sufficiency. Newport, which has long been the second most popular brand among adolescents (Pollay et al., 1996), has had for many years an ad campaign featuring young people frolicking in recreational settings, representing an ideal of being accepted by a group of attractive peers. Camel, which previously had virtually no market share among adolescents, rose steeply in popularity among adolescents on the strength of the ad campaign featuring Joe Camel, who was portrayed as both independent and highly popular with others. Ads for these three brands and others may appeal to adolescents as a source of materials for identity development, that is, as ideals for the characteristics they would like to have themselves—including independence, peer acceptance, and physical attractiveness.

The present study was intended to contribute to the sparse literature on adolescents' responses to cigarette advertisements, and to extend the investigation of this topic to more recent cigarette ads. Additional information is needed about adolescents' responses to cigarette ads, to inform public policies concerning regulation of the content and placement of the ads. Research on adolescents' responses to cigarette ads may contribute to an understanding of why nearly all smoking initiation takes place during adolescence (i.e., ages 10 to 17; U.S. Dept. of Health and Human Services, 1994). Also, although the themes in ads for youth brands such as Marlboro and Newport have been consistent for many years, the themes for the three other major youth brands Camel, Kool, and Winston, were new as of 1997, and information regarding how adolescents respond to these ads has not yet been obtained.

In the present study, adolescents' responses to ads were investigated for the five brands most popular among adolescents (ages 12 to 17). In order of popularity, those brands are Marlboro, Newport, Camel, Kool, and Winston (Centers for Disease Control, 1994; see also *Monitoring the Future*, 1999). For comparison, an ad for an "adult brand"—Merit—was also included. There were three central hypotheses: (1) that adolescents would respond more favorably to ads for the youth brands than for the adult brand; (2) that adolescent smokers would respond more favorably than adolescent nonsmokers to the ads for the youth brands, but smoker and nonsmoker response to the adult brand would be the same; and (3) that the ads for Marlboro would be viewed more favorably than the ads for Newport, reflecting the high appeal of Marlboro, the most popular cigarette among adolescents. No hypothesis was made concerning the appeal of the Camel, Kool, and Winston ads relative to the ads for the other youth brands, because the current advertising campaigns for these three brands had been running only since mid-1997, and this was the first study to investigate adolescents' responses to these ads.

METHOD

Participants and Procedure

Data were collected in two states, Arizona and Washington. In Arizona, the participants were 200 adolescents, 12 to 17 years of age (20, age twelve; 32, age thirteen; 40, age fourteen; 46, age fifteen; 36, age sixteen; and 26, age seventeen). There were 99 males and 101 females. Data from half of the participants in Arizona were collected in Phoenix; the other half, in Tucson. Seventy-five percent of the participants in Arizona were European American, 13% were Latino, 4% were African American, and 8% were from other ethnic groups. In the state of Washington, the participants were also 200 adolescents, 12 to 17 years of age (28, age twelve; 34, age thirteen; 36, age fourteen; 29, age fifteen; 37, age sixteen; and 36, age seventeen). There were 89 males and 111 females. Data from half of the adolescents in Washington were collected in Seattle; the other half in Spokane. Among the adolescents in Washington, 80% were European American, 5% were Asian American, 5% were Latino, 3% were African American, and 7% were from other ethnic groups. In both states, the distribution of participants across ethnic groups reflected the ethnic composition of the state.

Socioeconomic status (SES), as measured by mother's educational attainment, varied widely among participants in both states. For the two states combined, 28% of adolescents had mothers with a high school education or less, 21% had mothers with some post-high school education

who were short of a college degree, 36% had mothers with a college degree, and 15% had mothers with a post-college education.

Data were collected using the consumer intercept method (DiFranza, Eddy, Brown, Ryan, & Bogavlensky, 1994). People who appeared to be in the target age range were approached in shopping malls and asked if they would be willing to take part in the study. This method was used to make it more likely to include adolescents who had dropped out of school or who attended sporadically; in previous studies, such adolescents have been found to have especially high rates of smoking (U.S. Dept. of Health and Human Services, 1994). Once it was confirmed that potential participants met the age criterion, they were offered a \$10 voucher toward purchases at a mall music store in return for their participation. In both Arizona and Washington, over 80% of the adolescents who were approached agreed to participate. The questionnaire took about 15 to 20 min to complete. All data were collected by research assistants who were blind to the hypotheses of the study.

Measures

The first part of the questionnaire contained various questions about smoking behavior and attitudes, with most of the items taken from previous studies (Pierce, Choi, Gilpin, Farkas, & Berry, 1998). Smoking/non-smoking status was measured by asking participants whether they had smoked one or more cigarettes within the past 30 days. This measure of smoking status has been used frequently in research on smoking (U.S. Dept. of Health & Human Services, 1994). Smokers were also asked to indicate their favorite brand.

The second part of the questionnaire asked participants' to respond to various cigarette advertisements. Research assistants presented participants with two magazine advertisements for each of the five brands most likely to be smoked by adolescents 12 to 17 years of age: Marlboro, Newport, Camel, Kool, and Winston. The determination of the five top "youth" brands was based on national data from the Centers for Disease Control (1994).

Participants were also shown a magazine ad for an adult comparison brand, Merit. Merit was chosen as the adult comparison brand because it has been identified as a brand that has substantially more market share among adults than among adolescents (King, Siegel, Celebucki, & Connolly, 1998; Pollay et al., 1996). Merit was also the adult brand most advertised in the magazines from which the ads for this study were selected.

Ads were taken from magazines that were available at newsstands in May 1998. To identify the ads most likely to be seen by adolescents, ciga-

rette ads were taken from the top 15 magazines in terms of the *number* of adolescent readers (ages 12–17) and the top 15 magazines in terms of the *percentage* of adolescent readers, as reported in King et al. (1998). Because 7 magazines were in both categories, ads were taken from a total of 23 magazines, representing a wide variety of interests and topics (e.g., *Rolling Stone*, *Popular Science*, *Hot Rod*, *Mademoiselle*, and *Sport*).

A total of 58 cigarette ads appeared in the 23 magazines (41 different ads, some of which appeared in more than 1 magazine)—a rate of 2.5 ads per magazine. Thirty of the ads (26 different ads) were for one of the top five youth brands. In the present study, two ads were included for each of the top five youth brands. For Camel and Kool, there were only two different ads in the magazines for each brand, so both ads were included. For Newport, there were three ads, one featuring three young African American models and two ads featuring two young European American models. The ad featuring the young African American models was included because Newport is the most popular cigarette among African American adolescents (U.S. Dept. of Health and Human Services, 1994). The other Newport ad was chosen randomly. Eleven different Marlboro ads and eight different Winston ads appeared in the magazines. The two ads for each of these brands were chosen in order to represent different types of magazine readership for each brand: *Rolling Stone* and *Sport* for Marlboro, *Rolling Stone* and *Popular Science* for Winston. For Merit, there were five different ads in the magazines. The one used in the study was chosen randomly.

The ads chosen can be described briefly as follows:

- Marlboro A: Cowboy crouched by campfire lighting cigarette from burning stick. No caption.
- Marlboro B: Cowboy on horse herding other horses. No caption.
- Newport A: Young male and young female climbing artificial rock wall. Caption: "Newport Pleasure! Fire it up!"
- Newport B: Three young African American people, one in hot tub. Caption: "Newport Pleasure! Fire it up!"
- Camel A: "Farmer's daughter" scene—young man running out of house with unbuttoned shirt chased by farmer with gun; blonde woman can be seen through window, in bed. Caption: "Mighty Tasty!"
- Camel B: Woman holding martini, legs crossed. Caption: "What you're looking for."
- Kool A: Hand holding cigarette. Caption: "Nu Look."
- Kool B: Young woman in bar looking at man holding cigarette and pack of Kools. Caption: "B Kool."

Winston A: Young, dark-haired, bare-shouldered woman. Caption: "Do blondes have more fun? If you can find a real one, ask her."

Winston B: Young woman holding cigarette. Caption: "Yeah, I got a tattoo. And no, you can't see it."

Merit: Young woman in rocking chair on porch. Caption: "You can do it!"

For each ad, adolescents were asked on the questionnaire to indicate how many times they had *seen* the ad "or one almost like it" (with structured responses of "never," "1–5 times," "6–10 times," "11–20 times," and "more than 20 times"), and how much they *liked* the ad (on a 4-point scale, from "like it very much" to "dislike it very much"). For each ad they were also asked to indicate, "Do you think the ad makes smoking more *appealing*?" (on a 4-point scale, from "yes, very much" to "no, not at all"). The items for "seen," "like," and "appealing" were similar to those used in a previous study (Arnett & Terhanian, 1998).

RESULTS

For clarity of presentation, and because the results from the two states were similar, the combined results from the two states are presented. State was controlled for in the regression analyses described below.

Twenty-five percent of adolescents had smoked in the past 30 days. Smoking prevalence increased steadily with age, from 4% of 12-year-olds and 18% of 13-year-olds to 38% of 17-year-olds. With regard to smokers' brand preference, 45% preferred Marlboro, 16% preferred Newport, 16% preferred Camel, 1% preferred Kool, and 0% preferred Winston. Fifteen percent of smokers indicated no brand preference, and 7% indicated the miscellaneous "other" category.

Frequencies of adolescents' responses to the questions concerning the ads are summarized in Table 1. The proportion of adolescents who had seen the ad at least once ranged from 89% for Marlboro A to 22% for Winston A. Adolescents' responses to the "like" and "appealing" questions varied by ad and brand. The proportion of adolescents who indicated that they liked the ad ranged from a high of 47% for Camel A to a low of 15% for Merit. The proportion of adolescents who indicated that they believed the ad made smoking more appealing ranged from a high of 44% for Marlboro A to a low of 20% for Kool A. (Although the results are summarized in Table 1 and Figures 1 and 2 for clarity, the entire 4-point distribution of responses to the "seen," "like," and "appealing" items was used for the analyses described below.)

The hypothesis that adolescents would respond more favorably to the ads for the youth brands than for the adult brand was tested using paired sample *t* tests. Because of the number of analyses conducted, $p < .005$ was used as the criterion level for significance, rather than the usual $p < .05$. Using this standard, the youth brand ads that adolescents liked significantly more than they liked the ad for Merit were Marlboro A, $t(397) = 9.71$, Marlboro B, $t(395) = 7.79$, Newport B, $t(395) = 5.91$, Camel A, $t(396) = 10.58$, Camel B, $t(391) = 7.74$, Kool B, $t(395) = 8.51$, Winston A, $t(395) = 4.62$, and Winston B, $t(391) = 6.15$. That is, all youth brand ads were more liked than the Merit ad except Newport A, $t(395) = 2.79$, $p = .006$, and Kool A. The youth brand ads rated by adolescents as significantly more appealing than the ad for Merit were Marlboro A, $t(395) = 9.19$, Camel A, $t(394) = 5.50$, Camel B, $t(390) = 7.63$, and Kool B, $t(393) = 8.86$.

Figures 1 and 2 illustrate responses to the "like" and "appealing" questions for smokers and nonsmokers. To test the hypothesis that adolescent smokers would respond more favorably than nonsmokers to the ads for the youth brands, χ^2 analyses were conducted comparing smokers and nonsmokers on these items. As a comparison these analyses were also performed for the Merit ad. Because of the number of analyses, $p < .005$ was used as the criterion level for significance, rather than the usual $p < .05$.

TABLE 1
Frequencies of Responses to the "Seen," "Like," and "Appealing" Questions

<i>Ad</i>	<i>% Seen (at Least Once)</i>	<i>% Like (Very Much or Somewhat)</i>	<i>% Appealing (Very Much or Somewhat)</i>
Marlboro A	89	40	44
Marlboro B	75	34	22
Newport A	37	24	24
Newport B	31	30	22
Camel A	30	47	37
Camel B	47	38	42
Kool A	59	16	20
Kool B	47	35	41
Winston A	22	28	24
Winston B	42	33	25
Merit	49	15	21

Note. $N = 400$ (100 smokers, 300 nonsmokers). The full questions read as follows: "How many times have you *seen* this ad or one almost like it?", "How much do you *like* the ad?", and "Do you think the ad makes smoking more *appealing*?"

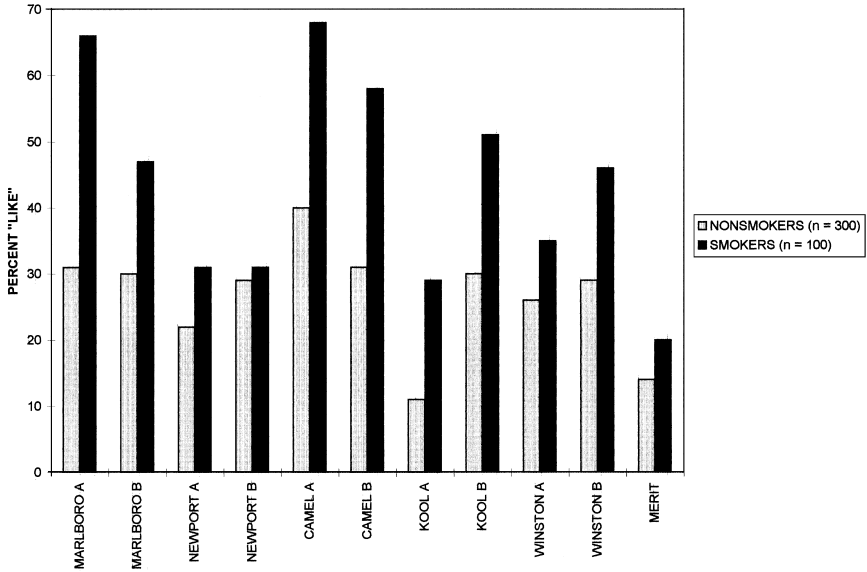


FIGURE 1 Percentage of smokers' and nonsmokers' positive responses to the "like" question with regard to cigarette ads.

Smokers were significantly more likely than nonsmokers to like the ads for Marlboro A, $\chi^2(3, N = 394) = 40.33$, Marlboro B, $\chi^2(3, N = 391) = 15.91$, Camel A, $\chi^2(3, N = 393) = 42.18$, Camel B, $\chi^2(3, N = 387) = 26.02$, Kool A, $\chi^2(3, N = 392) = 19.91$, Kool B, $\chi^2(3, N = 391) = 24.59$, and Winston B, $\chi^2(3, N = 387) = 13.69$. Smokers were significantly more likely than nonsmokers to believe the ad made smoking more appealing for Marlboro B, $\chi^2(3, N = 391) = 13.95$, and Winston B, $\chi^2(3, N = 387) = 14.60$.

To test the hypothesis that the ads for Marlboro would be regarded more favorably than the ads for Newport, paired sample *t* tests were conducted comparing the two Marlboro ads with the two Newport ads on the "like" and "appealing" items. The ad for Marlboro A was liked more than the ad for Newport A, $t(396) = 6.45$, $p < .001$, or Newport B, $t(396) = 4.12$, $p < .001$, and the ad for Marlboro B was liked more than the ad for Newport A, $t(394) = 4.78$, $p < .001$, or Newport B, $t(393) = 2.01$, $p < .05$. The Marlboro A ad was rated as more appealing than the Newport A, $t(396) = 8.06$, $p < .001$, or Newport B ad, $t(395) = 9.03$, $p < .001$, but the "appealing" rating for Marlboro B ad was not significantly different than those for the Newport A or Newport B ad.

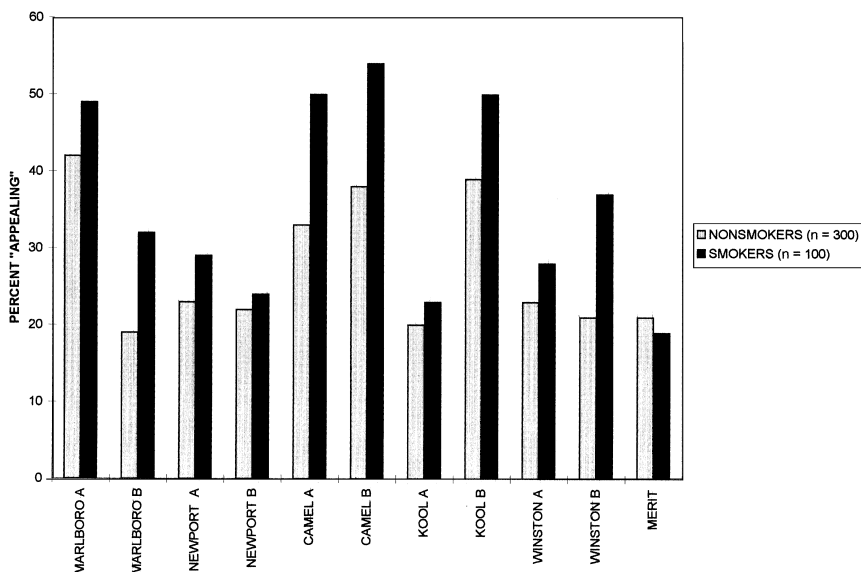


FIGURE 2 Percentage of smokers' and nonsmokers' positive responses to the "appealing" question, with regard to cigarette ads.

Linear regression analyses were conducted to examine the relation between other variables and responses to the ads, and to indicate the extent to which adolescents' smoking status would predict their responses to the cigarette ads when other variables were taken into account. As previously noted, the entire 4-point distribution of responses to the "seen," "like," and "appealing" items was used in these regression analyses. The analyses included age, gender, and SES (mother's education) because these are demographic variables that have been shown frequently to be related to adolescents' smoking behavior (U.S. Dept. of Health and Human Services, 1994). These variables were entered in Step 1 of the analyses. State of residence was also entered in Step 1 of the analyses, to control for any differences between the two states in adolescents' responses to the ads. Smoking status was entered in Step 2 of the analyses.

The results of the regression analyses for "seen" showed no differences between smokers and nonsmokers for any of the ads (not shown in tables). Males were more likely than females to have seen the ads for Newport A, Newport B, Camel A, Kool A, Kool B, and Winston A.

The results of the regression analyses for "like" and "appealing" are shown in Tables 2 and 3, respectively. Older adolescents and males

TABLE 2
Regression Analyses: "Like"

<i>Advertisement</i>	<i>Age</i>	<i>Gender</i>	<i>Socioeconomic Status</i>	<i>State</i>	<i>Smokers/ Nonsmokers</i>	<i>R²</i>
Marlboro A	.16**	-.13*	.01	-.15**	.25***	.13***
Marlboro B	.10 ⁺	-.01	.05	-.08	.18***	.05**
Newport A	.07	.05	.02	-.13*	.10 ⁺	.03*
Newport B	-.01	-.04	.03	-.10 ⁺	.04	.01
Camel A	.12*	-.13*	-.02	-.04	.27***	.10***
Camel B	.10*	-.35***	-.04	-.08	.18***	.17***
Kool A	.11*	-.17***	.01	-.19***	.15**	.10***
Kool B	.12*	-.20***	.02	-.15**	.16**	.10***
Winston A	.09 ⁺	-.06	.05	-.12*	.07	.03*
Winston B	.08	-.14**	-.08	-.05	.13*	.05**
Merit	-.01	-.09 ⁺	.05	-.07	.05	.02

Note. Values shown are standardized regression coefficients, except for the far right column. Gender was coded males = 1 and females = 2. State was coded Arizona = 1 and Washington = 2. Smoking status was coded nonsmokers = 1, smokers = 2. Participants were categorized as smokers if they reported smoking at least one cigarette in the past 30 days; $N = 400$ (100 smokers, 300 nonsmokers).

* $p < .05$; ** $p < .01$; *** $p < .001$; ⁺ $p < .10$.

tended to like the ads better than younger adolescents and females, especially the Marlboro, Camel, and Kool ads. Smokers were consistently more likely than nonsmokers to like the ads for all brands except Newport and Merit. With respect to responses to the "appealing" questions, males were more likely than females to believe that the ad made smoking more appealing for the Marlboro A, Camel B, Kool A, Kool B, and Winston B ads. Smokers were more likely than nonsmokers to believe that the ad made smoking more appealing for the Marlboro B, Camel A, Camel B, and Winston B ads. Socioeconomic status was generally unrelated to adolescents' responses to the ads, both for the "like" and "appealing" questions.

The relation between brand preference and the "like" and "appealing" variables was investigated in supplementary regression analyses. These analyses could be performed only for the three brands preferred by a substantial number of smokers: Marlboro, Newport, and Camel. When brand preference was added to the regression equations described above for the six ads that involved these three brands, no significant relation was found between brand preference and the responses to the "like" or "appealing" questions for any of the six ads.

TABLE 3
Regression Analyses: "Appealing"

<i>Advertisement</i>	<i>Age</i>	<i>Gender</i>	<i>Socioeconomic Status</i>	<i>State</i>	<i>Smokers/ Nonsmokers</i>	<i>R²</i>
Marlboro A	-.09 ⁺	-.17***	.03	-.13**	.09 ⁺	.07***
Marlboro B	.02	-.05	.11*	-.13*	.16**	.06***
Newport A	-.03	.05	-.04	-.14**	.06	.03 ⁺
Newport B	-.07	.08	.01	-.15**	.05	.04*
Camel A	-.05	-.05	-.01	-.05	.18***	.04**
Camel B	-.05	-.18***	-.06	-.04	.13*	.05***
Kool A	-.09 ⁺	-.18***	.02	.01	.09 ⁺	.05**
Kool B	-.03*	-.17**	.04	-.11*	.08	.05**
Winston A	-.02	-.06	.02	-.12*	.09	.03 ⁺
Winston B	-.09	-.16**	.04	-.06	.19***	.07***
Merit	-.07	-.01	.01	-.12*	.01	.02

Note. Values shown are standardized regression coefficients, except for the far right column. Gender was coded males = 1 and females = 2. State was coded Arizona = 1 and Washington = 2. Smoking status was coded nonsmokers = 1, smokers = 2. Participants were categorized as smokers if they reported smoking at least one cigarette in the past 30 days; N = 400 (100 smokers, 300 nonsmokers).

* $p < .05$; ** $p < .01$; *** $p < .001$; ⁺ $p < .10$.

DISCUSSION

Most previous studies on cigarette advertisements and adolescent smoking have focused on the content of the ads (e.g., Pollay, 1993) or on epidemiological relations between specific advertising campaigns and overall patterns of adolescent smoking (e.g., Pierce et al., 1994). The present study confirmed the results of the few previous studies that had examined adolescents' responses to cigarette advertisements and found that the ads for the brands that adolescents are most likely to smoke are attractive to many adolescents, especially to adolescent smokers (Arnett & Terhanian, 1998; Huang et al., 1992). The present study also extended the results of previous studies by demonstrating that the attractiveness of cigarette ads to adolescents applied even—and perhaps especially—to the newest, most recent cigarette advertising campaigns.

Twenty-five percent of adolescents in the present study had smoked in the past 30 days, ranging from 4% of 12-year-olds and 18% of 13-year-olds to 38% of 17-year-olds. These figures are similar to national figures for adolescents 12 to 17 years of age. In the national survey by the Monitoring the Future project for 1998 (the year the data for the present study were col-

lected), rates of smoking within the past 30 days were 19% among eighth graders (generally 13–14 years old), 28% among tenth graders (generally 15–16 years old), and 35% among twelfth graders (generally 17–18 years old; *Monitoring the Future*, 1999). Although the average SES was somewhat higher in this study's sample than for American adolescents generally, the sample was quite diverse in SES, and SES was unrelated to any of the outcomes of the study.

The results of the present study reflect the pervasiveness of cigarette advertising in American society. In the magazines selected for this study, cigarette ads appeared at a rate of 2.5 ads per magazine. Over three fourths of adolescents in this study had seen the Marlboro ads (or an ad almost like the ones used here) at least once. Over 40% had seen at least one of the Camel and Winston ads, even though the ad campaigns for those brands were barely a year old at the time of the study. These percentages reflect the status of cigarettes as the second most heavily promoted consumer product in American society, after automobiles (U.S. Dept. of Health and Human Services, 1994). The percentages also reflect evidence from previous studies that ads for the youth brands are especially likely to appear in magazines with a relatively high proportion of readers ages 12 to 17 (King et al., 1998).

Marlboro was the stated brand preference of 45% of the adolescent smokers in the present study, making it by far the most popular brand, as has been found in other studies (King et al., 1998). Marlboro is also the most heavily advertised cigarette (Centers for Disease Control, 1994), and has been found to be more popular among adolescents than adults (Centers for Disease Control, 1992, 1994), although its popularity among adults has grown in recent decades because smokers who chose this brand in adolescence have continued to smoke it as they grow older (Pollay et al., 1996).

The present study found that Marlboro ads were relatively popular among adolescents. Not only had the majority of adolescents seen the Marlboro ads, but substantial proportions of adolescents (especially adolescent smokers) liked the ads and believed that they made smoking more appealing. This confirmed the results of previous studies that had found Marlboro ads to be liked by high proportions of adolescents, especially adolescent smokers (Arnett & Terhanian, 1998; Huang et al., 1992). Thus, the Marlboro advertising imagery continues to make smoking more attractive to adolescents, perhaps by appealing to adolescents' developmental needs for independence and striving for maturity (Huang et al., 1992; Pollay, 1997).

Among the other brands, the appeal of the new Camel advertising campaign was especially notable. About 40% of adolescents (smokers and non-

smokers) in the present study liked the Camel ads and believed that the ads made smoking more appealing. Among adolescent smokers, a majority liked the ads and believed that the ads made smoking more appealing. Thus, the results indicate that although Joe Camel is "dead," RJR-Nabisco continues to produce advertisements for Camel cigarettes that are highly attractive to the young people who are at the ages of highest risk for smoking initiation (ages 12–17; U.S. Dept. of Health and Human Services, 1994).

With regard to many of the cigarette ads included in this study, males were more likely than females to like the ad and to believe that the ad made smoking more appealing. One reason for this may be that the ads often featured provocatively dressed young women, which the adolescent males may have found sexually attractive. This was true for three of the ads that appealed more to males than to females—Camel B, Kool B, and Winston B. It is notable that in the present study, males were more likely than females to have seen the ads, which may indicate that the ads were especially likely to be placed in magazines with a high readership of adolescent males. Alternatively, it may be that males were more likely than females to notice and remember such ads, even if males and females were exposed to the ads equally.

Males were more likely than females to like the Marlboro A ad and to believe the ad made smoking more appealing. This may be because the Marlboro cowboy represents a male gender ideal, a "macho" figure (Huang et al., 1992). It is notable, however, that Marlboro is as popular a brand choice among adolescent females as among adolescent males (Monitoring the Future, 1999). Although males may be more drawn to the gender ideal represented by the Marlboro cowboy, both females and males may find that the image of the Marlboro cowboy resonates with developmental strivings for independence and maturity (Pollay & Lavack, 1993).

Of the six ads for the three most preferred brands (Marlboro, Newport, and Camel), brand preference was unrelated to whether smokers liked the ad or believed the ad made smoking more appealing. That is, smokers who preferred one of the top three youth brands did not necessarily find the ads for their preferred brand more appealing, compared with other smokers. This suggests that when an adolescent finds a cigarette ad attractive, the attraction may be toward smoking generally rather than toward the specific brand being advertised. Clearly, there is more to brand preference than simply liking the ads for that brand. The number of smokers who preferred Newport or Camel in this study was fairly small (16 each), however, thus the findings of this study on this particular issue should be considered exploratory. It should also be noted that the ads for Camel, Kool, and Winston were new at the time the data for this study were collected, which means that it may have been too early to detect any potential

influence of the ads on adolescents' brand choices. The question of why certain brands are more preferred than others among adolescents requires further investigation.

The ad for the adult comparison brand, Merit, was liked by a smaller proportion of adolescents than most of the ads for the youth brands, as was hypothesized. Furthermore, there was no difference between smokers' and nonsmokers' in their responses to the Merit ad. These findings are important for two reasons. First, the finding that the Merit ad was liked by few adolescents demonstrates that it is possible to produce cigarette ads that adolescents will not find attractive. The attraction of the ads for the youth brands does not inevitably result simply from advertising cigarettes. Second, the finding that there was no difference between smokers' and nonsmokers' responses to the Merit ad shows that smokers are not attracted to all cigarette ads simply because such ads present a product they already use. The ads for the youth brands are especially attractive to adolescent smokers, perhaps because these ads depict themes such as independence, peer acceptance, and sexuality that are central to adolescent development (Pollay, 1997; Pollay & Lavack, 1993).

In the present study, a substantial proportion of nonsmokers—30% or more—also liked many of the ads for the youth brands and believed the ads made smoking more appealing. In a future study, it would be worthwhile to follow such adolescents longitudinally to see the extent to which their attraction to the advertisements might predict future smoking behavior. Because the proportion of adolescents who smoke has been found to rise steadily from age 12 to 17 (in this study as in others; *Monitoring the Future*, 1999; U.S. Dept. of Health and Human Services, 1994), it is likely that many of the younger adolescents in the present study will become smokers by the time they reach age 17, and the attraction of the ads may be one of the factors involved in their smoking initiation. In one longitudinal study, Pierce et al. (1998) predicted smoking behavior on the basis of a variable labeled *receptivity to tobacco promotional activities*. This variable included two aspects: having a cigarette promotional item or being willing to use one, and having a favorite cigarette advertisement. Degree of receptivity at the initial interview was found to predict smoking initiation in a follow-up interview 3 years later (see also Biener & Siegel, 2000).

Although the present study provides information about the extent to which various cigarette ads are liked by adolescents and viewed by them as making smoking more appealing, the specific characteristics that make certain ads more attractive than others were not investigated. Even within the same brand, ads were sometimes rated quite differently. In a future study, it would be informative to ask adolescents in more detail about the reasons they judged certain ads as attractive and others as not.

Limitations of the Study

A number of limitations of the present study should be noted. First, although the consumer intercept method has the advantage of including dropouts and truants who would be missed in a school-based sample, by definition it was more likely to include adolescents who frequent shopping malls than adolescents who do not. It may be that adolescents who frequent malls are more consumption oriented, and hence respond to advertisements differently than other adolescents. Second, an ad for only one adult comparison brand, Merit, was used in the study. It may be that adolescents would respond differently to ads for other adult brands, and it would be advisable to include more than one adult brand in future studies. Third, because only adolescents were included in the study, the data here cannot indicate how adults would have responded to these cigarette ads. It may be that the Merit ad would be no more appealing to adults than to adolescents, and it may be that adults, like adolescents, would be attracted to the ads for the top youth brands. It would be illuminating to include an adult sample for comparison in future studies of adolescents' responses to cigarette ads. Finally, the differences in responses between adolescents in the two states included in the study suggest that it is important to conduct research on this topic in other states to explore the possibility of regional differences in adolescents' responses to cigarette ads.

Summary and Conclusion

Adolescents' responses to cigarette advertisements are surprisingly favorable, given what they know about the risks of disease and death from smoking (U.S. Dept. of Health and Human Services, 1994). A high proportion of adolescents in the present study, especially adolescent smokers, liked the ads for the youth brands and believed that the ads made smoking more appealing. This was true not only for ads long familiar to adolescents, as in the Marlboro campaign, but also for the newer campaigns for Camel, Kool, and Winston. The images of independence, peer acceptance, and sexuality portrayed in the ads may be attractive to adolescents because such images resonate with important developmental issues and with characteristics that they may wish to possess (Pollay, 1997). The ads thus exploit their developmental needs and make it easier for them to see smoking as potentially rewarding rather than as a deadly addiction. It is important for scholars on adolescence to investigate advertising as one of the factors that is involved potentially in adolescent smoking initiation and maintenance, and it is important for policy makers to take steps to en-

sure that the effectiveness of advertising in promoting adolescent smoking will diminish in the future.

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