

## PATH Study – Secondhand Smoke Analysis

The majority of adults and youth live in homes with policies banning the use of combustible tobacco. A slightly smaller percentage report having rules against using e-cigarettes/ENDS in their home, but that percentage increased between the two most recent survey waves.

Table 1. Home Tobacco Use Rules Waves 1 through 4 of the PATH Study

Rules about smoking <b>combustible</b> products	Wave 1						Wave 2						Wave 3						Wave 4			
	Adult (n=32,165)		Parent (n=13,581)		Youth (n=13,493) <sup>b</sup>		Adult (n=28,251)		Parent (n=11,336)		Youth (n=11,992) <sup>b</sup>		Adult (n=28,009)		Parent (n=11,555)		Youth (n=11,632) <sup>b</sup>		Adult (n=27,638)		Parent (n=5,555)	
	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se
Banned	81.5	0.4	83.1	0.6	81.1	0.6	82.5	0.4	84.3	0.6	81.2	0.6	83.8	0.4	85.4	0.6	83.1	0.6	84.4	0.4	86.0	0.7
Partial ban	10.2	0.3	10.7	0.5	12.1	0.4	9.8	0.3	10.1	0.5	10.4	0.5	8.9	0.2	9.4	0.5	10.3	0.4	8.6	0.2	9.4	0.5
Allowed	8.3	0.2	6.2	0.3	6.8	0.3	7.7	0.2	5.7	0.4	8.4	0.3	7.3	0.2	5.2	0.3	6.7	0.3	7.1	0.2	4.7	0.4
Rules about the use of <b>non-combustible / smokeless tobacco</b>	Adult		Parent		Youth		Adult		Parent		Youth		Adult (n=27,836)		Parent (n=11,535)		Youth (n=11,575) <sup>b</sup>		Adult (n=27,511)		Parent (n=5,550)	
	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se
Banned													76.9	0.4	79.7	0.7	85.1	0.5	77.8	0.4	80.7	0.8
Partial ban													10.6	0.3	10.7	0.5	7.6	0.3	11.2	0.3	10.0	0.5
Allowed													12.5	0.3	9.6	0.5	7.2	0.3	11.1	0.3	9.3	0.5
Rules about using <b>e-cigarettes/ENDS</b>	Adult		Parent		Youth		Adult		Parent		Youth		Adult (n=27,907)		Parent (n=11,547)		Youth (n=11,627) <sup>b</sup>		Adult (n=27,561)		Parent (n=5,552)	
	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se
Banned													79.4	0.4	82.3	0.6	83.1	0.5	80.7	0.4	83.6	0.7
Partial ban													10.7	0.3	9.8	0.4	9.4	0.3	10.1	0.2	9.5	0.5
Allowed													9.9	0.3	7.9	0.4	7.5	0.3	9.2	0.3	6.9	0.4
Rules about the use of <b>smokeless tobacco and e-cigarettes<sup>a</sup></b>	Adult (n=31,994)		Parent (n=13,558)		Youth (13,376) <sup>b</sup>		Adult (n=28,110)		Parent (n=11,311)		Youth (n=11,901) <sup>b</sup>		Adult (n=27,730)		Parent (n=11,534)		Youth (n=11,516) <sup>b</sup>		Adult (n=27,433)		Parent (n=5,548)	
	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se	%	se
Banned	73.5	0.5	73.9	0.7	80.2	0.5	74.3	0.4	75.9	0.7	80.3	0.6	71.5	0.5	73.7	0.8	79.0	0.6	72.8	0.5	75.3	0.9
Partial ban	12.4	0.3	14.2	0.4	10.7	0.4	12.6	0.3	12.9	0.5	9.6	0.4	21.6	0.4	21.4	0.7	16.5	0.5	20.9	0.4	20.4	0.8
Allowed	14.1	0.3	11.9	0.5	9.1	0.4	13.1	0.3	11.2	0.4	10.1	0.4	6.9	0.2	4.9	0.3	4.5	0.2	6.3	0.2	4.3	0.4

Percentages and standard errors (SE's) are from PATH Study public use data files weighted using the cross-sectional weights for each wave. Tests for differences between waves are weighted using the Wave 4 all-wave weight.

<sup>a</sup>W1 and W2 results from questionnaire items. W3 and W4 results from derived variable combining the measures for each product.

<sup>b</sup>p<0.001 for chi-square test for agreement between parent/youth responses

<sup>c</sup> $\chi^2$  p-value <0.001 for the difference between survey waves, adult

<sup>d</sup> $\chi^2$  p-value <0.001 for the difference between survey waves, youth

Adults more likely to report a complete ban on all types of tobacco products were non-users of tobacco, living with others and/or children in the household, and at or above poverty level. In addition, being female, “other” race, Hispanic ethnicity, and age 65 and over were all associated with having a complete ban on all types of tobacco products in the home.

Table 2. Characteristics of adults with home tobacco use bans, PATH Study Wave 4 (n=27,638)										
			Combustible tobacco products banned, but smokeless or ENDS allowed (n=4,473)		Smokeless/vaping banned, but combustible tobacco allowed (n=873)		All 3 product types banned (n=16,782)		No tobacco bans (n=4,149)	
<b>Overall</b>		Percent	14.2		2.4		70.0		10.1	
		95% CI	[13.430,14.944]		[2.139,2.721]		[68.987,71.008]		[9.595,10.703]	
		N	4473		873		16782		4149	
<b>Tobacco Use Status</b>		Percent	11.6	**	1.7	**	80.4	**	4.5	**
	No Past 30-Day tobacco use	95% CI	[10.731,12.497]		[1.405,2.089]		[79.317,81.457]		[4.055,5.021]	
		N	1835		309		11406		866	
	Past 30-Day use of combustible tobacco only	Percent	13.2		5.4		47.4		26.4	
		95% CI	[12.419,14.118]		[4.851,6.102]		[45.717,49.137]		[24.892,27.881]	
		N	1148		473		3905		2319	
	Past 30-Day use of E-cigarettes or smokeless tobacco only	Percent	52.1		1.6		29.0		12.6	
		95% CI	[48.908,55.253]		[1.040,2.381]		[25.907,32.385]		[10.997,14.501]	
		N	689		28		474		183	
	Past 30-Day poly use of combustible, e-cigarettes, and/or smokeless tobacco	Percent	29.3		1.8		33.5		28.4	
		95% CI	[27.197,31.496]		[1.378,2.441]		[31.031,36.074]		[26.314,30.577]	
		N	801		63		997		781	
<b>Household Size (W1)</b>		Percent	13.4		2.5		66.7	**	13.0	**
	Single household (lives alone)	95% CI	[11.622,15.402]		[1.800,3.550]		[64.082,69.232]		[11.595,14.524]	
		N	384		91		1253		545	
	2 or more people in the household	Percent	14.3		2.4		70.5		9.7	
		95% CI	[13.524,15.080]		[2.102,2.729]		[69.432,71.534]		[9.162,10.291]	
		N	4089		782		15529		3604	
<b>Children in the home (W1)</b>	Yes	Percent	14.2		2.4		72.1	**	8.6	**
		95% CI	[13.194,15.229]		[1.976,2.906]		[70.688,73.444]		[7.917,9.285]	
		N	1560		303		5985		1338	
	No	Percent	14.3		2.4		68.8		11.1	
		95% CI	[13.326,15.300]		[1.994,2.781]		[67.480,70.013]		[10.336,11.857]	
		N	2307		397		7252		2247	
<b>Poverty Status (W1)</b>	Below poverty level	Percent	10.2	**	4.2	**	64.8	**	15.8	**
		95% CI	[9.361,11.173]		[3.547,4.895]		[62.908,66.563]		[14.643,17.128]	
		N	935		308		3929		1532	
	At or above poverty level	Percent	16.3		1.7		71.2		8.3	
		95% CI	[15.378,17.332]		[1.410,2.021]		[70.072,72.388]		[7.721,8.892]	
		N	2664		310		8128		1780	

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<b>Overall</b>		Percent	14.2	2.4	70.0	10.1		
		95% CI	[13.430,14.944]	[2.139,2.721]	[68.987,71.008]	[9.595,10.703]		
		N	4473	873	16782	4149		
<b>Sex</b>	Male	Percent	15.4	** 2.1	*	67.9	** 11.3	**
		95% CI	[14.448,16.454]	[1.832,2.520]	[66.626,69.072]	[10.631,12.036]		
		N	2357	396	7968	2087		
	Female	Percent	13.0	2.7	72.0	9.0		
		95% CI	[12.144,13.932]	[2.274,3.102]	[70.711,73.238]	[8.407,9.730]		
		N	2116	477	8814	2062		
<b>Race</b>	White only	Percent	15.9	** 1.7	**	69.6	** 9.8	**
		95% CI	[15.040,16.897]	[1.506,2.021]	[68.401,70.714]	[9.190,10.441]		
		N	3730	436	12086	2910		
	Black only	Percent	6.5	5.9	67.3	14.2		
		95% CI	[5.646,7.559]	[4.951,6.945]	[65.208,69.420]	[12.823,15.747]		
		N	346	310	2672	836		
	other	Percent	9.9	3.3	76.7	7.7		
		95% CI	[8.273,11.787]	[2.295,4.704]	[74.217,79.078]	[6.437,9.140]		
		N	397	127	2024	403		
<b>Ethnicity</b>	Hispanic	Percent	6.5	** 2.7	**	83.2	** 5.4	**
		95% CI	[5.584,7.616]	[2.226,3.248]	[81.596,84.678]	[4.669,6.193]		
		N	486	165	4207	427		
	Not Hispanic	Percent	15.6	2.4	67.6	11.0		
		95% CI	[14.727,16.461]	[2.066,2.701]	[66.417,68.728]	[10.409,11.641]		
		N	3987	708	12575.0	3722		
<b>Age Group</b>	18-24	Percent	15.2	** 2.8	65.7	12.2	**	
		95% CI	[14.141,16.299]	[2.392,3.257]	[64.033,67.311]	[11.322,13.174]		
		N	1222	271	5647	1084		
	25-34	Percent	19.7	2.3	64.8	10.1		
		95% CI	[18.323,21.088]	[1.830,2.847]	[63.050,66.571]	[9.203,11.047]		
		N	1263	150	3421.0	820		
	35-44	Percent	15.6	2.0	70.3	9.1		
		95% CI	[14.061,17.376]	[1.435,2.733]	[67.993,72.439]	[7.977,10.286]		
		N	682	103	2233	548		
	45-54	Percent	14.0	1.7	69.5	11.5		
		95% CI	[12.571,15.572]	[1.245,2.375]	[67.346,71.635]	[10.169,12.891]		
		N	581	97	1961	674		
	55-64	Percent	13.7	3.0	68.5	11.0		
		95% CI	[12.133,15.425]	[2.285,3.855]	[66.442,70.465]	[9.765,12.382]		
		N	472	139	1752	657		
	65+	Percent	8.3	2.7	78.5	7.9		
		95% CI	[6.971,9.791]	[1.980,3.783]	[76.536,80.323]	[6.972,9.002]		
		N	253	113	1767	365		
	Estimates are from PATH Study public use data files weighted using the Wave 4 single-wave weight.							
	**p<0.001							
	*p<0.05							

The average number of hours than adults and youth report exposure to secondhand smoke has decreased over the 4 survey waves.

	Wave 1				Wave 2				Wave 3				Wave 4			
	Adult		Youth		Adult		Youth		Adult		Youth		Adult		Youth	
	Hours	CI	Hours	CI	Hours	CI	Hours	CI	Hours	CI	Hours	CI	Hours	CI	Hours	CI
Average hours of SHS Exposure	5.6	(5.4-5.9)	4.1	(3.7-4.5)	5.0	(4.7-5.3)	3.3	(2.9-3.6)	4.6	(4.4-4.9)	2.5	(2.2-2.7)	4.2	(4.0-4.5)	2.4	(2.1-2.7)

Note: Estimates are weighted using single wave weights for the Wave 1 Cohort.

Among adults and youth past 30 day users of any type of tobacco is associated with increased exposure to secondhand smoke.

Wave 4 Tobacco Use Status	Adult		Youth	
	Hours	CI	Hours	CI
No Past 30-Day tobacco use	1.6	(1.5-1.8)	1.7	(1.5-2.0)
Past 30-Day use of combustible tobacco only	11.6	(10.7-12.6)	9.1	(5.1-13.1)
Past 30-Day use of E-cigarettes or smokeless tobacco only	4.9	(3.9-5.8)	5.0	(2.7-7.3)
Past 30-Day poly use of combustible, e-cigarettes, and/or smokeless tobacco	13.1	(12.2-14.0)	6.3	(4.3-8.3)

Note: Estimates are weighted using single wave weights for the Wave 1 Cohort.

In households with no bans on any type of tobacco, reported exposure to secondhand smoke is highest, 16 hours in the past 7 days on average. In household with a complete ban on all types of tobacco, reported exposure to secondhand smoke is lowest, 2 hours in the past 7 days on average.

	Percent	Combustible tobacco products banned, but smokeless or ENDS allowed (n=4,473)	Smokeless/vaping banned, but combustible tobacco allowed (n=873)	All 3 product types banned (n=16,782)	No tobacco bans (n=4,149)
		<b>Overall</b>		14.2	2.4
	95% CI	[13.430,14.944]	[2.139,2.721]	[68.987,71.008]	[9.595,10.703]
	N	4473	873	16782	4149
<b>Average hours of SHS Exposure</b>	Hours	4.9	6.6 <sup>a</sup>	1.9 <sup>a</sup>	15.7 <sup>a</sup>
	95% CI	[4.31,5.54]	[5.28,7.94]	[1.81,2.08]	[14.12,17.28]

Note: Estimates are weighted using single wave weights for the Wave 1 Cohort.

<sup>a</sup> statistically significant difference between those who have a particular home tobacco use policy and those who do not