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## Not Just Cigarettes: A More Comprehensive Look at Marijuana and Tobacco Use Among African American and White Youth and Young Adults

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### Abstract

**Introduction**—Cigarettes, cigars, and marijuana have generally been studied in isolation yet their use does not occur in isolation. Focus on cigarette smoking may overstate the observation that African American youth and young adults are less likely to smoke any combustible product compared with their white counterparts. Assessing cigarette, cigar, and marijuana use trends may help identify the extent of this difference.

**Methods**—Data from the 2002–2012 National Survey on Drug Use and Health ( $N = 25\,541$  to  $N = 28\,232$ ) were used to investigate past 30-day cigarette, cigar, and marijuana use trends among African American and white youth (12–17) and young adults (18–25). Logistic regressions assessed trends in combustible tobacco (cigarettes and cigars) and marijuana use, alone and in combination.

**Results**—From 2002–2012, the absolute difference in cigarette smoking prevalence between African American and white youth (9.6%–4.2%) and young adults (19.0%–10.5%) narrowed. Any combustible tobacco/marijuana use was significantly lower among African Americans than whites but, relative to cigarettes, the absolute difference was much smaller among youth (7.2%–2.2%) and young adults (15.8%–5.6%). Among any combustible tobacco/marijuana users, using two or more substances ranged from 31.4% to 40.3% among youth and 29.1% to 39.8% among young adults.

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Declaration of Interests

None declared.

Disclaimer

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**Conclusion**—Any combustible tobacco/marijuana use trends suggest the smoking prevalence difference between African American and white youth and young adults is real, but less pronounced than when assessing cigarette smoking alone. Policies and programs addressing smoking behaviors may benefit from broadening focus to monitor and address cigar and marijuana use as well.

**Implications**—Trends in any use of cigarettes, cigars, and/or marijuana suggest the difference in smoking prevalence between African American and white youth and young adults is real, but less pronounced than when cigarette smoking is assessed alone. In 2012, more than 10% of African American and white youth, more than a third of African American young adults, and nearly half of white young adults reported past 30-day use of cigarette, cigars, and/or marijuana. Public health programs aimed at reducing these behaviors among youth and young adults could be informed by considering detailed, race-specific information regarding tobacco and marijuana use patterns.

## Introduction

In 2012, 1.9 million youth aged 12 to 17 years used combustible tobacco for the first time and 1.4 million used marijuana for the first time.<sup>1</sup> Young adults have the highest rates of combustible tobacco and marijuana use compared to any other age group.<sup>1</sup> By race/ethnicity, African American youth and young adults are historically less likely than white youth and young adults to smoke cigarettes.<sup>2,3</sup> For example, between 1976 and 1994, African Americans high school seniors consistently had lower prevalence of cigarette use compared with white high school seniors.<sup>4</sup> More recent data indicate that African Americans may not be less likely to use cigars or marijuana. For example, the 2012 National Youth Tobacco Survey found that African American middle and high school students were more likely to report past 30-day cigar use compared with white students.<sup>5</sup> Similarly, the 2013 Youth Risk Behavior Survey found 28.9% of African American high school students compared with 20.4% of white students reported past 30-day marijuana use.<sup>6</sup> Yet, the majority of epidemiological studies of smoking behaviors among African American youth and young adults have focused only on cigarette smoking.<sup>2,3,7-9</sup>

Recent national survey data indicate that marijuana use prevalence has surpassed cigarette smoking prevalence among youth,<sup>6,10</sup> and that the absolute difference between cigarette smoking and marijuana use prevalence is greater among African American youth compared with white youth.<sup>10,11</sup> According to the Monitoring the Future survey, in 2012, African American and white high school seniors used marijuana at similar rates (22.3% vs. 22.6%), yet marijuana prevalence was 13.6 percentage points higher than cigarette smoking prevalence among African American high school seniors, compared with 1.4 percentage points among white high school seniors.<sup>12</sup> Therefore, focusing only on trends in cigarette smoking prevalence may overstate the perception that African American youth and young adults are less likely to smoke compared with white youth and young adults, if all forms of smoking, regardless of substance smoked, are taken into consideration. Including other smoking behaviors may indicate that racial differences in smoking, in general, may not exist or may be less pronounced.

Cigarette, cigar, and marijuana use have generally been studied in isolation; however, these behaviors often do not occur in isolation. Detailed information about combinations of substances smoked among youth and young adults who report any past 30-day use of cigarettes, cigars, or marijuana is limited. A recent systematic review concluded that the use of tobacco consistently predicted subsequent use of marijuana, and use of marijuana consistently predicted subsequent use of tobacco.<sup>13</sup> Evidence indicates that concurrent use of tobacco and marijuana, defined here as use of both within the past 30 days, may increase the risk of both tobacco and marijuana dependence.<sup>14–16</sup> Concurrent use of tobacco and marijuana among youth is associated with greater odds of driving under the influence of drugs and/or alcohol, dropping out of high school, and having mental health symptoms.<sup>17</sup> Neurocognitive impacts include memory impairment, slowed visual processing speed, and increased nicotine reward.<sup>18–20</sup> Some evidence also suggests that concurrent use of tobacco and marijuana may reduce the likelihood of quit attempts and increase the likelihood of relapse to marijuana use.<sup>21,22</sup> As marijuana and tobacco use are closely associated and their use is associated with multiple adverse health outcomes,<sup>23,24</sup> it is important to examine marijuana and tobacco prevalence trends alongside one another.

Greater knowledge of the combinations of products smoked among youth and young adults can help tailor prevention and cessation interventions to the substances most commonly used in a given target population. Further, examining trends in smoking behaviors among youth and young adults over several years may help evaluate the effectiveness of past and existing prevention activities, assess the need for future surveillance and prevention efforts, and predict the future burden of smoking-related health effects.<sup>8</sup> Detailed information about race-specific patterns of tobacco and marijuana use is critically needed to inform culturally appropriate public health programs that reduce health risk behaviors among youth and young adults. To provide a more complete comparison of smoking behaviors for African American and white youth and young adults, this study assessed trends in any past 30-day cigarette, cigar, and marijuana use and combinations of past 30-day cigarette, cigar, and marijuana use among those who used any of these substances from 2002 to 2012.

## Methods

### Data Source

The National Survey on Drug Use and Health (NSDUH) is a nationwide household based survey that collects data on drug use including, past 30-day cigarette, cigar, and marijuana use. An independent, multistage area probability sample is used to produce nationally representative estimates for the civilian, noninstitutionalized population aged at least 12 years. Trained field interviewers visit each selected household. Participants complete the drug use portion of the survey in their homes through audio, computer-assisted self-interview methods, which increases privacy and improves self-report of sensitive behaviors. Detailed information about NSDUH is reported elsewhere.<sup>1</sup>

### Study Population

The study population included African American and white youth aged 12 to 17 years and young adults aged 18 to 25 years. NSDUH oversampled youth and young adults so that the

sample is approximately equally distributed between respondents aged 12 to 17, 18 to 25, and at least 26 years. To be consistent with terminology used in this special supplement, African American was defined as participants who self-identified as non-Hispanic black and no additional race. White was defined as participants who self-identified as non-Hispanic white and no additional race. NSDUH does not oversample African Americans. Beginning in 2002, participants received a cash incentive to complete the interview. Because of this and other methodological changes, data collected before 2002 were not comparable to data collected thereafter. Therefore, we included data from 2002 to 2012. The average interview response rate was 75% during this period and ranged from 73% (2012) to 79% (2002). The overall sample size for each year ranged from 25 541 (2012) to 28 232 (2002). The combined sample from 2002 to 2012 included 27 474 African American youth, 27 045 African American young adults, 121 265 white youth, and 125 549 white young adults.

## Measures

Past 30-day use was assessed for the following products: cigarettes, cigars, and marijuana. Table 1 shows detailed definitions of each variable.

**Any Past 30-Day Use**—Prevalence of any combustible tobacco/marijuana use included those who reported past 30-day cigarette, cigar and/or marijuana use. NSDUH captured past 30-day cigarette and cigar use among participants aged at least 12 years who reported ever use of cigarettes and cigars, respectively. NSDUH measured marijuana and hashish use simultaneously. Marijuana use included those who reported marijuana, hashish and/or blunt use. Blunts were described on NSDUH as follows: “Sometimes people take some tobacco out of a cigar and replace it with marijuana. Sometimes this is called a blunt.” Participants were then asked about “smoking cigars with marijuana in them”. To account for previously documented, although small, discrepancies between report of past 30-day blunt and marijuana use, those who reported past 30-day blunt use, but not marijuana use, were included in the marijuana use category.<sup>25</sup> Since blunt use is not consistently classified as cigar use, blunt use was not classified as cigar use; however, blunt use was classified as marijuana use. In 2002 and 2003, only youth aged 12 to 17 years were asked about blunt use. Beginning in 2004, participants of all ages were asked about blunt use. Therefore, marijuana estimates reported for young adults in 2002 and 2003 do not explicitly include blunt use.

**Past 30-Day Exclusive, Dual, and Poly Use Among Smokers**—As shown in Table 1, past 30-day exclusive, dual, and poly use was assessed among youth and young adults who reported smoking at least one of the three substances (cigarettes, cigars, and/or marijuana) from 2002 to 2012. All categories were mutually exclusive.

## Data Analysis

Data were weighted during analysis to adjust for the differential probability of both selection and response. Results where the denominator was less than 50 or the relative standard error was higher than 30% were considered statistically unstable and were not reported. Orthogonal polynomials were used to perform logistic regression analyses to simultaneously test for linear and quadratic (nonlinear) trends in all measures of tobacco and marijuana use.

Linear and quadratic time variables were created using orthogonal coefficients. Logistic regression models testing trends were controlled for sex and run separately for African American youth, white youth, African young adults, and white young adults. In addition to tests for linear and quadratic trends, we also tested for significant differences in prevalence of each tobacco and marijuana use measure between African American and white youth and between African American and white young adults. For all tests,  $P < .05$  was considered statistically significant. Point estimates, confidence intervals, and  $P$  values for trends tests were calculated using SAS version 9.3 (SAS Institute, Inc, Cary, NC) with callable SUDAAN version 11.0 (RTI International, Research Triangle, NC) to account for the complex sampling design and survey weights. Percentage point differences and average annual percentage point difference were calculated in Microsoft Excel. The percentage point difference is the difference of the 2012 and 2002 estimates. The average annual percentage point difference is the average difference between each 2-year period.

## Results

Figure 1 shows past 30-day use of cigarettes, cigars, marijuana, and any combustible tobacco/marijuana use among African American and white youth aged 12 to 17 years and young adults aged 18 to 25 years from 2002 to 2012.

### Any Past 30-Day Use

**Youth Aged 12 to 17 Years**—From 2002–2012, cigarette smoking prevalence declined significantly among African American (6.2% to 4.2%; Figure 1A) and white youth (15.8% to 8.4%; Figure 1B). While the difference narrowed, cigarette smoking prevalence remained significantly greater among white youth throughout the study period. The average annual decline was smaller among African Americans (–0.20) compared with whites (–0.74). Cigar smoking prevalence significantly decreased among both African Americans (3.8% to 2.1%) and whites (5.2% to 3.3%). There was no significant difference in marijuana use prevalence between African American and white youth. With regard to past 30-day use of any product, there were significant linear decreases and quadratic trends among both African Americans (12.8% to 10.6%) and whites (20.0% to 12.8%). The absolute difference in any combustible tobacco/marijuana use prevalence narrowed, but remained significant, as the average annual decline in any combustible tobacco/marijuana use prevalence was smaller among African American (–0.22) compared with white (–0.72) youth.

**Young Adults Aged 18 to 25 Years**—Among young adults, there were significant linear decreases in cigarette smoking prevalence among both African Americans (27.9% to 26.2%; Figure 1C) and whites (46.9% to 36.7%; Figure 1D) from 2002 to 2012. The difference in cigarette smoking prevalence remained significant, but narrowed, as the average annual decline in cigarette smoking prevalence was smaller among African Americans (–0.17) compared with whites (–1.02). There was no significant difference between African Americans and whites in cigar smoking prevalence. Marijuana use prevalence significantly increased among African Americans from 2002 to 2012 (15.6% to 23.6%). Among whites there was a significant decline in marijuana use prevalence from 2002 (20.0%) to 2008 (18.5%) but there was little difference between 2002 and 2012 (20.0% to 19.8%). As a

result, marijuana use prevalence was significantly lower among African Americans compared with whites in 2002 but significantly greater in 2012. Among African Americans, there was no significant trend in any combustible tobacco/marijuana use prevalence (37.7% to 40.7%); whereas there was a significant linear decrease among whites (53.5% to 46.3%). Any combustible tobacco/marijuana use prevalence remained significantly lower among African American young adults compared with white young adults; however, the difference narrowed from 15.8 percentage points in 2002 to 5.6 in 2012.

### Exclusive, Dual, and Poly Use

**Youth Aged 12 to 17 Years**—Table 2 reports that, among African American and white youth who used any combustible tobacco/marijuana, there were significant linear decreases and quadratic trends in exclusive cigarette smoking. Among African Americans, exclusive cigarette smoking increased from 18.2% in 2002 to 27.8% in 2007 before decreasing to 11.7% in 2012. Among whites, exclusive cigarette smoking increased from 36.7% in 2002 to 38.0% in 2004 then declined to 26.3% in 2012. With regard to exclusive marijuana use, there was a significant linear increase and quadratic trend among both African Americans (32.2% to 48.8%) and whites (14.6% to 25.6%). By 2012, nearly half (48.8%) of African American youth who reported any combustible tobacco/marijuana use reported exclusive marijuana use while just 11.7% reported exclusive cigarette smoking. In contrast, the proportion of white youth who reported exclusive cigarette use (26.3%) in 2012 was approximately equal to the proportion who reported exclusive marijuana use (25.6%).

Among youth who used any combustible tobacco/marijuana, the proportion who reported some form of concurrent use (cigarette and marijuana, cigar and marijuana, or poly use) ranged from 31.4% to 40.3% among African Americans and 34.5% to 39.8% among whites. There was no significant change in combined cigarette and marijuana use (19.7% to 19.5%) among African Americans; among whites, there was a quadratic trend, as it decreased from 22.9% in 2002 to 19.1% in 2007 then increased to 22.1% in 2012. There was no significant difference in combined cigarette and marijuana use between African Americans and whites throughout the study period. There was no significant trend in combined cigar and marijuana use among African Americans (11.3% to 6.0%) but there was a significant linear increase among whites (2.1% to 4.5%). From 2002 to 2006, African Americans were more likely to report combined cigar and marijuana use compared with whites but there was no difference by 2012. There were no significant changes in poly use estimates among African Americans or whites. In 2012, poly use estimates were unstable for African American youth but in 2011 poly use was significantly lower among African Americans (8.3%) compared with whites (13.5%).

**Young Adults Aged 18 to 25 Years**—Table 3 shows that, among young adults who used any combustible tobacco/marijuana from 2002 to 2012, there was a significant linear decrease in exclusive cigarette smoking among African Americans (39.8% to 29.3%) and whites (49.8% to 42.0%). There was no significant trend in exclusive cigar smoking among African Americans (7.8% to 6.3%) but there was a significant linear increase and a quadratic trend among whites (4.0% to 6.8%). In 2002, exclusive cigar smoking was significantly greater among African American than whites; however, there was no significant difference

in 2012. There was a significant linear increase and quadratic trend in exclusive marijuana use among African Americans (12.3% to 22.2%) and whites (6.5% to 10.9%). After remaining relatively stable among African American young adults from 2002 to 2005 (12.3% to 12.6%), exclusive marijuana use more than doubled between 2006 and 2012 (9.5% to 22.2%). Exclusive marijuana use was significantly greater among African Americans compared with whites throughout the study period.

The proportion of young adults who reported some form of concurrent use (cigarette and marijuana, cigar and marijuana, or poly use) ranged from 29.1% to 39.8% among African Americans and from 29.2% to 33.2% among whites between 2002 and 2012. Combined cigarette and cigar use significantly decreased among African Americans (10.9% to 6.3%) and there was a quadratic trend among whites as prevalence increased from 8.7% in 2002 to 10.0% in 2005 before declining to 8.6% in 2012. As combined cigarette and marijuana use significantly increased among African Americans (12.9% to 19.3%) and remained stable among whites (21.3% to 20.3%), the significant difference between groups found in 2002 was not found in 2012. From 2002 to 2012, combined cigar and marijuana use was significantly greater among African American (5.8% to 7.2%) compared with white young adults (1.7% to 2.9%). There were no significant trends or differences in poly use between African Americans (10.4% to 9.4%) and whites (8.0% to 8.5%).

## Discussion

Our findings confirm that cigarette smoking prevalence remains lower among African American youth and young adults compared with white youth and young adults. However, as cigarette smoking prevalence decreased at a greater rate among white youth and young adults during 2002–2012, the historical difference in cigarette smoking prevalence between African American and white youth and young adults narrowed. After considering any combustible tobacco/marijuana use, African American youth and young adults still had significantly lower prevalence than their white counterparts. However, the absolute difference in any combustible tobacco/marijuana prevalence was much smaller than the difference observed in cigarette smoking prevalence. To understand both tobacco and marijuana use among youth and young adults, data are needed on a broader array of combustible tobacco products and concurrent tobacco and marijuana use. Therefore, public health policies and programs addressing these behaviors among youth and young adults could be strengthened by broadening the focus of surveillance systems to more consistently examine use of other forms of combustible products, including cigars and marijuana.

After cigarette smoking prevalence estimates began to decline more rapidly among African American youth and young adults compared with whites in the 1970s, researchers offered several theories to explain this pattern including differing peer, family, or religious influences as well as greater price sensitivity and under-reported cigarette use among African Americans.<sup>2</sup> Our results indicate that this historical difference in cigarette smoking prevalence narrowed between 2002 and 2012, as the decrease in cigarette use was greater among whites. The slower rate of decline among African American youth and young adults relative to whites may suggest that recent tobacco control efforts have had less impact on African American youth or that the tobacco industry has had greater success in marketing

cigarettes to African Americans. Proven interventions, such as price increases and smoke-free policies, have been shown to reduce tobacco use among African American youth and young adults,<sup>26</sup> but our findings suggest that known interventions may not be reaching African American youth and young adults as effectively as their white counterparts or that additional, tailored interventions may be warranted to address the specific smoking behaviors of African American youth and young adults.

Though marijuana prevalence was significantly lower among African American young adults compared with white young adults in 2002, by 2012 marijuana prevalence was significantly greater among African American young adults. This finding is consistent with those of a previous study, which found African Americans have higher prevalence of marijuana use than whites into young adulthood.<sup>27</sup> A survey of young adult African American men found that 49% did not associate marijuana use with any health risks.<sup>28</sup> Marijuana's addictive potential is consistently underestimated by youth and young adults, yet one in six youth who initiate marijuana use go on to become dependent on marijuana.<sup>29</sup> Though we found that marijuana prevalence significantly decreased among African American and white youth, other national surveys have documented a recent rise in youth marijuana use prevalence, with marijuana use surpassing cigarette use.<sup>10</sup> Risk perceptions of regular marijuana use have declined, while tobacco use continues to be associated with great risk, and these perceptions may be contributing to these changing patterns.<sup>10</sup> Some evidence suggests that legalization of marijuana use may reduce risk perceptions and that declines in perceived risk precede increases in marijuana use.<sup>10</sup> It seems possible that marijuana use legalized for medicinal purposes may give youth the impression that there is little or no risk associated with its use. Public health interventions and education campaigns may be enhanced by considering risk perceptions, taking into account the different smoking patterns of racial/ethnic groups and focusing on the health risks and addiction potential of marijuana use.

Among African American and white youth and young adults who reported any combustible tobacco/marijuana use, the proportion of exclusive cigarette smokers significantly decreased while the proportion of exclusive marijuana smokers significantly increased. African Americans were less likely to be exclusive cigarette smokers and more likely to be exclusive marijuana users compared with their white counterparts. Among those who reported any combustible tobacco/marijuana use, concurrent use of these substances was common. Though concurrent combustible tobacco and marijuana use is known to be associated with adverse outcomes, there are few studies describing prevention programs or interventions addressing concurrent use.<sup>13</sup> Future research, particularly longitudinal studies, assessing patterns and combinations of tobacco and marijuana use may strengthen interventions aimed at addressing both marijuana and tobacco use. The National Institute of Drug Abuse (NIDA) recommends that prevention programs address all forms of drug use, licit and illicit, alone and in combination and that interventions be tailored to address population specific risks.<sup>30</sup> Accordingly, interventions targeting youth and young adults may benefit by addressing risks of multiple forms of combusted tobacco use, as well as concurrent use of marijuana and tobacco.



Our findings are subject to limitations. All data were self-reported and not biochemically confirmed. Although the assessed recall period was relatively short (past 30 days), recall bias may still have occurred. Due to smaller sample sizes for African American youth and young adults, some estimates were unstable and not reported. Marijuana estimates reported for young adults in 2002 and 2003 did not explicitly include blunt use, which may have resulted in a small underestimation of marijuana prevalence among young adults in these years. Including past 30-day blunt users who did not report past 30-day marijuana use made a small impact on our results. Though blunt use is common among youth and young adults and may have important implications for the concurrent use of marijuana and tobacco, the current analysis did not report trends in blunt use and considered blunt use only to be a form of marijuana use. Future studies assessing the relationship between blunt use and dual marijuana and tobacco may be useful to informing how epidemiological studies should classify blunt use. Finally, we did not examine frequency or intensity of cigarette, cigar, or marijuana use or other forms of combusted tobacco use, such as hookah.

In conclusion, trends in any use of cigarettes, cigars, and/or marijuana suggest the difference in smoking prevalence between African American and white youth and young adults is real, but less pronounced than when cigarette smoking is assessed alone. In 2012, more than 10% of African American and white youth, more than a third of African American young adults, and nearly half of white young adults reported past 30-day use of cigarette, cigars, and/or marijuana. Public health programs aimed at reducing these health risk behaviors among youth and young adults could be informed by considering detailed, race-specific information regarding tobacco and marijuana use patterns. The Surgeon General's report states that increasing the price of all tobacco products, implementing 100% smoke-free laws, and warning about the dangers of all tobacco use through media campaigns are effective, evidence-based methods of preventing tobacco use among youth.<sup>26</sup> Yet, interventions aimed at preventing tobacco initiation among youth commonly focus on cigarettes alone.<sup>31</sup> Efforts to prevent smoking among youth and young adults could be strengthened by recognizing the associations between cigarette, cigar, and marijuana use and more consistently addressing all of these behaviors to improve individual and population level health.

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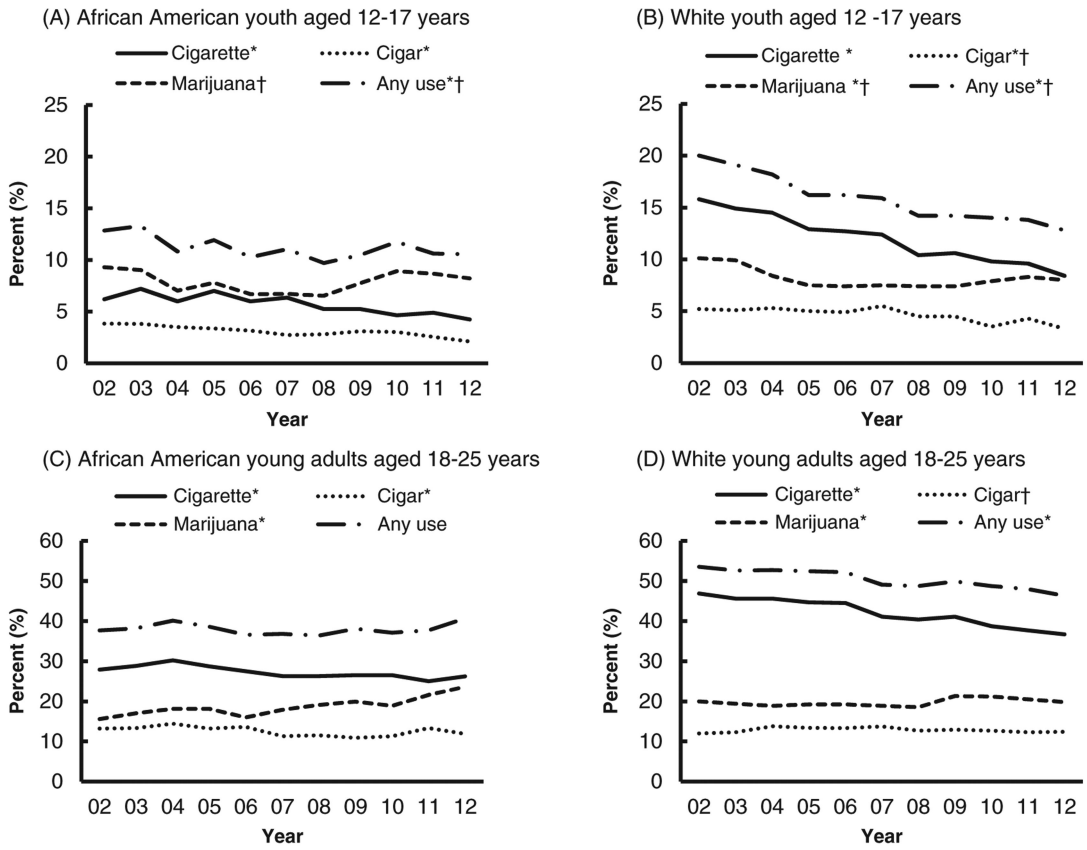
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\* Linear trend,  $p < 0.05$   
† Quadratic trend,  $p < 0.05$

**Figure 1.** Past 30-day cigarette, cigar, marijuana, and any combustible tobacco/marijuana use prevalence among African American and white youth and young adults, National Survey on Drug Use and Health, 2002–2012.

**Table 1**

## Definition of Smoking Behavior Measures

<b>Any past 30-day use prevalence</b>	
<b>Measure name</b>	<b>Definition</b>
Cigarette smoking	Smoked part or all of a cigarette
Cigar smoking	Smoked part or all of any type of cigar, defined as “big cigars, cigarillos, and even little cigars that look like cigarettes.” Blunt use is not included.
Blunt use	Smoked a cigar with marijuana in it. Classified as marijuana use but not as cigar use.
Marijuana use	Smoked marijuana, hashish, and/or blunts
Combustible tobacco/marijuana use	Smoked cigarettes, cigars, and/or marijuana
<b>Past 30-day exclusive, dual, and poly use among any combustible tobacco/marijuana users</b>	
<b>Measure name</b>	<b>Definition</b>
Exclusive cigarette smoking	Smoked a cigarette but did not smoke cigars or marijuana
Exclusive cigar smoking	Smoked a cigar but did not smoke cigarettes or marijuana.
Exclusive marijuana use	Smoked marijuana (including blunts) but did not smoke cigarettes or cigars
Combined cigarette and cigar	Smoked cigarettes and cigars, but not marijuana
Combined cigarette and marijuana	Smoked cigarettes and marijuana, but not cigars
Combined cigar and marijuana	Smoked cigars and marijuana, but not cigarettes
Poly use	Smoked cigarettes, cigars, and marijuana

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Table 2

Past 30-Day Exclusive Cigarette, Cigar, Marijuana, Dual, and Poly Use Prevalence Among African American and White Youth Who Reported Any Past 30-Day Cigarette, Cigar, and/or Marijuana Use, National Survey on Drug Use and Health, 2002 to 2012

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Pctg. point diff <sup>d</sup>	Avg ann diff <sup>b</sup>	Trend <sup>c</sup>
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)			
African American 12 to 17														
Exclusive cigarette	18.2 (13.1, 23.3)	20.8 (16.2, 25.3)	20.3 (15.0, 25.6)	22.6 (17.2, 28.1)	20.8 (15.2, 26.4)	27.8 (20.8, 34.8)	24.4 (18.4, 30.4)	15.2 (10.4, 20.0)	14.7 (10.0, 19.5)	12.1 (6.7, 17.6)	11.7 (7.2, 16.1)	-6.5	-0.7	AB
Exclusive cigar	8.2 (5.0, 11.4)	6.4 (3.9, 9.0)	9.5 (5.8, 13.3)	5.2 (2.6, 7.7)	4.5 (2.0, 7.1)	7.3 (3.7, 10.8)	5.5 (3.0, 8.1)	8.1 (3.8, 12.3)	6.9 (3.6, 10.2)	—	—	-1.3	-0.2	
Exclusive MJ	32.2 (25.5, 38.9)	31.6 (25.5, 37.7)	28.6 (22.5, 34.8)	28.5 (20.9, 36.1)	28.4 (21.4, 35.4)	29.4 (21.4, 37.4)	29.6 (22.1, 37.1)	33.7 (26.3, 41.1)	44.3 (37.7, 51.0)	41.8 (33.3, 50.3)	48.8 (40.2, 57.5)	16.6	1.7	AB
Cigarette + cigar	—	—	—	—	9.6 (4.4, 14.7)	—	—	—	—	—	—	—	—	—
Cigarette + MJ	19.7 (13.7, 25.7)	19.0 (14.7, 23.3)	18.7 (13.8, 23.7)	20.6 (14.2, 27.0)	20.1 (14.5, 25.7)	18.1 (13.0, 23.1)	17.1 (10.8, 23.4)	21.6 (15.4, 27.8)	15.1 (9.8, 20.4)	22.1 (16.3, 27.8)	19.5 (12.1, 27.0)	-0.2	0.0	
Cigar + MJ	11.3 (6.9, 15.7)	7.7 (4.0, 11.5)	6.4 (3.0, 9.7)	7.6 (3.6, 11.6)	8.8 (3.9, 13.7)	6.0 (2.8, 9.1)	10.7 (4.1, 17.2)	8.2 (4.1, 12.3)	9.1 (5.0, 13.3)	9.2 (5.4, 13.0)	6.0 (3.1, 8.9)	-5.3	-0.5	
Poly use	9.2 (5.8, 12.5)	9.6 (5.7, 13.4)	11.2 (7.1, 15.3)	8.7 (4.3, 13.0)	7.9 (3.9, 11.9)	7.3 (4.4, 10.2)	10.0 (5.1, 14.8)	10.5 (4.9, 16.2)	7.4 (4.0, 10.7)	8.3 (3.8, 12.8)	—	-0.9	-0.1	
White 12 to 17														
Exclusive cigarette	36.7 (34.4, 39.1)	35.1 (33.1, 37.1)	38.0 (35.5, 40.5)	36.8 (33.6, 40.0)	37.0 (34.3, 39.7)	34.5 (32.0, 36.9)	31.4 (28.4, 34.4)	31.3 (28.0, 34.5)	32.4 (29.0, 35.7)	26.8 (24.0, 29.5)	26.3 (23.6, 29.0)	-10.4	-1.0	AB
Exclusive cigar	4.5 (3.5, 5.5)	5.3 (4.0, 6.6)	6.8 (5.4, 8.1)	6.9 (5.8, 8.0)	7.6 (6.3, 9.0)	7.5 (5.9, 9.1)	6.9 (5.1, 8.7)	6.3 (4.6, 8.0)	5.8 (4.4, 7.2)	6.7 (5.3, 8.0)	4.3 (3.0, 5.5)	-0.2	0.0	B
Exclusive MJ	14.6 (13.3, 15.8)	14.5 (12.5, 16.5)	11.0 (9.2, 12.7)	10.9 (9.2, 12.6)	11.6 (9.8, 13.4)	12.0 (9.8, 14.1)	15.8 (13.7, 17.9)	15.6 (13.5, 17.7)	19.8 (17.2, 22.4)	19.9 (17.7, 22.2)	25.6 (22.4, 28.7)	11.0	1.1	AB
Cigarette + cigar	8.5 (7.1, 9.9)	7.7 (6.4, 9.0)	9.4 (8.0, 10.9)	10.3 (8.5, 12.0)	9.3 (7.6, 10.9)	11.1 (9.0, 13.2)	9.2 (7.1, 11.2)	9.9 (7.6, 12.2)	5.5 (4.1, 6.9)	6.8 (5.5, 8.2)	7.2 (5.5, 8.8)	-1.3	-0.1	AB
Cigarette + MJ	22.9 (21.1, 24.8)	23.6 (21.6, 25.6)	22.3 (20.0, 24.6)	21.4 (19.0, 23.8)	21.3 (19.4, 23.3)	19.1 (16.5, 21.7)	21.4 (18.6, 24.2)	21.4 (18.8, 24.1)	22.6 (19.8, 25.3)	22.2 (19.5, 25.0)	22.1 (19.3, 24.9)	-0.8	-0.1	B
Cigar + MJ	2.1 (1.4, 2.8)	2.1 (1.3, 2.9)	2.5 (1.8, 3.3)	2.7 (1.7, 3.7)	2.3 (1.5, 3.0)	2.8 (1.5, 4.1)	4.0 (2.7, 5.2)	3.3 (2.2, 4.4)	4.2 (3.0, 5.3)	4.1 (2.8, 5.3)	4.5 (3.0, 5.9)	2.4	0.2	A
Poly use	10.7 (9.2, 12.1)	11.7 (10.0, 13.5)	10.0 (8.1, 12.0)	11.1 (9.3, 12.9)	10.9 (9.2, 12.6)	13.0 (11.2, 14.9)	11.4 (9.3, 13.5)	12.2 (10.0, 14.5)	9.9 (8.0, 11.8)	13.5 (11.3, 15.7)	10.2 (8.0, 12.5)	-0.5	-0.1	

CI = confidence interval; MJ = marijuana.

—Data not presented because relative standard error &gt; 30%.

<sup>a</sup> Absolute percentage point difference between 2012 and 2002 point estimates.<sup>b</sup> Average annual difference calculated by dividing the difference in each 2-year period.<sup>c</sup> Results of trends testing. A indicates significant linear trend ( $P < .05$ ) and B indicates significant quadratic trend ( $P < .05$ ).

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Table 3

Past 30-Day Exclusive Cigarette, Cigar, Marijuana, Dual, and Poly Use Prevalence Among African American and White Young Adults Who Reported Any Past 30-Day Cigarette, Cigar, and/or Marijuana Use, National Survey on Drug Use and Health, 2002 to 2012

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Pctg. point diff <sup>a</sup>	Avg ann diff <sup>b</sup>	Trend <sup>c</sup>
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)			
African American 18 to 25														
Exclusive cigarette	39.8 (36.8, 42.9)	37.8 (33.5, 42.0)	35.5 (31.9, 39.0)	36.6 (33.3, 39.8)	37.5 (33.3, 41.7)	36.3 (32.6, 39.9)	32.6 (28.3, 37.0)	33.7 (29.8, 37.5)	35.6 (31.2, 40.0)	27.5 (24.0, 30.9)	29.3 (25.5, 33.2)	-10.5	-1.1	A
Exclusive cigar	7.8 (5.9, 9.8)	6.6 (4.5, 8.7)	7.9 (5.8, 10.0)	6.7 (4.5, 8.8)	8.8 (6.7, 10.8)	8.0 (5.2, 10.7)	7.0 (4.8, 9.2)	7.3 (5.2, 9.3)	7.8 (5.3, 10.2)	7.8 (5.6, 9.9)	6.3 (4.7, 7.8)	-1.5	-0.2	
Exclusive MJ	12.3 (9.8, 14.8)	11.6 (8.9, 14.4)	11.8 (9.4, 14.1)	12.6 (10.2, 15.0)	9.5 (7.7, 11.3)	15.2 (12.3, 18.2)	15.1 (11.9, 18.3)	17.9 (14.9, 20.8)	14.6 (11.6, 17.6)	17.6 (14.0, 21.2)	22.2 (19.4, 25.0)	9.9	1.0	AB
Cigarette + cigar	10.9 (8.7, 13.0)	11.0 (8.5, 13.6)	11.6 (9.2, 14.0)	10.0 (7.5, 12.5)	10.0 (7.3, 12.7)	7.1 (5.2, 8.9)	8.0 (5.8, 10.2)	6.9 (5.1, 8.6)	5.7 (4.0, 7.4)	7.3 (4.9, 9.6)	6.3 (4.4, 8.3)	-4.6	-0.5	A
Cigarette + MJ	12.9 (10.6, 15.2)	15.9 (12.5, 19.2)	16.8 (13.4, 20.2)	16.6 (13.4, 19.8)	15.8 (13.1, 18.6)	17.7 (14.7, 20.6)	20.6 (17.0, 24.2)	19.9 (15.9, 23.9)	19.4 (16.1, 22.6)	19.5 (16.6, 22.5)	19.3 (16.4, 22.1)	6.4	0.6	A
Cigar + MJ	5.8 (4.0, 7.7)	6.4 (4.4, 8.3)	5.2 (3.7, 6.7)	6.4 (4.5, 8.2)	6.6 (4.3, 8.9)	5.3 (3.4, 7.1)	5.8 (4.1, 7.5)	5.3 (3.7, 7.0)	6.3 (3.7, 8.9)	8.2 (6.1, 10.4)	7.2 (4.9, 9.6)	1.4	0.1	
Poly use	10.4 (8.1, 12.7)	10.8 (8.6, 12.9)	11.3 (8.6, 13.9)	11.2 (8.9, 13.5)	11.9 (9.1, 14.6)	10.5 (7.8, 13.2)	10.9 (8.3, 13.4)	9.1 (7.0, 11.2)	10.7 (7.5, 13.9)	12.1 (8.9, 15.3)	9.4 (7.1, 11.7)	-1.0	-0.1	
White 18 to 25														
Exclusive cigarette	49.8 (48.3, 51.3)	49.5 (47.5, 51.4)	49.0 (47.6, 50.4)	48.1 (46.5, 49.7)	47.4 (45.4, 49.4)	45.5 (43.7, 47.3)	46.4 (44.5, 48.2)	42.5 (40.7, 44.3)	41.9 (40.1, 43.8)	41.6 (39.7, 43.5)	42.0 (40.2, 43.7)	-7.8	-0.8	A
Exclusive cigar	4.0 (3.4, 4.6)	4.1 (3.6, 4.7)	5.2 (4.5, 5.9)	5.3 (4.5, 6.0)	6.1 (5.0, 7.1)	6.7 (5.8, 7.6)	6.4 (5.7, 7.2)	5.5 (4.7, 6.3)	6.5 (5.7, 7.3)	7.0 (6.2, 7.9)	6.8 (5.7, 7.8)	2.8	0.3	AB
Exclusive MJ	6.5 (5.6, 7.4)	7.2 (6.3, 8.0)	6.0 (5.2, 6.9)	7.4 (6.7, 8.1)	6.4 (5.6, 7.2)	7.1 (6.1, 8.1)	8.2 (7.1, 9.4)	9.5 (8.5, 10.5)	10.9 (9.9, 11.9)	12.1 (10.7, 13.6)	10.9 (9.8, 12.1)	4.4	0.4	AB
Cigarette + cigar	8.7 (8.1, 9.4)	9.5 (8.6, 10.5)	9.8 (8.8, 10.9)	10.0 (9.1, 11.0)	9.8 (8.9, 10.7)	9.2 (8.1, 10.3)	9.2 (8.0, 10.4)	9.3 (8.1, 10.4)	8.1 (7.2, 9.0)	8.6 (7.6, 9.5)	8.6 (7.5, 9.7)	-0.1	0.0	B
Cigarette + MJ	21.3 (20.1, 22.4)	19.9 (18.7, 21.1)	18.6 (17.6, 19.7)	19.0 (17.7, 20.3)	20.7 (19.1, 22.3)	19.6 (18.2, 20.9)	19.3 (17.8, 20.8)	22.2 (20.9, 23.5)	21.2 (19.8, 22.6)	20.5 (19.3, 21.8)	20.3 (18.9, 21.7)	-1.0	-0.1	
Cigar + MJ	1.7 (1.3, 2.1)	2.0 (1.4, 2.6)	2.1 (1.7, 2.6)	2.0 (1.6, 2.4)	2.2 (1.7, 2.7)	2.5 (2.0, 3.1)	2.4 (1.7, 3.0)	2.4 (2.0, 2.9)	3.0 (2.3, 3.7)	2.3 (1.8, 2.8)	2.9 (2.4, 3.5)	1.2	0.1	A
Poly use	8.0 (7.0, 9.0)	7.8 (6.9, 8.7)	9.1 (8.3, 9.9)	8.2 (7.4, 8.9)	7.5 (6.5, 8.4)	9.3 (8.3, 10.4)	8.1 (7.1, 9.1)	8.6 (7.5, 9.7)	8.4 (7.3, 9.4)	7.8 (7.0, 8.6)	8.5 (7.3, 9.7)	0.5	0.1	

CI = confidence interval; MJ = marijuana.

<sup>a</sup>Absolute percentage point difference between 2012 and 2002 point estimates.<sup>b</sup>Average annual difference calculated by dividing the difference in each 2-year period.<sup>c</sup>Results of trends testing A indicates significant linear trend ( $P < .05$ ) and B indicates significant quadratic trend ( $P < .05$ ).