

# Has There Been a Delay in the Age of Regular Smoking Onset Among African Americans?

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## ABSTRACT

**Background:** It is not clear whether the decline in African American adolescent smoking in the 1980s reflected a delay in age of onset of regular smoking initiation rather than success in preventing initiation completely. **Purpose:** The purpose of this study is to identify whether the marked reductions in African American adolescent smoking in the 1980s were offset by increased initiation in young adults. **Methods:** We combined data from the Tobacco Use Supplements of the 1992–1993, 1995–1996, and 1998–1999 Current Population Surveys ( $n = 512,258$ ), and reconstructed year of smoking initiation and calculated age-specific incidence of initiation from 1970 to 1992. We then compared detailed age-specific rates of initiation for two 5-year periods selected to be before and after the documented large declines in African American adolescent smoking. **Results:** In the time period after marked declines in African American adolescent smoking (1987–1991), the incidence of initiation of regular smoking decreased for African Americans ages 14 to 16 and increased for ages 18 to 20. Such a delay was not as evident among non-Hispanic Whites. The delay that was slight in regular smoking initiation among African Americans relative to non-Hispanic Whites in 1975–79 had increased substantially by 1987–91. **Conclusions:** Reductions in African American adolescent smoking in the 1980s were offset by increased initiation among young adults ages 18 to 20 during this time period and suggest that the window for uptake of regular smoking shifted to older ages for African Americans more so than non-Hispanic Whites. Efforts to combat smoking should remain aggressive into young adulthood, when the tobacco industry's efforts to gain new smokers intensify.

(Ann Behav Med 2004, 28(3):152–157)

## INTRODUCTION

A number of studies have identified a large decline during the 1980s in African American adolescent smoking, specifically among 12- to 17-year-olds and high school seniors (1–4). However, it is not clear whether this decline reflected a delay in age of onset of regular smoking initiation rather than success in preventing initiation completely (5,6).

This research was supported by Grant 9RT-0036 from the University of California Tobacco Related Diseases Research Program.

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The Surgeon General estimates that daily smoking prevalence among African American high school seniors declined from approximately 25% in 1977 to about 5% in 1992 (4) compared with non-Hispanic Whites, which decreased during the same time period from 28% to 22%. Recent reports indicate that adult smoking prevalence for African Americans continues to be among the highest of all racial/ethnic groups at approximately 27% versus 25% for non-Hispanic Whites (4,7), suggesting that the onset of regular smoking may be occurring at older ages among African Americans than non-Hispanic Whites. Some research has already indicated this (8–10), with one study revealing a delay in the age of smoking onset among African American women of childbearing age compared with non-Hispanic Whites (9), and another finding after 4 years of follow-up, that only 30% of African American adolescents had experimented with smoking compared with 43% of non-Hispanic Whites (10). To our knowledge, however, no studies have examined data from the period of the 1970s to the early 1990s regarding shifts in the age of regular smoking onset between African Americans and non-Hispanic Whites. It is plausible that shifts in the age of regular smoking onset occurred over this time period.

Large, cross-sectional surveys on adult smoking prevalence and age of smoking onset have previously been used to reconstruct smoking initiation rates (3,11–15), with several studies pointing out that smoking initiation rates have decreased over time and are lower among African Americans than non-Hispanic Whites (3,10,15–17). However, based on these and other research (3,8–18), it was evident that even larger sample sizes would have been beneficial in examining trends in African American smoking initiation over time. We examined differences between African Americans and non-Hispanic Whites in the incidence of initiation of regular smoking from 1970 to 1992, using data aggregated from the Current Population Surveys (CPS) (1992–1993, 1995–1996, 1998–1999) (19) to identify whether and when shifts occurred in smoking onset for both African Americans and non-Hispanic Whites. Unlike the previous research just described, which analyzed data for the 12- to 17-year-old range (1–4,10), we examined data for the 14- to 20-year-old range to detect possible older ages of regular smoking onset. Our objective was to identify whether the marked reductions in African American adolescent smoking in the 1980s were offset by increased initiation among young adults during this time period.

## METHODS

### Data Source

The national CPS periodically includes a special Tobacco Use Supplement (TUS), which was the source of the data for this analysis. The CPS is a continuous survey (over 56,000

households/month) conducted by the U.S. Bureau of the Census, primarily to monitor labor force indicators for the civilian noninstitutionalized U.S. population age 15 years and older. The complete CPS methodology is published elsewhere (19). Briefly, the CPS includes a probability sample, based on a stratified sampling scheme of clusters of four neighboring households identified from the most recent decennial census, updated from building permits and other sources.

TUSs were included for the months of September, January, and May in 1992–1993, 1995–1996, and 1998–1999. For analysis purposes, data from all nine surveys were combined. The TUS was developed by the National Cancer Institute staff and pretested by trained Bureau of the Census interviewers prior to implementation.

We examined data reported by individuals who were age 21 years and older at the time of the survey interview. In this study, we included all individuals who were either African American or non-Hispanic White ( $n = 512,258$ ). This sample had a mean age of 47.9 years, was 9.7% African American and 90.3% non-Hispanic White, and were 57.5% female.

### Questions Analyzed

All surveys included the question, “Have you smoked at least 100 cigarettes in your entire life?” Respondents who answered *yes* were classified as “ever smokers.” All ever smokers were then asked, “How old were you when you first started smoking cigarettes fairly regularly?” To calculate age of onset of regular smoking, we included only ever smokers who gave a valid starting age between 14 and 20. Each smoker’s current age at the time of the survey was then subtracted from the date they completed the survey to estimate their year of birth. The age of regular smoking onset was then added to the year of birth to estimate the calendar year in which persons began to smoke fairly regularly.

### Computation of Initiation Rates

We reconstructed the age of each respondent for each calendar year of interest between 1970 and 1992. For each year, we computed the age-specific denominator (for each age from 14 through 20 years for both African Americans and non-Hispanic Whites) as the sum of the weights for respondents of that age/race who had not started smoking up to that particular year. Thus, the denominator in the rate computation is the sum of the weights for all those of a particular racial group for each age in a given year who were at risk to start smoking. We then used the sum of the weights of individuals of that age/race group who started to smoke in that year as the numerator in the rate computation. Because we limited our study population to those 21 years of age or older when surveyed and because the latest survey year was 1999, we were unable to estimate the rate of smoking initiation in 14-year-olds for any year after 1992.

### Statistics

The CPSs have composite weights associated with each respondent that can be used to generate population-based estimates. Once base weights are developed that reflect the probability that a person is sampled, the weights are further adjusted

to reflect the U.S. population at the time of the survey. We used the statistical package, WesVarPC (20), with balanced-repeated-replicates, to compute 95% confidence intervals for all estimates reported in the text, tables, and figures, and for calculation of smoking initiation rates and age of regular smoking onset across ethnicity. We compared age of smoking onset for both African Americans and non-Hispanic Whites at two time periods: in 1975–1979, before the documented decline in adolescent smoking initiation for both African Americans and non-Hispanic Whites, and in 1987–1991, when smoking initiation rates leveled off after the decline (21).

## RESULTS

### Incidence of Regular Smoking Onset: 14 to 20 Years of Age

The annual incidence rate of regular smoking onset generally decreased from approximately 5% in 1970 to about 2.2% in 1992 for African Americans, and from approximately 7% to 6% for non-Hispanic Whites (Figure 1). For African Americans, the incidence rate hovered at approximately 5% from 1970 to 1977 before beginning a gradual annual decline to about 3% by 1983. The incidence rate climbed to approximately 3.5% the following year, dipped to about 2.5% in 1985, and then slowly increased to almost 3% by 1989. The incidence rate then fell to about 2.3% the following year, before climbing again to approximately 2.5% by 1992. For non-Hispanic Whites, the incidence rate remained at approximately 7% from 1970 to 1971, climbed slightly to about 7.5% until 1974, before beginning a gradual decline to about 5.5% by 1984. However, the incidence rate increased to approximately 6% by 1986, where it hovered until 1992, the last year of data analyzed.

### Age-Specific Onset of Regular Smoking

*African Americans: 1975–1979 versus 1987–1991.* The top graph in Figure 2 illustrates that a delay in regular smoking onset among African Americans had occurred by the late 1980s. Of all African Americans who started regular smoking between the ages of 14 and 20 years, the percentages who started to smoke regularly at ages 14, 15, and 16 from 1975 to 1979 were greater than from 1987 to 1991. From 1975 to 1979, approximately 7% of all African Americans who started smoking between ages 14 and 20 started at age 14, compared to about 3% from 1987 to 1991, a 57% decrease. Approximately 13% started at age 15 from 1975 to 1979, compared to about 8% from 1987 to 1991, a 38% decrease. Approximately 19% started at age 16 from 1975 to 1979, compared to about 15% from 1987 to 1991, a 21% decrease.

However, the percentages of African Americans who started smoking regularly at ages 18, 19, and 20 were greater in the 1987–1991 period than in the 1975–1979 period. Specifically, from 1975 to 1979, approximately 21% started at age 18, compared to about 26% from 1987 to 1991, a 24% increase. Approximately 11% started at age 19 from 1975 to 1979, compared to about 17% from 1987 to 1991, a 55% increase. Approximately 11% started at age 20 from 1975 to 1979, compared to about 14% from 1987 to 1991, a 27% increase.

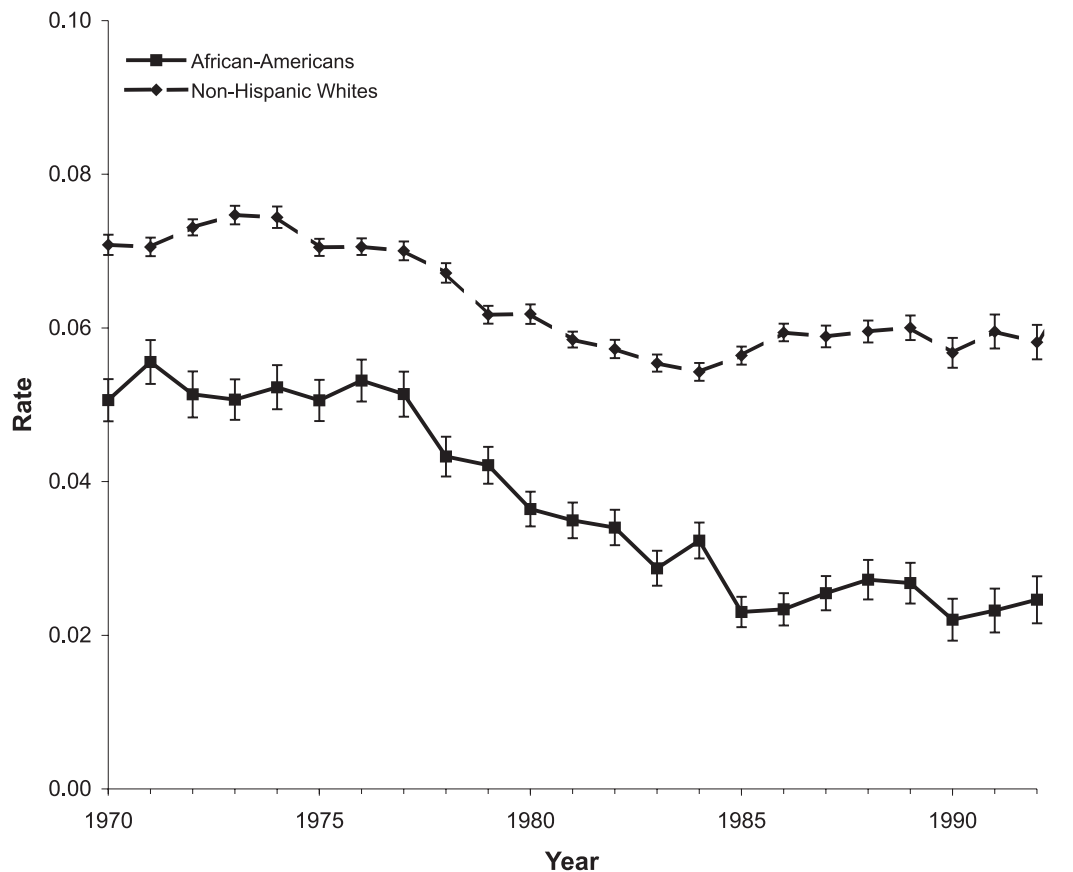


FIGURE 1 Incidence of regular smoking initiation for those starting between ages 14 and 20, by ethnicity.

*Non-Hispanic Whites: 1975–1979 versus 1987–1991.*

The bottom graph of Figure 2 shows that age of regular smoking onset also shifted for non-Hispanic Whites but to a lesser degree than African Americans. Of all non-Hispanic Whites who started regular smoking between ages 14 and 20 years, the percentages who started to smoke regularly at ages 14, 15, and 16 from 1975 to 1979 were greater than from 1987 to 1991, but the magnitude of the differences were much smaller than in African Americans (discussed earlier). Specifically, from 1975 to 1979, approximately 9% of all non-Hispanic Whites who started smoking between ages 14 and 20 started at age 14, compared to about 6% from 1987 to 1991, a 33% decrease. Approximately 15% started at age 15 from 1975 to 1979, compared to 12% from 1987 to 1991, a 25% decrease. Approximately 22% started at age 16 from 1975 to 1979, compared to 21% from 1987 to 1991.

In addition, the percentages of non-Hispanic Whites who started smoking regularly at ages 18, 19, and 20 were greater from 1987 to 1991 than from 1975 to 1979, but the magnitudes of the differences were again much smaller than in African Americans. Specifically, from 1975 to 1979, about 21% started at age 18, compared to about 22% from 1987 to 1991. Approximately 8% started at age 19 from 1975 to 1979, compared to about 11% from 1987 to 1991, a 38% increase. Approximately 9% started at age 20 from 1975 to 1979, compared to 10% from 1987 to 1991, an 11% increase.

*1975–1979: African Americans versus non-Hispanic Whites.* Examining the age-specific data in the top and bottom graphs of Figure 2, in the 1975–1979 period, to a small degree, African Americans initiated regular smoking at older ages than non-Hispanic Whites. Smaller percentages of African Americans reported initiating regular smoking at ages 14, 15, and 16, relative to non-Hispanic Whites. Approximately 7% of African Americans reported initiating at age 14, compared to about 9% of non-Hispanic Whites, about 13% of African Americans and about 15% of non-Hispanic Whites at age 15, and about 19% of African Americans and about 22% of non-Hispanic Whites at age 16. Furthermore, greater percentages of African Americans reported initiating regular smoking at ages 19 and 20 relative to non-Hispanic Whites in this time period. Approximately 11% of African Americans reported initiating at age 19, compared with about 8% of non-Hispanic Whites. At age 20, about 10% of African Americans reported initiating smoking, compared with about 9% of non-Hispanic Whites.

*1987–1991: African Americans versus non-Hispanic Whites.* Examining the age-specific data in the top and bottom graphs of Figure 2, the difference in the delay of regular smoking initiation between African Americans and non-Hispanic whites had widened by the 1987–1991 period, from the 1975–1979 period. Much smaller percentages of African Americans reported initiating regular smoking at ages 14, 15, and 16,

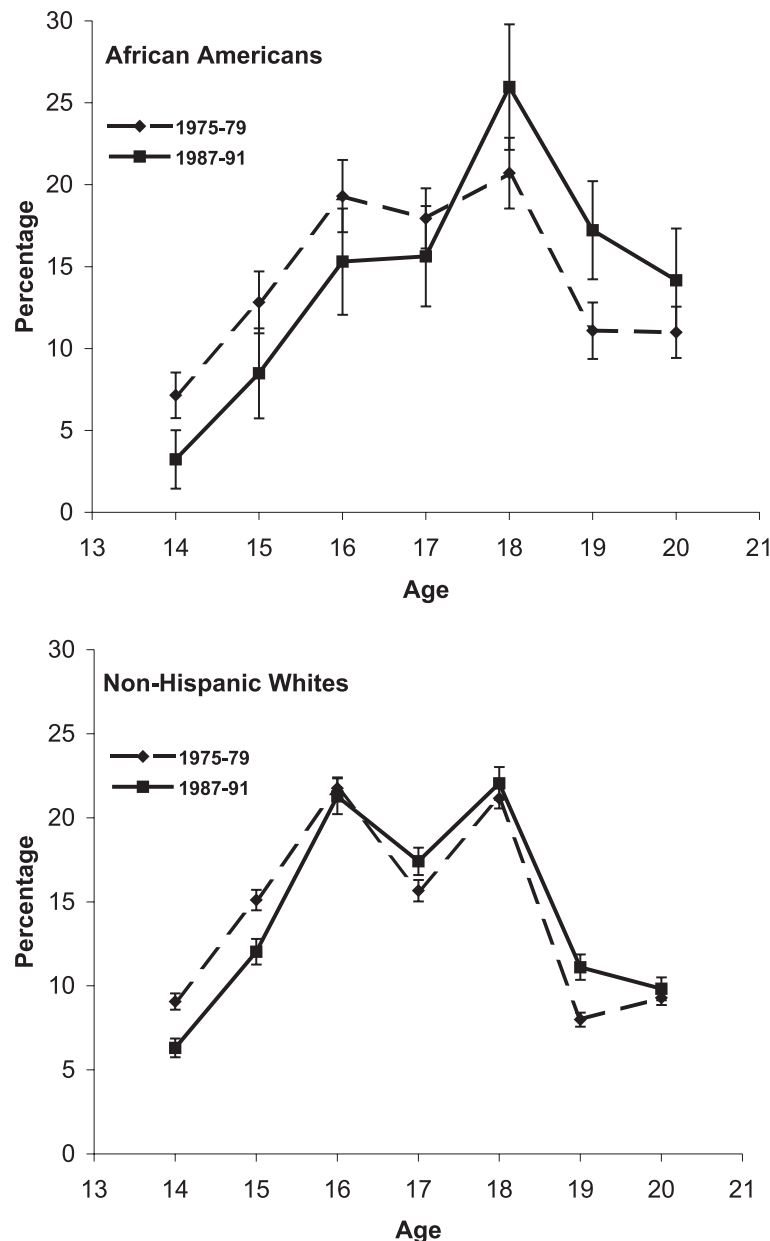


FIGURE 2 Percentages starting regular smoking between ages 14 and 20 in 1975–1979 and 1987–1991, for African Americans and non-Hispanic Whites.

relative to non-Hispanic Whites in this time period. Approximately half as many African Americans reported initiating at age 14 compared to non-Hispanic Whites (3% vs. 6%). About two thirds as many African Americans compared to non-Hispanic Whites started at age 15 (8% vs. 12%), and about three fourths as many African Americans compared to non-Hispanic Whites started at age 16 (15% vs. 21%). Furthermore, greater percentages of African Americans reported initiating regular smoking at ages 18, 19, and 20 relative to non-Hispanic Whites in this time period. Approximately 26% of African Americans reported initiating at age 18, compared to about 22% of non-Hispanic Whites. About 17% of African Americans compared to about 11% of non-Hispanic Whites started at age 19, and

about 14% of African Americans compared to about 10% of non-Hispanic Whites at age 20.

## DISCUSSION

With incidence rates of regular smoking initiation declining from the 1970s to the 1980s, the age of regular smoking initiation shifted toward older ages in the 1980s for both African Americans and non-Hispanic Whites. However, this decline and shift was more pronounced among African Americans than among non-Hispanic Whites. By the early 1990s, the overall annual incidence of regular smoking initiation for 14- to 20-year-old African Americans had decreased to about 2.5%. By



this time, regular smoking onset among young adult African Americans (ages 18, 19, 20) had increased. Furthermore, compared with non-Hispanic Whites, the slight delay in regular smoking initiation among African Americans that was evident in the late 1970s had increased substantially by the late 1980s. Thus, the marked reductions in African American adolescent smoking in the 1980s were offset by increased initiation among young adults ages 18 to 20.

### Tobacco Industry Targeting of Adults

Specialized tobacco marketing has been shown to increase smoking prevalence in the specific populations targeted (11–13, 22–24). For example, studies strongly suggest that increases in smoking prevalence for women of all ages in the 1970s were related to the targeted marketing strategies employed by Philip Morris (e.g., Virginia Slims [11–13]), and the Joe Camel campaign was related to an increase in adolescent smoking (22–24). Therefore, the increasing trends in young adult smoking onset reported here for both African Americans and non-Hispanic Whites suggest that young adult populations may have been increasingly targeted by the tobacco industry for quite some time (25,26).

The shift in focus to the targeting of adults by the tobacco industry is not surprising. Not only are young adults (18+) the youngest legal market able to be targeted by the tobacco industry, but they also serve as role models for teens, and thus they directly influence teen smoking (27). Furthermore, many young adult smokers may still be in the initial stages of smoking uptake (28,29) and are prime candidates to be encouraged by the tobacco industry to increase their cigarette consumption and transition to regular smoking (28,30,31). Finally, young adult smokers comprise a larger group than teens (29,32,33) and are thus more attractive to an industry whose continued livelihood is based on attracting new smokers (28,34).

### Tobacco Industry Focus on African American Young Adults

The eroding social acceptability of smoking among African American youth during the 1970s and 1980s may have contributed to the shifts in age of smoking onset reported here and led to changes in tobacco industry marketing practices, with increased focus on targeting young African American adults. The tobacco industry established partnerships with respected African American organizations, such as the National Association for the Advancement of Colored People, which encouraged the endorsement and promotion of tobacco products to African American adults (35). They contributed to African-American-owned and African-American-oriented magazines (36–39), which received proportionately more revenues from cigarette advertising than other consumer magazines (36–38,40). R.J. Reynolds even developed the ultimately failed Uptown brand of mentholated cigarettes specifically targeting African American young adults. Since then, other brands have followed, such as Kool and Newport. This quick adaptation by the tobacco industry in targeting young African American adults may be contrib-

uting to the disproportionately high African American adult smoking prevalence relative to non-Hispanic Whites (4,21).

### Limitations

We note that, for both African Americans and non-Hispanic Whites, those reporting initiating regular smoking at age 19 were relatively high. This is probably due to those recalling that they started to smoke regularly after moving out from their parents' home, generally right after age 18. Although the recall of one's age at which regular smoking started may have presented a potential bias, our previous work has supported the validity of recall for age of regular smoking initiation (12), as has the Surgeon General's report (4). In examining various cohorts from large national smoking datasets, we found no evidence of a systematic trend in the reporting of older or younger ages of smoking initiation based on the respondent's age when surveyed (12).

### CONCLUSIONS

Adult smoking prevalence among African Americans continues to be among the highest of all racial/ethnic groups, despite a reduction in African American adolescent smoking in the 1970s and 1980s (4,7). We were able to examine smoking incidence and age of onset from 1970 to 1992. It remains to be seen whether more recent data would reveal a further increase in African American young adult smoking onset after 1992 and how these rates would compare to non-Hispanic Whites. The delayed age of regular smoking onset may be becoming more widespread as the percentage of young adult smokers is on the rise (41). Nonetheless, results indicate a pattern of delayed regular smoking onset in African Americans and suggest that the marked reductions in African American adolescent smoking in the 1980s were offset by increased initiation among young adults and that the window for smoking onset widened for African Americans. Smoking prevention efforts extending into the 20s may help discourage smoking initiation and promote cessation in African Americans. Public health efforts to combat smoking need to remain aggressive into the critical years of young adulthood, when the tobacco industry's efforts to gain new smokers intensify, especially among African Americans.

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