

# Use of flavored cigarettes among older adolescent and adult smokers: United States, 2004–2005

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Cigarettes with candy, fruit and alcohol flavors have been introduced in recent years as extensions to popular cigarette brands, raising concerns in the public health community that the enticing names, creative packaging, and intense flavorings of these products may be especially appealing to youth. This study used two national surveys to examine the prevalence of use of Camel Exotic Blends, Kool Smooth Fusion, and Salem Silver Label brands during 2004–2005 among older adolescents and young adult smokers aged 17–26 years and adult smokers aged  $\geq 25$  years. Overall use of any of these flavored brands in the past 30 days was 11.9% among smokers aged 17–26 years and 6.7% among smokers aged  $\geq 25$  years. A significant gradient in use was seen across age, with the highest rates of utilization among 17-year-old (22.8%) and 18–19-year-old smokers (21.7%) ( $p < .001$ ). Uniquely flavored cigarette brands seem to be most attractive to the youngest smokers and should be prohibited.

## Introduction

Candy-, fruit- and alcohol-flavored cigarettes were marketed beginning in 1999 as innovative product extensions to popular cigarette brands. Produced primarily by the former R.J. Reynolds (RJR) and Brown and Williamson (B&W) tobacco companies, these brands were Camel Exotic Blends, Kool Smooth Fusions, and Salem Silver Label (Lewis & Wackowski, 2006). Members of the public health community have expressed concern that the enticing names, creative packaging and intense flavorings of

these products may be especially appealing to youth, thereby serving as a vehicle to circumvent the Master Settlement Agreement's (MSA) prohibition on youth targeting (Carpenter, Wayne, Pauly, Koh, & Connolly, 2005; Connolly, 2004; Cummings, Morley, Horan, Steger, & Leavell, 2002; Lewis & Wackowski, 2006; National Association of Attorneys General, 1998). Indeed, after asserting violation of the MSA, the Attorneys General from 38 states entered into a settlement with RJR in October 2006 that ended the sale of Camel, Kool, and Salem brand flavored cigarettes in the United States and barred the future marketing of flavored cigarettes with names or imagery of candy, fruit or alcohol (State Attorneys General, 2006).

However, while this was an important victory in limiting the reach and expansion of these particular brands, we are unaware of any population-based data that have compared the use of flavored cigarette brands among different age groups. The data reported in this paper compare the prevalence of flavored cigarette use among older adolescent and young adult smokers (17–26 years old) and adult smokers aged 25 years and older from two national telephone surveys conducted during 2004 and 2005, a period of intensive marketing of flavored cigarette brands.

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## Methods

### Data sources

Use of flavored cigarettes among current smokers was assessed utilizing two data sources, the National Youth Smoking Cessation Survey (NYSCS) and the Assessing Hardcore Smoking Survey (AHCSS).

The NYSCS is a longitudinal study of a nationally representative sample of smokers aged 16–24 years. A single-stage unclustered sampling method was used to select a probability sample of telephone numbers, and participants were contacted via list-assisted random digit dialing, using computer-assisted telephone interviewing. Eligible respondents were between 16 and 24 years old, smoked at least 20 lifetime cigarettes, and smoked in the previous 30 days. Based on CASRO guidelines, the overall screener response rate to determine age-eligible households was 60%; 69.6% ( $n=2,582$ ) of smokers aged 16–24 years in eligible households completed baseline interviews between June and November 2003. Thus, the overall response rate was 41.8%. A 12-month follow-up assessment was administered during June–November 2004 ( $n=1,696$ , representing 65.7% of baseline respondents, of whom 1,444 were current smokers). A 24-month assessment was administered during June–November 2005. Calls were made to all respondents to the 12-month follow-up and baseline respondents who did not respond at 12-months. There were 1,431 respondents at 24 months, representing 55.4% of baseline respondents, of whom 922 were current smokers. Use of flavored cigarettes in the past 30 days was assessed at the 12- and 24-month surveys; frequency of use in the past 30 days was only assessed at the 24-month survey.

The AHCSS is a national cohort study of current and recent former smokers (abstinent <5 years) aged  $\geq 25$  years, designed to assess their smoking behaviors in order to better define and analyze “hard-core” smoking. The study sample was selected using equal probability random-digit-dialed telephone samples, and surveys were administered during May 2004–March 2005 using computer-assisted telephone interviewing. Eligible respondents

were  $\geq 25$  years and smoked at least 100 lifetime cigarettes. Respondents were characterized as current smokers if they smoked cigarettes every day or on some days; former smokers were defined as ever smokers of  $\geq 100$  lifetime cigarettes who had not smoked in the past 30 days and/or had quit within the past 5 years. The baseline interview was completed by 1,256 respondents (1,000 current smokers and 256 former smokers), with an overall response rate of 45.7%. For this study, only data on current smokers were used. Questions assessing flavored cigarette use were added on July 13, 2004, once administration of the survey was already in progress; 825 respondents answered these questions. Demographic characteristics and smoking behaviors were similar between those who answered the flavored cigarette questions and those who did not ( $p>.05$ ).

### Measures

Study variables included demographic characteristics (age, sex, and race/ethnicity); use of flavored cigarettes, as well as frequency of use, in the past 30 days; and usual brand smoked.

Flavored cigarette use in the past 30 days was assessed among current smokers for the following brands: Camel Exotic Blends, Kool Smooth Fusions, and Salem Silver Label (Table 1). An aggregate variable was created to determine use of any flavored brand (Camel Exotic Blends, Kool Smooth Fusions, or Salem Silver Label).

Frequency of flavored cigarette use in the past 30 days was assessed among current smokers who completed the NYSCS 24-month follow-up. Current smokers who reported using a flavored product in the past 30 days were asked, “During the last 30 days, on how many days did you smoke [flavored product]?”

Usual brand smoked was assessed for both the NYSCS and the AHCSS at baseline. Usual brand was categorized by manufacturer, Philip Morris USA or R.J. Reynolds, by the brand portfolio listed on each manufacturer’s website (Altria Group, 2007; RJ Reynolds Tobacco Company, 2007).

**Table 1.** Assessment of flavored cigarette use.

Questions used to assess flavored cigarette use in the National Youth Smoking Cessation Survey	
Did you use any of the following products during the last 30 days? Did you use ...	
Any of the Camel Exotic brands, such as Camel Crema, Camel Twist or Camel Dark Mint?	
Any of the Kool Smooth Fusion brands, such as Mocha Taboo and Midnight Berry?	
Any of the Salem Silver Label brands, such as Salem Dark Currents, and Fire & Ice?	
Questions used to assess flavored cigarette use in the Assessing Hardcore Smoking Survey	
The Camel, Kool, and Salem cigarette companies are now making flavored cigarettes. We are going to ask about your use of these products during the last 30 days. In the last 30 days did you use any of the ...	
Camel Exotic blends, such as Camel Crema, Camel Twist, or Camel Dark Mint?	
Kool Smooth Fusion blends, such as Mocha Taboo or Midnight Berry?	
Any of the Salem Silver Label blends, such as Salem Dark Currents, or Fire & Ice?	

### Data analysis

Data were analyzed using SAS (SAS 9.1, SAS Institute, Cary, North Carolina) and SAS-callable SUDAAN (SUDAAN 9.0.1, Research Triangle Institute, North Carolina). Data from the NYSCS were weighted to the 2003 Tobacco Use Supplement to the Current Population Survey to represent the population of U.S. smokers aged 16–24 years. The AHCSS was weighted to the 2004 National Health Interview Survey to represent the population of U.S. smokers aged  $\geq 25$  years.

Among respondents to the NYSCS, analyses examining use of flavored cigarettes in the previous 30 days were restricted to those who completed the 12-month survey and smoked within the past 30 days ( $n=1,444$ ); similarly, use of flavored cigarettes in the previous 30 days among respondents to the AHCSS was assessed among baseline respondents who smoked within the past 30 days ( $n=825$ ). Analyses examining frequency of use of flavored cigarettes in the previous 30 days were only performed among respondents to the NYSCS 24-month survey and were restricted to those who smoked within the past 30 days ( $n=922$ ).

Weighted estimates of flavored cigarette use were computed across demographic characteristics and usual brand smoked, with statistically significant differences ( $p < .05$ ) examined using chi-square tests for independence.

### Results

As shown in Table 2, among smokers in the NYSCS, 11.9% reported use of any flavored cigarette during the previous 30 days at the 12-month follow-up assessment. The comparable percentage reporting use of any flavored cigarette brand in the AHCSS was 6.7%. Camel Exotic brands were by far the most popular flavored brand used in both surveys.

Among smokers in the NYSCS there was a statistically significant difference ( $p < .001$ ) in use of flavored brands across different age groups, with highest reported use by persons aged 17 years (22.8%) and 18–19 years (21.7%) compared with all other age groups. A similar age gradient in the use of flavored brands was observed among respondents in the AHCSS ( $p < .01$ ). In both surveys, non-Hispanic white and Hispanic smokers were more likely than Black smokers to report using flavored cigarette brands ( $p = .002$ ). Among older adolescents and young adults, males were more likely than females to report having used any flavored product ( $p = .001$ ).

Most flavored cigarette users reported that they usually smoked a brand other than Camel, Kool or Salem. Over half of flavored cigarette users (51.1% in

NYSCS and 56.9% in AHCSS) reported use of a usual brand that was manufactured by Philip Morris (e.g., Marlboro, Virginia Slims, Parliament). In contrast, brands manufactured by R.J. Reynolds (e.g., Camel, Kool, Pall Mall, Winston, Salem) were named as the usual brand by only 28.1% of flavored cigarette users in the NYSCS and 16.7% of flavored cigarette users in the AHCSS.

Among older adolescent and young adult smokers of flavored cigarettes, use was infrequent. For example, among those smokers in the NYSCS who reported using Camel Exotic Blends in the past 30 days, 77.0% reported smoking their usual brand daily. In contrast, 76.9% of these daily smokers reported using Camel Exotic Blends only 1–2 days per month.

### Discussion

While overall use of flavored cigarettes was low, this study yielded three key findings: (a) use was inversely related to age, with the highest rates of use among 17–19-year-olds; (b) use was infrequent; and (c) use was differentiated from use of usual brand.

The finding that uniquely flavored cigarette brands were most attractive to the youngest smokers is consistent with the charge brought by state Attorneys General—that the marketing of Camel Exotic Blends, Kool Smooth Fusion, and Salem Silver Label brand cigarettes violated the MSA prohibition against marketing to youth. Despite cigarette manufacturers' claims that flavored products were developed and marketed solely for adults, 17-year-olds were over twice as likely to have used flavored cigarettes as young adults aged 20–26. The creative packaging and enticing imagery of these flavored cigarette brands may make flavored products appealing to younger persons, many of whom are just learning how to smoke (Carpenter et al., 2005; Cummings et al., 2002; Lewis & Wackowski, 2006; Wayne & Connolly, 2002). Recent research speaks to the attractiveness of flavored products among this age group: in a study of college students, higher positive smoking expectancies were reported for flavored cigarette brands compared with non-flavored brands, with evidence that flavored products may be especially appealing among young adults susceptible to initiation or smoking escalation (Ashare et al., 2007).

Infrequent use and the ability to differentiate between flavored cigarettes and usual brand is also of interest. The majority of older adolescent and young adult smokers who used flavored cigarettes reported using on only 1–2 days per month, suggesting flavored cigarette use may be complementary to usual smoking behaviors. This pattern of use

**Table 2.** Use of flavored cigarettes in the past 30 days by selected demographic characteristics — current smokers, aged 17 years, United States 2004–2005.

	<i>n</i>	%	(95% <i>CI</i> )	Camel Exotic Blends		Kool Smooth Fusion		Salem Silver Label		Any flavored product	
				%	(95% <i>CI</i> )	%	(95% <i>CI</i> )	%	(95% <i>CI</i> )	%	(95% <i>CI</i> )
Current smokers, aged 17–26 years <sup>a</sup>	8,169,905	—	—	10.5	(8.9–12.3)	1.1	(0.7–1.8)	1.8	(1.2–2.7)	11.9	(10.2–13.8)
Age (years)											
17	527,329	6.5	(5.2–8.0)	15.8	(9.2–25.8)**	3.6	(1.3–9.5)	6.5	(2.8–14.3)	22.8	(14.8–33.4)***
18–19	1,172,815	14.4	(12.7–16.2)	19.4	(15.0–24.7)	2.7	(1.2–5.9)	2.2	(1.0–4.7)	21.7	(17.1–27.3)
20–21	1,787,962	21.9	(19.7–24.2)	9.8	(7.2–13.3)	0.7	(0.2–2.3)	1.3	(0.6–2.9)	10.1	(7.4–13.6)
22–23	2,501,902	30.6	(27.9–33.5)	8.3	(5.6–12.1)	0.5	(0.1–2.0)	1.4	(0.6–3.4)	8.8	(6.1–12.6)
24–26	2,179,897	26.7	(24.1–29.5)	7.5	(4.9–11.3)	0.7	(0.2–2.9)	1.5	(0.6–3.8)	9.0	(6.2–13.1)
Sex											
Male	4,379,806	53.6	(50.8–56.4)	13.4	(10.9–16.2)***	1.3	(0.7–2.4)	2.2	(1.3–3.6)	14.8	(12.3–17.8)**
Female	3,790,099	46.4	(43.6–49.2)	7.2	(5.4–9.6)	0.9	(0.4–2.0)	1.5	(0.8–2.7)	8.5	(6.6–11.0)
Race/ethnicity											
Non-Hispanic White	6,192,811	75.8	(73.2–78.2)	11.8	(9.8–14.0)***	1.1	(0.7–2.0)	1.9	(1.2–2.9)	12.9	(10.9–15.3)**
Non-Hispanic Black	801,652	9.8	(8.2–11.8)	3.3	(1.2–8.7)	0.9	(0.1–5.2)	0.8	(0.2–3.8)	4.9	(2.2–10.5)
Hispanic	754,966	9.2	(7.7–11.1)	10.9	(6.6–17.4)	1.9	(0.6–6.1)	3.2	(1.0–9.4)	13.9	(8.7–21.5)
Other	420,475	5.2	(4.1–6.5)	5.2	(2.1–12.5)	0.0	—	1.3	(0.2–8.8)	6.5	(2.8–14.3)
Current smokers, aged ≥25 years <sup>b</sup>		—	—	5.5	(3.2–9.4)	0.4	(0.2–1.0)	1.2	(0.6–2.3)	6.7	(4.2–10.5)
Age (years)											
25–39	296	35.9	(31.5–40.4)	9.1	(4.1–19.0)*	0.9	(0.3–2.6)	2.1	(0.9–4.4)	11.2	(5.9–20.4)**
40–54	338	41.0	(36.5–45.7)	5.0	(2.4–10.0)	0.1	(0.0–0.9)	1.2	(0.4–3.4)	6.2	(3.3–11.1)
≥55	191	23.1	(19.6–27.1)	0.8	(0.2–2.4)	0.3	(0.0–1.8)	0.0	—	0.8	(0.2–2.4)
Sex											
Male	443	53.7	(49.1–58.2)	5.7	(2.4–12.9)	0.2	(0.0–1.2)	1.0	(0.4–2.5)	6.8	(3.3–13.7)
Female	382	46.3	(41.8–50.9)	5.3	(2.9–9.5)	0.7	(0.3–2.0)	1.5	(0.6–3.4)	6.6	(3.9–10.9)
Race/ethnicity											
Non-Hispanic White	633	76.8	(73.0–80.2)	6.4	(3.5–11.4)**	0.4	(0.1–1.1)	1.5	(0.8–2.9)	7.8	(4.7–12.7)*
Non-Hispanic Black	99	12.0	(9.5–15.0)	0.0	—	0.8	(0.1–5.3)	0.4	(0.1–3.0)	1.2	(0.3–5.0)
Hispanic	50	6.0	(4.3–8.4)	3.6	(1.1–11.1)	0.9	(0.1–5.9)	0.0	—	3.6	(1.1–11.1)
Other	43	5.2	(3.7–7.3)	6.9	(2.0–21.3)	0.4	(0.1–3.1)	0.0	—	7.4	(2.3–21.4)

*Note.* <sup>a</sup>Flavored cigarette use was assessed among respondents to the National Youth Smoking Cessation Survey who smoked during the 30 days preceding the 12-month follow-up survey ( $n=1,444$ ). Data were weighted to the 2003 Tobacco Use Supplement to the Current Population Survey. <sup>b</sup>Flavored cigarette use was assessed among respondents to the Assessing Hardcore Smoking Survey who were current smokers. Analyses were restricted to those who completed the baseline survey on or after July 13, 2004 ( $n=825$ ). Data were weighted to the 2004 National Health Interview Survey. \* $p<.05$ ; \*\* $p<.01$ ; \*\*\* $p<.001$ .



is in agreement with the marketing of flavored cigarettes as an indulgence reserved for special occasions, mimicking the positioning of premium spirits and cigars (Lewis & Wackowski, 2006). This would also appear to be an effective marketing strategy to encourage trial of Camel brand products, to entice smokers of competing brands (e.g., Marlboro, Newport) to try a Camel variety, and to build brand equity to retain current Camel brand smokers.

The findings of this study are subject to several limitations. First, smoking behaviors were self-reported. Although self-reports of use from surveys are generally accurate, misclassification of use as non-use may be more common among adolescents, especially in household interviews (Patrick et al., 1994). To limit the potential for misclassification in the NYSCS, interviews were administered via telephone after confidentiality had been assured. Furthermore, there is no evidence of differential use of cigarette brands among smokers who accurately and inaccurately represent their smoking status. A second limitation is the comparison of prevalence estimates across two different data sources; however, both the NYSCS and the AHCSS were RDD surveys of tobacco use that used similar wording to assess the use of flavored cigarettes. Additionally, the two surveys assessed use across different time frames (June–November 2004 and June–December 2005 for the NYSCS; July 2004–March 2005 for the AHCSS), though both the prevalence and patterns of use were similar to those shown here during the dates of overlapping survey administration (i.e., July 13, 2004, to November 21, 2004). The final limitation is that these data report use of flavored cigarettes among current smokers; we cannot address the important question of whether these products are attractive to adolescents or adults who have never smoked or are former smokers.

As a result of an agreement with state Attorneys General, Reynolds-American, Inc. (RAI) (formed following the merger of RJR and B&W) discontinued the marketing of Camel Exotic Blends, Kool Smooth Fusion, and Salem Silver Label brands in 2006 (State Attorneys General, 2006). However, RAI has continued to introduce new line extensions of their Camel and Kool brands utilizing some of the same marketing attributes as their popular Camel Exotic Blends brand. For example, RAI has introduced Camel Signature Blends brands, featuring unique packaging designs and flavoring styles ranging from Robust, Mellow, Frost, and Infused, with initial marketing in youth-accessible magazine and store advertisements, which boast the “distinctive flavor” of their new product offerings (Myers, 2007). RAI has also launched products to increase market share among targeted subgroups, such as young

females and minorities, who have traditionally reported low rates of RAI product use, including flavored cigarette products in this study. Camel #9, a brand designed and packaged to appeal to younger females, and a wider version of Kool aimed at younger African Americans, Kool XL, have recently been introduced in an effort to tap into these underdeveloped markets.

Findings from this study suggest these products will likely find their largest market share among adolescents and young adults. Virtually all tobacco users become addicted before they can truly understand the consequences (Lynch & Bonnie, 1994). Adding flavorings to tobacco products to make what is admittedly a dangerous and addictive product more appealing would seem to be harm enhancing and should be prohibited (Cummings, Brown, & Douglas, 2006).

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