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Cigar, marijuana, and blunt use among US adolescents: Are we accurately estimating the prevalence of cigar smoking among youth?

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National estimates and industry trade publications indicate that annual cigar consumption in the US continues to increase annually and more than doubled between 1990 and 2007 (USDT, 2009; Maxwell, 2008). Past month cigar use is highest among adolescents and young adults (USDHHS, 2009). Some adolescent and young adult smokers who use cigars may be engaging in a practice known as “blunting.” Blunting involves hollowing out the tobacco in the cigar and replacing it with marijuana. Some research suggests that blunt users do not consider themselves a tobacco or cigar user (Yerger et al., 2001; Soldz et al., 2003). This paper examines whether blunt use contributes to an underestimation of cigar use using the 2007 National Survey on Drug Use and Health (NSDUH), which included questions on cigars, marijuana and blunt use.

We analyzed data from 36,044 adolescents and young adults, ages 12 through 25, who completed the 2007 NSDUH (USDHSS, 2009). Cigars were comprehensively described to include cigars, cigarillos, and little cigars. Blunts were described as taking “some tobacco out of a cigar and replacing it with marijuana.” We defined past month cigar and marijuana use as any use in the past 30 days. We also formulated new operational definitions of past month cigar and marijuana use that were inclusive of past month blunt use (e.g., affirmative response to cigar or blunt question). Sample weights were applied and analyses were performed using SAS 9.2. We generated prevalence estimates with 95% confidence intervals, and kappa coefficients were calculated to measure agreement between the two operational definitions.

Overall, 8.6% of respondents between the ages of 12 and 25 reported past month use of cigars based on the standard definition while 13.4% reported past month use when the definition of cigar use included blunts. As shown in Table 1, agreement between reported cigar use and cigar-inclusive-of-blunt use was substantial (kappa=.76) but varied considerably by gender and race (Landis and Koch, 1977). Agreement between the two cigar measures was lower among females (kappa=0.65) than males (kappa=0.80); this difference

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was consistent across race and age groups. By race, Blacks had the lowest agreement between measures, especially among adolescents ages 12 to 17; and although Whites had significantly higher cigar prevalence rates than Blacks, the two groups had nearly identical cigar-inclusive prevalence rates. In contrast, agreement between reported marijuana use and marijuana-inclusive-of-blunt use was almost perfect ($\kappa=0.98$).

Our findings raise more questions than answers. Young people recognize blunts as a form of marijuana use but do not recognize it as cigar use. Indeed, consistent with other research, only one-third of blunt users classified themselves as a past month cigar user (Golub et al., 2005). Should blunt smokers be counted as cigar users? Some argue that blunt use does not constitute cigar use because much of the cigar content is discarded during blunt preparation (Golub et al., 2005). Also, Soldz et al. (2003) suggests that the majority of blunt users are not current cigar users and that youth are able to make a distinction between the use of a cigar and of a blunt. However, a blunt is made with a cigar, which in turn contributes to sales and consumption. In addition, nicotine may be extracted directly from oral contact with the cigar's tobacco wrapper (Henningfield et al., 1999). It is plausible that blunt use contributes to nicotine intake although we do not know to what degree, especially given that the amount of tobacco discarded likely varies. Subsequently, we must recognize that while blunt smoking is a potential form of tobacco initiation and use, youth may not identify it as such. Blunt and cigar use needs further research including product testing to determine the extent of tobacco exposure from blunt use.

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Table 1

Unweighted prevalence and concordance of current cigar use with and without blunt inclusion among adolescents and young adults aged 12–25, by gender and race/ethnicity, NSDUH 2007.

	Ages 12–17 years			Ages 18–24 years			Overall									
	Cigars	Cigars-inclusive ^d	Kappa	Cigars	Cigars-inclusive ^d	Kappa	Cigars	Cigars-inclusive ^d	Kappa							
	%	(CI)	%	(CI)	%	(CI)	%	(CI)	%	(CI)						
Male	6.1	(0.5)	8.6	(0.6)	0.80	(1.1)	18.7	(1.1)	26.0	(1.1)	0.79	13.1	(0.7)	18.4	(0.7)	0.80
White, non-Hispanic	7.8	(0.9)	9.7	(1.0)	0.86	(1.5)	21.7	(1.3)	28.6	(1.5)	0.81	15.8	(0.9)	20.5	(1.0)	0.83
Black, non-Hispanic	3.5	(1.4)	7.8	(1.9)	0.60	(3.5)	17.2	(3.3)	30.4	(3.5)	0.64	10.6	(2.0)	19.5	(2.3)	0.65
Hispanic	3.1	(0.9)	6.2	(1.6)	0.70	(3.0)	11.7	(3.1)	16.9	(3.0)	0.80	7.9	(1.9)	12.2	(1.9)	0.77
Other	4.1	(2.3)	7.7	(3.7)	0.74	(3.7)	11.9	(2.8)	18.3	(3.7)	0.79	8.5	(2.0)	13.7	(2.6)	0.78
Female	2.4	(0.4)	5.2	(0.6)	0.64	(0.9)	5.1	(0.7)	10.5	(0.9)	0.65	4.0	(0.4)	8.2	(0.5)	0.65
White, non-Hispanic	2.9	(0.5)	5.7	(0.8)	0.68	(1.1)	5.3	(0.8)	11.0	(1.1)	0.65	4.3	(0.5)	8.8	(0.7)	0.66
Black, non-Hispanic	1.9	(0.9)	5.2	(1.5)	0.54	(2.0)	6.1	(1.8)	13.3	(2.0)	0.62	4.3	(1.1)	9.8	(1.4)	0.60
Hispanic	1.9	(0.9)	4.3	(1.4)	0.62	(1.7)	4.0	(1.5)	7.1	(1.7)	0.69	3.0	(1.0)	5.8	(1.1)	0.66
Other	1.3	(1.0)	2.9	(1.9)	0.59	(2.4)	4.4	(1.9)	7.7	(2.4)	0.70	3.1	(1.1)	5.6	(1.6)	0.67
Total	4.3	(0.3)	6.9	(0.5)	0.75	(0.8)	12.0	(0.7)	18.3	(0.8)	0.75	8.6	(0.4)	13.4	(0.4)	0.76
White, non-Hispanic	5.4	(0.6)	7.8	(0.7)	0.81	(1.0)	13.6	(0.8)	19.9	(1.0)	0.77	10.1	(0.5)	14.7	(0.7)	0.79
Black, non-Hispanic	2.7	(0.9)	6.6	(1.3)	0.58	(2.2)	11.3	(1.9)	21.4	(2.2)	0.64	7.4	(1.2)	14.6	(1.4)	0.63
Hispanic	2.5	(0.6)	5.3	(1.1)	0.67	(1.9)	8.0	(1.9)	12.2	(1.9)	0.78	5.5	(1.1)	9.1	(1.2)	0.74
Other	2.7	(1.8)	5.3	(2.4)	0.69	(2.1)	8.1	(1.6)	13.0	(2.1)	0.76	5.8	(1.2)	9.7	(1.5)	0.75

Kappa statistics are not weighted.

^dInclusive of blunt use; CI, 95% confidence interval half-width.