

Restrictions on Smoking in the Workplace

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OVERVIEW One of the most dramatic social changes over the past 30 years has been the change in attitudes about public smoking and the resultant governmental restrictions on where smoking is allowed. Beginning in 1970, with then Surgeon General Jesse Steinfeld's warning that environmental tobacco smoke (ETS) exposure was likely to cause problems for nonsmokers (Steinfeld, 1972), concern about ETS exposure led to 25 years of scientific inquiry. This inquiry culminated in a series of comprehensive reviews concluding that ETS exposure is a cause of cancer, heart disease, respiratory illness, and a host of other problems (U.S.DHEW, 1972, 1977, 1979; U.S.DHHS, 1982 & 1986; NRC, 1986; U.S.EPA, 1992; Cal/EPA, 1997).

Early reaction to this evidence included efforts to provide separate sections for smokers and nonsmokers in restaurants and workplaces (NCI, 1993). But with accumulating evidence that ETS exposure was a cause of cancer and other serious diseases, complete bans on smoking in workplaces and public places became more common. In 1986, only 3 percent of workers nationally reported working in a smoke-free workplace (Gerlach, 1997). By the 1992/93 Current Population Survey (CPS), the fraction of indoor workers reporting a smoke-free workplace had risen to 46.7 percent. Table 3-1 presents data from the 1995/96 CPS and demonstrates that the fraction of workers covered by a 100 percent smoking ban in the workplace has risen to 64.3 percent, including more than half (54.1 percent) of all current smokers.

Males and those who were between ages 18 and 24 were less likely to work in a smoke-free workplace, as were Hispanic and Native American indoor workers (Table 3-1). The likelihood of working in a smoke-free environment increases dramatically with increasing level of education and family income. The fraction of workers who work in a smoke-free workplace varies across states, from a high of 84 percent in Utah and Maryland to a low of 40 percent in Nevada, but only three states (Nevada, Arkansas, and Kentucky) have less than 50 percent of their employees working in smoke-free areas.

The increasing proportion of indoor workers who are employed in smoke-free workplaces has a direct health benefit for nonsmokers due to the decreased exposure to ETS. However, restrictions on where smokers can smoke may also influence the behavior of smokers outside of the workplace. Smokers may quit smoking altogether when a policy restricting smoking in the workplace is implemented (as opposed to refraining from their habit only at work). They may reduce the number of cigarettes that

Table 3-1
Nation: Extent of Official Smoking Policy in the Workplace for Self-Respondent Adults Age 18 and Older, 1995/96 Current Population Survey

Nation	Level of Workplace Smoking Policy										Population Size (N)	Sample Size (n)
	Smoke Free		Strong		Moderate		Weak		None			
	%	CI	%	CI	%	CI	%	CI	%	CI		
Total	64.26	0.37	11.21	0.25	9.15	0.22	1.25	0.09	14.13	0.27	84,811,586	80,661
Smoking Status												
Never	67.65	0.48	10.58	0.32	7.83	0.28	1.01	0.10	12.92	0.35	48,086,591	44,818
Current	54.10	0.80	13.27	0.54	12.25	0.52	1.80	0.21	18.59	0.62	20,135,755	19,379
Former	66.73	0.83	10.55	0.54	9.21	0.51	1.29	0.20	12.22	0.58	16,589,240	16,464
Gender												
Male	58.67	0.56	12.04	0.37	11.38	0.36	1.80	0.15	16.11	0.42	40,089,095	33,103
Female	69.26	0.49	10.47	0.33	7.15	0.28	0.76	0.09	12.36	0.35	44,722,491	47,558
Age (Years)												
18-24	55.92	1.03	13.21	0.70	9.67	0.61	1.05	0.21	20.15	0.83	12,050,968	8,640
25-44	64.61	0.50	11.39	0.33	9.33	0.30	1.33	0.12	13.34	0.36	47,056,921	45,350
45-64	67.77	0.69	10.07	0.44	8.69	0.41	1.22	0.16	12.25	0.48	23,906,035	24,670
65+	64.12	2.57	8.35	1.48	6.91	1.36	1.07	0.55	19.55	2.12	1,797,662	2,001
Race/Ethnicity												
Non-Hispanic White	64.45	0.43	11.13	0.28	9.13	0.26	1.27	0.10	14.03	0.31	63,934,697	65,231
Hispanic	61.13	1.76	10.78	1.12	9.48	1.06	1.23	0.40	17.39	1.37	7,318,120	5,153
African-American	64.59	1.11	12.96	0.78	9.45	0.68	1.23	0.26	11.76	0.75	9,737,977	7,135
Asian/Pacific Island	67.72	1.89	8.70	1.14	7.62	1.07	1.07	0.42	14.89	1.44	3,218,613	2,461
Native American	57.65	4.62	10.33	2.85	10.70	2.89	1.48	1.13	19.84	3.73	602,179	681
Education (Years)												
<12 Years	46.29	1.37	15.41	0.99	12.17	0.90	1.60	0.34	24.53	1.18	6,836,863	5,800
12 Years	55.81	0.68	13.19	0.47	11.15	0.43	1.75	0.18	18.11	0.53	27,250,901	26,273
13-15 Years	65.88	0.67	10.89	0.44	9.00	0.41	1.17	0.15	13.06	0.48	25,668,947	24,387
16+ Years	76.68	0.61	8.24	0.39	6.30	0.35	0.71	0.12	8.07	0.39	25,054,875	24,201

Table 3-1 (continued)

Nation (continued)	Level of Workplace Smoking Policy												Population Size (N)	Sample Size (n)
	Smoke Free		Strong		Moderate		Weak		None					
	%	CI	%	CI	%	CI	%	CI	%	CI	%	CI		
Household Income (Dollars)														
< 10,000	51.97	1.63	13.24	1.11	10.87	1.02	1.31	0.37	22.60	1.37	4,823,326	4,340		
10,000–19,999	54.78	1.14	13.67	0.78	10.49	0.70	1.44	0.27	19.62	0.91	9,862,918	9,163		
20,000–29,999	59.56	0.99	12.42	0.66	9.53	0.59	1.58	0.25	16.92	0.76	12,674,069	12,132		
30,000–49,999	63.87	0.73	11.82	0.49	9.63	0.45	1.27	0.17	13.41	0.52	22,523,682	22,058		
50,000–74,999	69.31	0.80	10.08	0.52	8.63	0.49	1.15	0.18	10.83	0.54	17,084,119	16,512		
75,000 +	75.13	0.87	8.15	0.55	7.09	0.52	0.97	0.20	8.66	0.57	12,735,217	11,675		
Unknown	63.45	1.53	10.29	0.96	8.74	0.90	1.05	0.32	16.47	1.18	5,108,254	4,781		
State*														
Utah	84.21	2.21	4.31	1.23	3.17	1.06	0.42	0.39	7.88	1.63	631,295	1,193		
Maryland	84.09	2.26	5.75	1.44	5.09	1.35	0.36	0.37	4.72	1.31	1,893,937	1,038		
Vermont	79.22	2.72	5.65	1.55	6.51	1.65	0.59	0.51	8.03	1.82	206,509	947		
California	76.88	1.12	6.82	0.67	4.98	0.58	0.70	0.22	10.61	0.82	9,258,735	5,376		
District of Columbia	74.92	3.05	8.64	1.98	7.24	1.82	0.78	0.62	8.42	1.95	186,943	846		
Washington	73.78	3.03	8.09	1.88	6.78	1.73	1.01	0.69	10.34	2.10	1,694,612	972		
Maine	73.53	3.07	7.92	1.88	10.07	2.09	0.85	0.64	7.64	1.85	383,712	874		
New Hampshire	73.51	3.08	9.67	2.06	5.34	1.57	1.37	0.81	10.10	2.10	391,078	845		
Colorado	72.01	2.80	9.58	1.83	6.33	1.52	0.45	0.42	11.64	2.00	1,313,603	1,312		
Massachusetts	71.56	1.82	8.38	1.12	7.67	1.07	0.58	0.31	11.82	1.30	2,117,572	2,340		
Idaho	71.11	2.93	5.95	1.53	8.89	1.84	0.80	0.58	13.25	2.19	344,273	1,102		
Rhode Island	70.92	3.12	7.92	1.86	6.46	1.69	1.07	0.71	13.63	2.36	326,789	786		
Alaska	69.92	2.97	7.81	1.74	8.90	1.85	1.02	0.65	12.35	2.13	183,542	801		
New Jersey	68.51	1.71	8.44	1.02	8.23	1.01	1.04	0.37	13.77	1.27	2,707,634	2,741		
Minnesota	68.18	2.82	11.01	1.89	8.59	1.70	0.62	0.48	11.59	1.94	1,714,920	1,440		
Connecticut	67.78	3.20	10.76	2.12	8.57	1.91	0.66	0.56	12.23	2.24	1,122,583	825		
Oregon	67.46	3.17	11.94	2.19	9.14	1.95	0.62	0.53	10.84	2.10	1,001,932	965		
Delaware	67.33	3.18	8.68	1.91	8.46	1.89	0.89	0.64	14.64	2.40	234,877	826		
Florida	66.79	1.58	9.12	0.97	8.07	0.92	0.76	0.29	15.26	1.21	4,181,997	3,177		
Arizona	66.13	3.01	8.73	1.80	9.03	1.82	0.84	0.58	15.26	2.29	1,284,546	1,174		

Table 3-1 (continued)

State*	Level of Workplace Smoking Policy												Population Size (N)	Sample Size (n)
	Smoke Free		Strong		Moderate		Weak		None					
	%	CI	%	CI	%	CI	%	CI	%	CI				
New Mexico	65.73	3.33	10.29	2.13	9.59	2.06	0.86	0.65	13.54	2.40	418,678	913		
Texas	65.56	1.60	10.43	1.03	8.26	0.93	1.48	0.41	14.26	1.18	5,815,729	3,643		
New York	65.14	1.33	9.35	0.81	10.09	0.84	0.96	0.27	14.45	0.98	5,521,615	4,578		
Nebraska	63.90	2.92	9.70	1.80	10.46	1.86	0.81	0.54	15.13	2.18	571,872	1,276		
Kansas	63.53	3.09	9.76	1.90	11.00	2.01	1.54	0.79	14.17	2.24	862,573	1,218		
Virginia	63.09	2.82	12.74	1.95	9.37	1.71	1.22	0.64	13.59	2.01	2,297,995	1,408		
South Dakota	62.68	3.04	10.73	1.94	9.56	1.85	0.83	0.57	16.20	2.32	221,591	1,220		
Iowa	62.55	3.06	12.27	2.07	8.86	1.79	1.20	0.69	15.12	2.26	967,618	1,208		
Wisconsin	62.24	2.87	12.34	1.94	9.49	1.73	0.90	0.56	15.03	2.11	1,972,344	1,521		
Hawaii	61.89	3.50	15.34	2.60	12.34	2.37	1.04	0.73	9.39	2.10	346,498	640		
Wyoming	61.47	3.55	7.95	1.98	10.99	2.28	1.01	0.73	18.59	2.84	135,107	1,009		
Illinois	61.26	1.71	13.59	1.20	10.57	1.08	1.47	0.42	13.11	1.19	4,047,530	3,523		
North Dakota	61.22	3.32	7.10	1.75	8.86	1.94	1.36	0.79	21.46	2.80	188,307	1,119		
Pennsylvania	60.38	1.72	12.34	1.16	11.07	1.10	1.35	0.41	14.85	1.25	3,835,329	3,640		
West Virginia	59.82	3.45	12.95	2.36	11.35	2.23	1.31	0.80	14.57	2.48	457,077	925		
South Carolina	59.15	3.08	16.08	2.30	9.74	1.86	1.09	0.65	13.93	2.17	1,257,513	922		
Montana	58.90	3.44	9.54	2.06	8.59	1.96	1.63	0.89	21.34	2.87	231,352	1,029		
Missouri	58.90	3.04	15.15	2.22	10.85	1.92	1.24	0.69	13.86	2.14	1,911,829	1,178		
Oklahoma	58.46	3.21	10.90	2.03	12.78	2.17	1.55	0.80	16.31	2.41	982,605	1,248		
Ohio	57.07	1.75	13.79	1.22	10.57	1.09	2.15	0.51	16.41	1.31	3,838,168	3,526		
Georgia	57.07	2.81	15.22	2.04	10.37	1.73	0.85	0.52	16.49	2.11	2,492,669	1,401		
Louisiana	56.89	3.35	10.77	2.10	10.54	2.08	1.57	0.84	20.24	2.72	1,191,607	844		
Alabama	55.73	3.31	14.44	2.34	12.86	2.23	1.69	0.86	15.27	2.40	1,285,003	1,057		
North Carolina	55.15	2.08	15.57	1.51	12.16	1.36	1.73	0.54	15.38	1.51	2,449,839	2,779		
Mississippi	54.92	3.32	11.26	2.11	7.89	1.80	1.40	0.78	24.52	2.87	796,440	905		

Table 3-1 (continued)

State*	Level of Workplace Smoking Policy												Population Size (N)	Sample Size (n)
	Smoke Free		Strong		Moderate		Weak		None					
	%	CI	%	CI	%	CI	%	CI	%	CI	%	CI		
Tennessee	54.08	3.10	16.02	2.28	9.50	1.83	2.05	0.88	18.36	2.41	1,738,759	999		
Michigan	53.67	1.81	14.16	1.27	12.55	1.20	2.37	0.55	17.24	1.37	3,276,689	3,294		
Indiana	51.44	3.05	15.89	2.23	11.45	1.94	2.86	1.02	18.36	2.36	2,064,806	1,182		
Kentucky	49.69	3.33	16.54	2.47	10.59	2.05	2.05	0.94	21.12	2.72	1,138,267	928		
Arkansas	48.47	3.25	18.05	2.50	12.34	2.14	2.63	1.04	18.52	2.53	791,438	1,046		
Nevada	40.91	3.12	21.04	2.59	17.63	2.42	4.11	1.26	16.31	2.34	523,649	902		

* Listed in descending order of smoke-free status.

Note: CI = 95% confidence interval.

Source: 1995/96 Current Population Survey.

they smoke per day or may shift from smoking daily to smoking occasionally, and smokers who work in smoke-free environments may make more quit attempts or may be more successful in those quit attempts. Improvement in cessation may be an indirect benefit of the current trend toward smoke-free workplaces.

CHANGES IN SMOKING BEHAVIOR WITH IMPLEMENTATION OF SMOKING RESTRICTIONS

Brownson *et al.* (1997) recently reviewed much of the existing evidence on policies to reduce ETS exposure, and this chapter will update that evidence and add analyses conducted using data from the Current Population Surveys (CPS) and the California Tobacco Surveys (CTS). Changes in workplace smoking rules are often highly visible and are sometimes among the most contested shifts in workplace norms. Employers commonly make substantial efforts to inform and involve their workers as part of the introduction of these changes, and cessation assistance is frequently made available to smoking workers at the time that the changes in workplace rules are implemented. When the smoking behaviors of workers are followed before and after the implementation of workplace restrictions, many, but not all, studies have demonstrated a fall in smoking prevalence and increased cessation rates (Brownson *et al.*, 1997). Many of the workplaces examined have been in health care settings (Table 3-2), but similar observations are evident in other settings as well (Table 3-3). These experiences would suggest that the implementation of smoking restrictions in the workplace can trigger smoking cessation attempts among the smokers who work there, particularly if cessation assistance is a prominent part of the implementation process.

A similar picture emerges for changes in the number of cigarettes smoked per day following the implementation of restrictions on smoking in the workplace (Tables 3-2 and 3-3). Modest declines in the number of cigarettes smoked per day are evident following implementation of workplace smoking restrictions in most of the locations where it has been examined.

Effects of Working in Smoke-free Workplaces on Smoking Behavior

Changes in smoking behavior are to be expected when there is a change in workplace restrictions on smoking due to the accompanying shift in workplace norms and the provision of cessation assistance. However, it is reasonable to expect that there may be longer term effects on smoking behavior as well. Smokers may smoke fewer cigarettes per day if smoking is prohibited in work locations, smokers may make more attempts to quit due to a shift in the social norms about smoking, and smokers who do attempt to quit may be more successful because they are less likely to relapse in workplaces that do not allow smoking.

Number of Cigarettes Smoked per Day

Multiple studies presented in Tables 3-2 and 3-3 observed reductions in number of cigarettes smoked per day that persisted for 12-18 months following implementation of a change in smoking policy. One study found a decline after 6 months, with a return to prior levels of consumption after 18 months (Hudzinski and Sirois, 1994). Emont *et al.* (1992) demonstrated a nonsignificant, but suggestive, relationship between level of smoking restriction from state clean-indoor-air laws and number of cigarettes smoked per day using data from the 1989 CPS.

Table 3-2
Impact of Smoke-Free Worksites on Cigarette Consumption and Prevalence: Health Care Worksites

Author	Location	Change in Consumption	Change in Prevalence
Andrews, 1983	Hospital	NA	-8.5% at 20-month follow-up
Rosenstock, 1986	HMO	-2.0 cigarettes/day at 4-month follow-up	No significant change
Blener, 1989	Hospital	-3.9 cigarettes/day at work at 12-month follow-up	No significant change
Becker, 1989	Children's hospital	No change at 6-month follow-up	-1.2% at 6-month follow-up
Hudzinski, 1990	Hospital	25% of smokers no longer smoked at work at 12-month follow-up	NA
Mullooly, 1990	HMO	-1.4 cigarettes/day at work No effect on total daily consumption	No change
CDC, 1990	Psychiatric hospital	-3.5 cigarettes/day at work at 13-month follow-up; -1.8 cigarettes/day over 24 hours	-4.0% at 13-month follow-up
Stillman, 1990	Hospital	-3.3 cigarettes/day at 6-month follow-up	-5.5% at 6-month follow-up
Baile, 1991	Hospital	40% of smokers reduced consumption at 4-month follow-up	-1.5 % at 4-month follow-up
Stave, 1991	Medical center	-4.5 cigarettes/day at 9-month follow-up	22.5% of smokers quit at 9-month follow-up
Daughton, 1992	Hospital	-3.1 cigarettes/day at work at 12-month follow-up	No increase in quit rate
Goldstein, 1992	Hospital	57% of smokers reported cutting down	9% of smokers stated that they quit because of the ban
Offard, 1992	Hospital	NA	-2.9% at 30-month follow-up
Hudzinski, 1994	Hospital	Smokers made significant reductions in cigarettes/day at 6 months but returned to prior levels at 18 months	NA
Longo, 1996	Representative sample of hospital employees	-1.1 cigarettes/day	Quit ratio different between intervention and comparison 13% at 60 months

Table 3-3
Impact of Smoke-Free Worksites on Cigarette Consumption and Prevalence: Other Worksites

Author	Location/ Study Population	Change in Consumption	Change in Prevalence
Petersen, 1988	Insurance co.	-5.6 cigarettes/day at follow-up	-1.6% at 12-month follow-up
Scott, 1989	Insurance co.	22.5% of smokers decreased consumption at 7-month follow-up	-5.1% at 7-month follow-up
Gottlieb, 1990	Government agency	-12% reduction in consumption of 15 or more cigarettes/day	-3.4% at 6 months
Borland, 1990	Public service	-7.9 cigarettes/day in smokers of 25 or more cigarettes/day at 6-month follow-up	-1.0% at 6-month follow-up
Sorensen, 1991	Telephone co.	NA	21% of smokers quit at 20-month follow-up
Borland, 1991	Telecommunications co.	-3.5 cigarettes/day at 18-month follow-up	-3.1% at 18-month follow-up
Brenner, 1992	National random sample	-1.8 cigarettes/day in men, -1.4 cigarettes/day in women	Quit ratio of 30%
Wakefield, 1992	Representative sample	-5 cigarettes/day on work days vs leisure days	NA
Phillip Morris, 1992	Cohort of 22,500-28,000 employed smokers in companies Product Opinion Lab database followed between 1987 and 1991	-11% cigarettes/day	Quitting rates: Total database 1.00 No restrictions 0.75 Designated 0.92 Smoke-free 1.84*
Woodruff, 1993	CA Population Survey	296 packs per year in smoke-free worksites vs 341 packs per year with no restrictions	Prevalence was 13.7% in smoke-free worksites vs 20.6% with no restrictions
Jeffery, 1994	Diverse workplaces	-1.2 cigarettes/ day	-2% at 24-months follow-up
Brenner, 1994	Cross-section of Telecommunications co.	20.5 cigarettes/day without restrictions to 13.2 cigarettes/day with ban	Prevalence lower in workplaces with restrictions

Table 3-3 (continued)

Author	Location/ Study Population	Change in Consumption	Change in Prevalence
Etter, 1999	University Students and staff	Total cigarettes/day increased in intervention group from 11.4 to 11.7 (p 0.06) and in comparison group from 11.4 to 12.0 (p 0.002) Cigarettes/day in university buildings increased from 5.5 to 5.7 among intervention group (p 0.14), but decreased from 5.5 to 5.0 among comparison group (p 0.11)	Increased among intervention group 24.7 % to 25.1 % (p 1.0) Decreased among comparison group 27.2 % to 26.7 % (p 0.80)

*According to this document, the quit rate is based only on those smokers who returned questionnaires and should therefore be considered understated.

Analyses of data from a 5-year longitudinal follow-up of 8,271 employed adult smokers conducted as a part of the COMMIT trial examined the change in number of cigarettes smoked per day as reported by the same individuals in two surveys conducted 5 years apart (Glasgow *et al.*, 1997). Using multiple linear regression techniques, they demonstrated a statistically significant greater reduction in number of cigarettes smoked per day over the 5-year period among those who worked in workplaces where smoking was restricted to designated areas (OR = -1.17), and an even greater reduction for those who worked in workplaces where smoking was banned (OR = -2.78).

An internal tobacco industry study (Heironimus, 1992) of the effects of restrictions on smoking in the workplace using a tracking database of smokers demonstrated that smokers who work in smoke-free environments consumed 11-15 percent fewer cigarettes per day compared to smokers who work where there are no restrictions. Lesser restrictions, such as allowing smoking only in designated sections, had little effect on consumption.

Table 3-4 presents analyses of the 1992/93 and 1995/96 CPS for those who were daily cigarette smokers 1 year prior to the survey, currently smoked some days or every day, were age 25-64, and worked in an indoor environment. When smokers who worked in smoke-free workplaces are compared to those with lesser or no restrictions, there is a statistically significant ($p < 0.001$) shift in the categorical distribution of cigarettes smoked per day toward smoking fewer cigarettes per day.

The CPS did not ask a question on the number of cigarettes smoked per day 1 year prior to the survey, and therefore these analyses are limited to examination of the cross-sectional distribution of current number of cigarettes smoked per day in relation to workplace restrictions on smoking. As a result, the analyses in Table 3-4 cannot identify whether the difference in number of cigarettes smoked per day by smokers working under different workplace smoking restrictions is due to a reduction in number of cigarettes smoked per day produced by the workplace restriction or due to workplace restrictions being more difficult to implement where there are greater numbers of heavy smokers.

The 1990 and 1996 California Tobacco Surveys (CTS) recorded the number of cigarettes smoked per day both at the time of the survey and for 1 year prior to the survey. Table 3-5 compares the current number of cigarettes smoked per day by those current cigarette smokers who work indoors with that reported for 1 year prior to the survey, and the results are stratified by the level of workplace restrictions on smoking. In the 1990 CTS, smokers who worked in workplaces with no restrictions on smoking were more likely to report smoking 25 or more cigarettes per day both at the time of the survey and for 12 months prior to the survey than were workers employed in workplaces where there were at least some restrictions. Workers who smoked 25 or more cigarettes per day 1 year prior to the survey were also significantly more likely to report reducing the number of cigarettes that they currently smoked if they worked in areas where smoking was banned than if they worked in areas where there were no restrictions.

Table 3-4

Percentage of Current Smokers who Smoke Various Numbers of Cigarettes per Day among Indoor Workers with Different Levels of Restriction on Smoking in the Workplace

Cigarettes Smoked per Day	Level of Workplace Smoking Restrictions					
	<i>Work Area:</i> <i>Public Area:</i>	Ban	Ban No Ban	Restricted Ban	Restricted Restricted	No Restrictions
1992/93 CPS*						
Occasional Smoking		3.91	2.85	3.40	2.15	2.25
1-4		2.95	1.97	2.16	0.49	1.76
5-14		28.20	21.49	18.11	16.16	17.84
15-24		48.75	53.21	48.37	40.66	48.75
25+		16.19	20.48	27.96	40.53	29.41
1995/96 CPS**						
Occasional Smoking		3.34	2.48	2.04	3.11	2.13
1-4		2.47	1.39	1.88	0.63	2.37
5-14		27.58	19.71	17.16	15.14	17.72
15-24		50.20	51.49	50.97	40.67	48.14
25+		16.41	24.93	27.95	40.45	29.64

* 1992/93 CPS. Chi-Square = 453.3; degrees of freedom = 16; probability < 0.001; N = 14,787; chi-square based on weighted sample normalized to sample size.

**1995/96 CPS. Chi-square* = 386.8; degrees of freedom = 16; probability < 0.001; N = 12,669; chi-square based on weighted sample normalized to sample size.

Note: Current smokers were also daily smokers 1 year prior to the survey and between ages 25 and 64 years.

We also used these CTS data to develop a logistic regression model of the effect of working in a workplace where smoking was restricted on the likelihood of current daily smokers having reduced the number of cigarettes they reported smoking per day during the period between 12 months prior to the survey and the time of the survey. Co-variables controlled for in the analyses were gender, age, race/ethnicity, education level, family income level, and number of cigarettes smoked per day 1 year prior to the survey. Current daily smokers who worked in areas where there were some smoking restrictions were more likely to have reduced the number of cigarettes smoked per day when compared to smokers who worked in areas where there were no restrictions (OR = 1.44, 95% CI = 1.06-1.96). The effect for current daily smokers working in areas where smoking was banned was even more robust (OR = 1.54, 95% CI = 1.10-2.16). Data for the 1996 CTS are also presented in Table 3-5, but the small number of smokers who work in areas that are not smoke-free (state law requires smoke-free workplaces in California) makes meaningful comparison difficult; however, there appears to be a similar trend in the 1996 CTS. These data suggest that the trend toward a reduction in number of cigarettes smoked per day among workers who work where smoking is restricted demonstrated for the CPS data is due to the effect of the smoking restrictions on smoking behavior, rather than being due to smoking restrictions being easier to implement in workplaces where there are fewer heavy smokers.

These data taken as a whole suggest that a smoke-free workplace policy results in a reduction in the number of cigarettes smoked per day by continuing smokers.

Table 3-5
Indoor Workers: Change in Reported Number of Cigarettes Smoked per Day from 1 Year Prior to the Survey to Time of the Survey by Current Daily Smokers, Ages 25-64, Who Smoked Daily 1 Year Ago—1990 and 1996 California Tobacco Surveys

Level of Smoking Ban	Cigs. Smoked Daily 1 Year before Survey	# Cigarettes Smoked per Day at Time of Survey						Population Size (N)	Sample Size (n)		
		25+	15-24	5-14	1-4	%	CI				
None	Total	29.73	3.94	45.40	3.72	20.33	4.04	4.54	2.78	533,544	1,104
	25+	88.30	3.05	8.56	2.76	2.76	2.05	0.38	0.62	163,554	369
	15-24	4.36	2.00	90.88	2.69	4.62	1.92	0.14	0.28	239,644	517
	5-14	3.33	4.48	9.02	3.67	79.39	7.60	8.27	6.73	112,651	201
	1-4	.	.	1.44	3.19	.	.	.	.	17,695	17
Some	Total	24.09	3.08	49.86	3.51	22.93	2.89	3.12	1.37	507,500	1,124
	25+	73.76	6.18	18.81	5.48	6.98	5.08	0.45	0.57	155,672	345
	15-24	3.07	1.83	88.78	3.17	7.58	2.52	0.57	0.67	241,848	553
	5-14	.	.	8.54	3.79	90.00	3.83	1.46	2.22	96,295	204
	1-4	.	.	6.02	12.37	3.86	8.10	.	.	13,685	22
All	Total	19.66	3.16	46.20	4.61	31.26	5.25	2.88	1.97	397,712	986
	25+	76.31	6.20	18.04	5.85	5.39	3.13	0.26	0.50	91,684	251
	15-24	4.01	2.98	85.85	5.98	9.84	4.56	0.30	0.48	190,605	494
	5-14	0.26	0.52	2.66	2.36	95.98	2.98	1.09	1.33	104,350	219
	1-4	2.75	6.01	7.13	15.43	4.31	9.32	.	.	11,073	22

1996 CTS

Table 3-5 (continued)

Level of Smoking Ban	Cigs. Smoked Daily 1 Year before Survey	# Cigarettes Smoked per Day at Time of Survey										Population Size (N)	Sample Size (n)
		25+		15-24		5-14		1-4		CI	CI		
	%	CI	%	CI	%	CI	%	CI	%			CI	
None	Total	29.60	7.25	41.21	7.38	27.41	7.96	1.79	2.76			84,289	173
	25+	84.88	12.31	13.89	12.15	1.23	2.45	.	.	.	.	27,575	61
	15-24	4.67	4.41	85.50	8.82	9.83	8.19	.	.	.	.	33,034	72
	5-14	.	.	12.00	15.67	88.00	15.67	.	.	.	.	22,176	38
	1-4	.	.	.	.	.	.	.	.	.	.	1,505	2
Some	Total	20.30	6.60	39.56	9.63	36.36	10.60	3.78	4.43			69,664	144
	25+	.	.	.	.	.	.	.	.	.	.	15,616	37
	15-24	4.18	5.06	75.49	12.84	16.09	11.59	4.25	8.42			31,231	70
	5-14	.	.	5.80	6.80	94.20	6.80	.	.	.	.	20,851	34
	1-4	.	.	.	.	.	.	.	.	.	.	1,967	3
All	Total	15.76	2.12	44.37	2.92	35.65	2.91	4.21	0.97			1,041,596	2,343
	25+	78.74	4.54	16.70	4.10	4.22	1.84	0.34	0.67			194,965	434
	15-24	1.88	0.77	84.88	2.48	12.69	2.31	0.56	0.45			486,926	1,165
	5-14	0.28	0.39	4.92	1.63	92.30	2.18	2.50	1.37			319,701	665
	1-4	1.46	2.89	1.55	1.99	15.65	16.73	81.34	16.50			40,003	79

Note: CI = 95% confidence interval; "." = insufficient data.
Source: 1990 and 1996 California Tobacco Surveys.

Table 3-6

Current Smoking Status among Indoor Workers with Different Levels of Restriction on Smoking in the Workplace, Age 18+

	Workplace Restrictions	Percentage of Smokers			
		Daily	Occasional	Former	Never
CTS 1996	100% Smoking Ban	12.21	5.23	22.09	58.47
	Some Restrictions	14.76	5.68	23.61	54.09
	No Restrictions	23.62	7.45	21.73	45.53
CPS 1992/93	100% Smoking Ban	15.33	4.50	21.91	58.26
	Some Restrictions	23.70	4.99	20.03	51.29
	No Restrictions	25.85	4.99	19.10	50.06
CPS 1995/96	100% Smoking Ban	15.97	4.02	20.31	59.70
	Some Restrictions	25.17	4.83	19.05	50.95
	No Restrictions	26.43	4.80	16.91	51.86

Source: 1996 California Tobacco Survey; 1992/93 and 1995/96 Current Population Surveys.

CESSATION

Cross-sectional data from California and the CPS demonstrate that the prevalence of smoking is substantially lower among workers who are employed in smoke-free workplaces. However, the difference in current smoking prevalence across workplaces with different levels of smoking restrictions is largely due to a higher prevalence of never smokers rather than former smokers in those workplaces with greater restrictions (Table 3-6). This would suggest that the difference in smoking prevalence may be due to smokers moving to workplaces where smoking was allowed or greater ease in successfully implementing smoke-free workplaces in sites where there are fewer smokers rather than an effect of smoking restrictions on cessation.

The effect of smoking restrictions on cessation has been examined directly, however, and an effect of restrictions on cessation has been demonstrated. Data from a 5-year longitudinal follow-up of 8,271 employed adult smokers conducted as a part of the COMMIT trial examined cessation attempts and cessation success reported by the same individuals in two surveys conducted 5 years apart (Glasgow *et al.*, 1997). Using multiple logistic regression techniques, they demonstrated a statistically significant 25 percent greater likelihood of making a cessation attempt over the 5-year period among those who worked in workplaces where smoking was banned, and workers in these workplaces had a 25 percent greater rate of having successfully quit during the 5-year period as well.

Emont *et al.* (1992) demonstrated a statistically significant relationship between the level of state clean-indoor-air laws and a higher fraction of ever smokers who were former smokers (quit ratio) using data from the 1989 CPS. An internal tobacco industry study (Heironimus, 1992) of a tracking database of smokers suggested that smokers in a smoke-free workplace quit at a rate that is 84 percent higher than smokers who work in locations where smoking is allowed. Lower levels of smoking restriction had much less effect on cessation.

Tables 3-7 and 3-8 present the results of multivariate logistic regression analyses of several measures of cessation (see Chapter 2) by level of workplace restriction of smoking for the 1992/93 CPS (Table 3-7) and the 1995/96 CPS (Table 3-8). The cessation measures are estimated for all those who were daily smokers 1 year prior to the survey, worked indoors, and were between ages 25 and 64 at the time of the survey. The results are controlled for age, gender, race/ethnicity, education and income levels, and number of cigarettes smoked per day. A term is also added to the regression that represents the average level of workplace restriction for the state in which the individual lives. This term is used to control for the influences of general environmental restrictions on smoking and of different social norms about smoking present in the environment. The intent is to remove these influences from an analysis of the effect of the specific level of restriction present in the workplace where the individual is employed. The prevalence of each cessation measure by level of workplace restriction and by demographic characteristics of the population is included in Tables 3-9 and 3-10.

The 1992/93 CPS (Table 3-7) shows no relationship between working in a smoke-free environment and either making a cessation attempt or becoming an occasional smoker; however, there is a significant relationship between working in a smoke-free area and becoming a former smoker (OR = 1.18) or having been quit for 3 or more months (OR = 1.39). There is also a smaller, but statistically significant, effect of the average level of workplace smoking restriction present in the state on being a former smoker of 3+ months' duration, suggesting that there may be an effect of environmental norms about smoking as well as a direct effect of the level of restriction where the smoker works.

The 1995/96 CPS (Table 3-8) analyses show similar results, with the addition of small effects of a smoke-free workplace on cessation attempts and any cessation change. Similar effects are also noted for the average level of workplace restriction in the state as a measure of the general environmental norms on smoking restrictions.

These data suggest that there is an effect of restricting smoking in the workplace on smoking cessation, with a small increase in the number of cessation attempts when a 100-percent ban on smoking is present in the workplace. The effect is not evident for lower levels of workplace restriction. There is no effect of smoking restrictions in the workplace on becoming an occasional smoker, but there is a modest effect of the average level of workplace restriction for the state on becoming an occasional smoker. This result suggests that the general environmental norms may be more important for becoming an occasional smoker, and that the effect of individual experience with workplace restrictions is on cessation. The principal effect of restricting smoking in the workplace appears to be an increase in the success rate of those smokers who are attempting to quit. The modest effect on cessation attempts, with a much larger effect on 3+ month cessation success, suggests that the effect of a smoke-free workplace may be to prevent

Table 3-7
Multivariate Logistic Regression Analyses of Measures of Cessation by Level of Workplace Restriction for Those who were Current Daily Smokers 1 Year prior to the Survey and who Worked Indoors, Age 25-64 Years, 1992/93 Current Population Survey

	<u>Cessation Activity</u>		<u>Cessation Attempt</u>		<u>Occasional</u>		<u>Former (any length)</u>		<u>Former, 3+ Months</u>	
	<u>Odds Ratio</u>	<u>95% CI</u>	<u>Odds Ratio</u>	<u>95% CI</u>	<u>Odds Ratio</u>	<u>95% CI</u>	<u>Odds Ratio</u>	<u>95% CI</u>	<u>Odds Ratio</u>	<u>95% CI</u>
Worksite Level of Ban										
Lesser Restrictions	1.00		1.00		1.00		1.00		1.00	
Total Work Ban	1.02	(0.95 - 1.09)	1.01	(0.94 - 1.09)	1.07	(0.88 - 1.29)	1.18	(1.04 - 1.33)	1.39	(1.20 - 1.62)
State % Total Ban*										
Same Ban Level	1.00		1.00		1.00		1.00		1.00	
State Ban +5%	1.02	(1.00 - 1.03)	1.01	(0.99 - 1.03)	1.05	(0.99 - 1.10)	1.02	(0.99 - 1.06)	1.06	(1.01 - 1.10)
Gender										
Male	1.00		1.00		1.00		1.00		1.00	
Female	1.00	(0.94 - 1.07)	0.98	(0.92 - 1.05)	1.35	(1.11 - 1.63)	1.05	(0.93 - 1.19)	1.16	(1.00 - 1.34)
Age (Years)										
25-44	1.00	1.00	1.00	1.00	1.00		1.02	(0.90 - 1.16)	1.01	(0.86 - 1.18)
45-64	0.80	(0.74 - 0.85)	0.80	(0.75 - 0.86)	0.76	(0.61 - 0.94)	1.02	(0.90 - 1.16)	1.01	(0.86 - 1.18)
Race/Ethnicity										
Non-Hispanic White	1.00		1.00		1.00		1.00		1.00	
Hispanic	0.82	(0.69 - 0.96)	0.79	(0.67 - 0.94)	1.24	(0.81 - 1.90)	1.03	(0.76 - 1.38)	1.09	(0.76 - 1.57)
African-American	1.17	(1.05 - 1.31)	1.16	(1.03 - 1.30)	1.22	(0.91 - 1.63)	0.87	(0.70 - 1.08)	1.07	(0.83 - 1.39)
Other	0.84	(0.68 - 1.03)	0.84	(0.68 - 1.04)	0.91	(0.52 - 1.60)	0.73	(0.49 - 1.10)	0.76	(0.46 - 1.25)
Education (Years)										
< 12	1.00		1.00		1.00		1.00		1.00	
12	1.36	(1.21 - 1.52)	1.33	(1.18 - 1.49)	1.74	(1.14 - 2.64)	1.57	(1.24 - 1.99)	1.32	(0.99 - 1.75)
13-15	1.64	(1.46 - 1.85)	1.59	(1.40 - 1.79)	2.36	(1.54 - 3.61)	1.70	(1.33 - 2.17)	1.48	(1.10 - 1.98)
16+	1.68	(1.46 - 1.92)	1.58	(1.38 - 1.82)	3.07	(1.95 - 4.82)	2.17	(1.67 - 2.82)	1.77	(1.29 - 2.43)

Table 3-7 (continued)

	Cessation Activity			Cessation Attempt			Occasional			Former (any length)			Former, 3+ Months		
	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	
Income (Dollars)															
<10,000	1.00		1.00		1.00		1.00		1.00		1.00		1.00		
10,000–19,999	1.10	(0.95 - 1.27)	1.10	(0.95 - 1.28)	0.95	(0.61 - 1.48)	1.45	(1.05 - 2.00)	1.36	(0.91 - 2.02)					
20,000–29,999	1.35	(1.17 - 1.56)	1.34	(1.16 - 1.56)	1.29	(0.84 - 1.97)	1.51	(1.10 - 2.08)	1.63	(1.10 - 2.40)					
30,000–49,999	1.46	(1.27 - 1.67)	1.47	(1.27 - 1.69)	1.14	(0.75 - 1.73)	1.94	(1.44 - 2.63)	1.89	(1.30 - 2.75)					
50,000–74,999	1.52	(1.31 - 1.76)	1.52	(1.30 - 1.77)	1.36	(0.87 - 2.10)	1.97	(1.44 - 2.71)	2.10	(1.42 - 3.11)					
75,000+	1.82	(1.51 - 2.18)	1.81	(1.50 - 2.19)	1.45	(0.87 - 2.43)	2.06	(1.44 - 2.95)	2.38	(1.54 - 3.68)					
Cigarettes Smoked per Day															
1–4	1.00		1.00		1.00		1.00		1.00		1.00		1.00		
5–14	0.85	(0.69 - 1.04)	0.84	(0.68 - 1.04)	1.01	(0.62 - 1.65)	0.51	(0.38 - 0.70)	0.51	(0.35 - 0.76)					
15–24	0.55	(0.45 - 0.67)	0.56	(0.45 - 0.69)	0.59	(0.36 - 0.96)	0.48	(0.35 - 0.64)	0.55	(0.38 - 0.80)					
25+	0.47	(0.38 - 0.58)	0.48	(0.38 - 0.59)	0.54	(0.32 - 0.92)	0.69	(0.51 - 0.95)	0.86	(0.59 - 1.27)					

*Effect of a 5% difference between states of the average ban level for the state.

Source: 1992/93 Current Population Survey.

Table 3-8
Multivariate Logistic Regression Analyses of Measures of Cessation by Level of Workplace Restriction for Those who were Current Daily Smokers 1 Year prior to the Survey and who Worked Indoors, Age 25–64 Years, 1995/96 Current Population Survey

	<u>Cessation Activity</u>		<u>Cessation Attempt</u>		<u>Occasional</u>		<u>Former (any length)</u>		<u>Former, 3+ Months</u>	
	<u>Odds Ratio</u>	<u>95% CI</u>	<u>Odds Ratio</u>	<u>95% CI</u>	<u>Odds Ratio</u>	<u>95% CI</u>	<u>Odds Ratio</u>	<u>95% CI</u>	<u>Odds Ratio</u>	<u>95% CI</u>
Worksite Level of Ban										
Lesser Restrictions	1.00		1.00		1.00		1.00		1.00	
Total Work Ban	1.09	(1.01 - 1.18)	1.09	(1.00 - 1.18)	1.13	(0.90 - 1.42)	1.21	(1.04 - 1.42)	1.34	(1.10 - 1.63)
State % Total Ban*										
Same Ban Level	1.00		1.00		1.00		1.00		1.00	
State Ban +5%	1.04	(1.02 - 1.06)	1.04	(1.02 - 1.06)	1.06	(1.01 - 1.12)	1.04	(1.01 - 1.08)	1.03	(0.99 - 1.08)
Gender										
Male	1.00		1.00		1.00		1.00		1.00	
Female	0.90	(0.83 - 0.97)	0.89	(0.82 - 0.96)	1.11	(0.89 - 1.39)	0.82	(0.70 - 0.96)	0.77	(0.64 - 0.93)
Age (Years)										
25–44	1.00		1.00		1.00		1.00		1.00	
45–64	0.85	(0.78 - 0.92)	0.85	(0.78 - 0.92)	0.91	(0.72 - 1.15)	0.81	(0.69 - 0.95)	0.88	(0.72 - 1.07)
Race/Ethnicity										
Non-Hispanic White	1.00		1.00		1.00		1.00		1.00	
Hispanic	0.80	(0.67 - 0.96)	0.78	(0.65 - 0.94)	1.08	(0.70 - 1.66)	0.75	(0.51 - 1.10)	0.88	(0.56 - 1.38)
African-American	1.05	(0.92 - 1.19)	1.07	(0.94 - 1.21)	0.85	(0.59 - 1.22)	0.75	(0.56 - 1.00)	0.77	(0.54 - 1.10)
Other	1.13	(0.92 - 1.38)	1.16	(0.94 - 1.42)	0.80	(0.45 - 1.42)	1.04	(0.71 - 1.52)	1.16	(0.73 - 1.82)
Education (Years)										
< 12	1.00		1.00		1.00		1.00		1.00	
12	1.17	(1.02 - 1.33)	1.17	(1.02 - 1.33)	1.03	(0.69 - 1.54)	1.00	(0.75 - 1.32)	1.11	(0.78 - 1.58)
13–15	1.40	(1.23 - 1.61)	1.36	(1.19 - 1.57)	1.69	(1.13 - 2.52)	1.31	(0.98 - 1.75)	1.30	(0.90 - 1.86)
16+	1.33	(1.14 - 1.56)	1.30	(1.11 - 1.53)	1.53	(0.97 - 2.41)	1.47	(1.07 - 2.01)	1.56	(1.06 - 2.31)

Table 3-8 (continued)

	Cessation Activity		Cessation Attempt		Occasional		Former (any length)		Former, 3+ Months	
	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI	Odds Ratio	95% CI
Income (Dollars)										
<10,000	1.00		1.00		1.00		1.00		1.00	
10,000-19,999	0.87	(0.74 - 1.04)	0.90	(0.75 - 1.07)	0.69	(0.43 - 1.11)	1.00	(0.68 - 1.48)	1.00	(0.62 - 1.61)
20,000-29,999	0.85	(0.72 - 1.00)	0.86	(0.73 - 1.02)	0.75	(0.47 - 1.18)	0.99	(0.68 - 1.44)	0.96	(0.60 - 1.53)
30,000-49,999	0.99	(0.85 - 1.16)	1.00	(0.85 - 1.18)	0.87	(0.57 - 1.33)	1.31	(0.92 - 1.88)	1.27	(0.82 - 1.97)
50,000-74,999	1.01	(0.85 - 1.20)	1.02	(0.86 - 1.22)	0.84	(0.53 - 1.33)	1.38	(0.95 - 2.01)	1.21	(0.76 - 1.92)
75,000+	1.03	(0.85 - 1.25)	1.06	(0.87 - 1.29)	0.74	(0.43 - 1.26)	1.82	(1.22 - 2.71)	1.85	(1.14 - 3.00)
Cigarettes smoked per day										
1-4	1.00		1.00		1.00		1.00		1.00	
5-14	0.76	(0.61 - 0.96)	0.89	(0.70 - 1.14)	0.35	(0.24 - 0.52)	0.74	(0.49 - 1.12)	0.68	(0.42 - 1.11)
15-24	0.50	(0.40 - 0.62)	0.60	(0.47 - 0.76)	0.19	(0.13 - 0.28)	0.55	(0.37 - 0.83)	0.51	(0.31 - 0.82)
25+	0.36	(0.28 - 0.45)	0.43	(0.34 - 0.55)	0.13	(0.08 - 0.21)	0.70	(0.46 - 1.08)	0.68	(0.41 - 1.12)

*Effect of a 5% difference between states of the average ban level for the state.

Source: 1995/96 Current Population Survey.

relapse after a cessation attempt rather than to increase the number of smokers who try to quit. It may well be that if you cannot smoke at work, it is more difficult to relapse at work.

SUMMARY There has been a dramatic increase in the fraction of the working population protected by total bans on smoking in the workplace, increasing from 3 percent in 1986 to 64 percent in 1996. These restrictions have two effects on smokers as they are implemented. They increase the rate at which smokers attempt to quit, and they reduce the number of cigarettes smoked per day. Once restrictions on smoking in the workplace have been successfully implemented, they continue to have the effect of reducing the number of cigarettes smoked per day, and they increase the success rate of smokers who are attempting to quit. There may also be a small effect of increasing the frequency with which smokers attempt to quit.

**THE FOLLOWING PAGES CONTAIN
TABLES 3-9 AND 3-10**

Table 3-9
 Nation: Current Smoking Status among Indoor Worker Self-respondent Adults Who Were Daily Smokers 1 Year Ago, Age 25 and Older,
 1992/93 Current Population Survey

Nation	Current Smoking Status												Sample Size (n)
	Daily Smokers No Quit Attempts % CI	Daily Smokers w/Quit Attempts % CI	Occasional Smokers % CI	Former Smokers <3 Months % CI	Former Smokers 3+ Months % CI	Population Size (N)	Population Size (N)						
Total	61.29	0.93	27.96	0.86	2.88	0.32	2.84	0.32	5.04	0.42	12,575,808	16,041	
Workplace Smoking Rules, listed as:													
Work Area Level [Public Areas Level]													
Ban [Ban]	58.93	1.54	28.62	1.42	3.50	0.58	2.63	0.50	6.33	0.76	4,661,981	5,916	
Ban [No Ban]	63.48	2.04	27.01	1.89	2.61	0.68	2.82	0.70	4.08	0.84	2,537,189	3,303	
Restrict [Ban]	58.66	2.22	31.06	2.09	3.12	0.78	2.92	0.76	4.24	0.91	2,250,384	2,832	
Restrict [Restrict]	62.33	6.03	27.24	5.54	1.97	1.73	2.37	1.89	6.09	2.97	295,478	388	
No Restrictions	65.19	1.91	25.32	1.75	2.03	0.57	3.16	0.70	4.30	0.82	2,830,777	3,602	
Age (Years)													
25-44	59.66	1.12	29.58	1.04	3.12	0.40	2.78	0.38	4.86	0.49	8,733,235	11,023	
45-64	64.99	1.65	24.27	1.48	2.34	0.52	2.96	0.58	5.44	0.78	3,842,573	5,018	
Race/Ethnicity													
Non-Hispanic White	61.76	1.02	27.37	0.93	2.76	0.34	2.99	0.36	5.13	0.46	10,463,533	13,965	
Hispanic	64.58	5.86	24.74	5.29	3.21	2.16	2.65	1.97	4.83	2.62	565,382	492	
African-American	55.52	3.08	34.31	2.95	3.71	1.17	1.84	0.83	4.63	1.30	1,216,283	1,145	
Other	62.01	5.78	28.70	5.38	3.17	2.08	2.04	1.68	4.08	2.36	330,610	439	
Education (Years)													
<12	71.82	2.46	22.26	2.28	1.38	0.64	1.36	0.63	3.19	0.96	1,526,453	1,883	
12	62.98	1.37	27.14	1.26	2.38	0.43	2.88	0.47	4.61	0.59	5,691,190	7,428	
13-15	57.22	1.78	31.02	1.67	3.50	0.66	2.78	0.59	5.48	0.82	3,527,323	4,522	
16+	55.07	2.49	29.34	2.28	4.51	1.04	4.04	0.98	7.03	1.28	1,830,843	2,208	
Cigarettes Smoked per Day													
1-4	49.66	5.97	32.67	5.60	4.77	2.54	4.80	2.55	8.10	3.26	321,024	360	
5-14	52.61	1.97	35.41	1.88	4.46	0.81	3.06	0.68	4.46	0.81	2,948,752	3,594	
15-24	63.13	1.30	27.46	1.20	2.46	0.42	2.46	0.42	4.49	0.56	6,321,567	8,258	
25+	67.20	1.84	21.14	1.60	2.02	0.55	3.21	0.69	6.43	0.96	2,984,466	3,829	

Table 3-9 (continued)

Nation	Current Smoking Status												Sample Size (n)
	Daily Smokers No Quit Attempts		Daily Smokers w/Quit Attempts		Occasional Smokers		Former Smokers <3 Months		Former Smokers 3+ Months		Population Size (N)		
	%	CI	%	CI	%	CI	%	CI	%	CI	%	CI	
Household Income (Dollars)													
<10,000	68.94	3.21	24.62	2.99	2.25	1.03	1.50	0.84	2.69	1.12	949,892	1,214	
10,000-19,999	66.52	2.11	25.08	1.94	2.17	0.65	2.54	0.70	3.69	0.84	2,284,478	2,978	
20,000-29,999	61.64	2.07	28.43	1.92	3.15	0.74	2.19	0.62	4.59	0.89	2,523,179	3,285	
30,000-49,999	59.51	1.67	28.80	1.54	2.75	0.56	3.49	0.62	5.45	0.77	3,962,812	5,061	
50,000-74,999	58.06	2.31	28.86	2.12	3.52	0.86	3.22	0.83	6.34	1.14	2,087,777	2,577	
75,000 +	53.06	3.85	32.28	3.61	3.87	1.49	3.06	1.33	7.74	2.06	767,670	926	
States													
Alabama	62.08	8.67	29.47	8.15	1.39	2.10	2.80	2.95	4.25	3.61	193,329	203	
Alaska	64.03	7.61	28.50	7.15	3.02	2.71	0.94	1.53	3.51	2.92	27,314	206	
Arizona	61.78	8.16	26.63	7.42	3.83	3.22	1.65	2.14	6.11	4.02	170,232	147	
Arkansas	69.30	7.46	21.05	6.59	1.75	2.12	3.74	3.07	4.17	3.23	136,381	240	
California	58.20	3.84	27.20	3.46	3.07	1.34	2.64	1.25	8.89	2.21	945,027	705	
Colorado	61.06	8.53	24.42	7.51	4.75	3.72	2.28	2.61	7.49	4.60	169,028	190	
Connecticut	60.82	8.15	27.31	7.44	0.41	1.07	5.01	3.64	6.45	4.10	191,794	181	
District of Columbia	61.62	10.91	26.06	9.84	5.06	4.92	1.85	3.02	5.40	5.07	20,919	87	
Delaware	71.31	7.32	18.37	6.26	2.61	2.58	2.22	2.38	5.50	3.69	40,213	141	
Florida	63.44	3.84	28.55	3.60	2.33	1.20	1.70	1.03	3.98	1.56	639,167	646	
Georgia	57.51	7.82	32.29	7.39	2.39	2.42	3.82	3.03	3.98	3.09	347,525	177	
Hawaii	61.77	9.54	30.56	9.04	3.61	3.66	1.59	2.45	2.48	3.05	40,394	102	
Idaho	60.25	8.08	27.00	7.33	4.48	3.42	2.01	2.32	6.25	4.00	47,008	200	
Illinois	61.09	3.96	27.96	3.65	3.12	1.41	3.21	1.43	4.61	1.70	658,778	710	
Indiana	65.78	7.08	24.36	6.40	0.83	1.35	4.76	3.18	4.27	3.02	353,669	240	
Iowa	60.72	7.47	28.79	6.92	3.02	2.62	2.98	2.60	4.49	3.17	158,397	284	
Kansas	71.98	6.46	19.20	5.67	1.66	1.84	2.41	2.20	4.75	3.06	152,500	288	
Kentucky	71.39	7.02	21.24	6.35	2.01	2.18	2.49	2.42	2.87	2.59	218,011	218	
Louisiana	64.51	9.22	27.72	8.62	2.05	2.73	1.01	1.93	4.72	4.08	167,709	138	
Maine	64.20	6.94	28.29	6.52	2.67	2.33	1.75	1.90	3.09	2.51	80,702	225	

Table 3-9 (continued)

State	Current Smoking Status														Sample Size (n)
	Daily Smokers No Quit Attempts		Daily Smokers w/Quit Attempts		Occasional Smokers		Former Smokers <3 Months		Former Smokers 3+ Months		Population Size (N)		Sample Size (n)		
	%	CI	%	CI	%	CI	%	CI	%	CI					
Maryland	55.26	7.94	29.91	7.31	6.85	4.03	4.94	3.46	3.04	2.74	270,841	169			
Massachusetts	55.21	4.14	31.99	3.89	2.75	1.36	4.06	1.64	5.99	1.98	316,111	602			
Michigan	56.46	3.80	33.61	3.62	2.03	1.08	2.28	1.14	5.62	1.77	583,695	833			
Minnesota	58.82	7.42	28.63	6.81	5.56	3.46	1.82	2.02	5.17	3.34	271,791	253			
Mississippi	62.00	8.90	29.48	8.36	1.57	2.28	2.17	2.67	4.78	3.91	112,968	208			
Missouri	62.41	7.55	25.98	6.84	3.61	2.91	3.62	2.91	4.38	3.19	304,815	242			
Montana	70.42	8.07	18.30	6.83	2.95	2.99	3.46	3.23	4.87	3.81	36,596	221			
North Carolina	67.05	3.45	24.37	3.15	2.57	1.16	3.03	1.26	2.99	1.25	416,294	812			
North Dakota	58.18	8.48	31.22	7.96	5.40	3.88	2.97	2.92	2.24	2.54	27,882	211			
Nebraska	58.13	7.94	33.21	7.58	1.21	1.76	2.10	2.31	5.35	3.62	74,191	232			
Nevada	65.35	6.63	28.40	6.28	0.44	0.93	1.43	1.66	4.37	2.85	87,270	241			
New Hampshire	63.68	8.32	24.06	7.40	4.09	3.43	2.95	2.93	5.21	3.85	61,072	135			
New Jersey	60.71	4.29	28.26	3.96	2.05	1.25	2.38	1.34	6.61	2.18	349,012	545			
New Mexico	67.94	8.72	23.31	7.90	2.90	3.14	1.33	2.14	4.52	3.88	57,657	139			
New York	58.99	3.39	28.14	3.10	3.09	1.19	4.41	1.41	5.38	1.55	772,360	886			
Ohio	61.82	3.64	27.69	3.35	2.91	1.26	1.90	1.02	5.67	1.73	669,072	870			
Oklahoma	59.04	7.74	28.19	7.08	1.74	2.06	4.30	3.19	6.72	3.94	173,599	223			
Oregon	61.03	8.92	30.72	8.44	3.28	3.26	1.53	2.25	3.43	3.33	133,926	166			
Pennsylvania	59.35	3.99	29.93	3.72	2.90	1.36	2.16	1.18	5.66	1.87	618,303	739			
Rhode Island	61.29	8.51	25.34	7.60	3.21	3.08	3.46	3.19	6.70	4.37	50,910	143			
South Carolina	65.95	6.61	23.90	5.95	2.99	2.38	3.16	2.44	3.99	2.73	209,182	256			
South Dakota	61.87	7.59	25.41	6.80	3.91	3.03	1.96	2.16	6.85	3.95	33,751	257			
Tennessee	60.83	7.35	30.99	6.96	2.11	2.16	3.76	2.86	2.31	2.26	280,697	241			
Texas	61.75	4.50	29.49	4.22	3.02	1.59	2.27	1.38	3.46	1.69	762,515	637			
Utah	69.01	8.77	22.25	7.89	3.37	3.42	0.95	1.84	4.42	3.90	59,725	134			

Table 3-9 (continued)

State	Current Smoking Status												Sample Size (n)
	Daily Smokers No Quit Attempts		Daily Smokers w/Quit Attempts		Occasional Smokers		Former Smokers <3 Months		Former Smokers 3+ Months		Population Size (N)		
	%	CI	%	CI	%	CI	%	CI	%	CI			
Vermont	59.75	7.62	28.89	7.04	3.26	2.76	2.79	2.56	5.30	3.48	37,915	177	
Virginia	62.94	6.57	27.19	6.05	2.36	2.06	3.17	2.38	4.34	2.77	371,310	268	
Washington	56.37	8.16	29.79	7.52	3.83	3.16	3.12	2.86	6.88	4.16	246,885	176	
West Virginia	73.80	7.45	19.33	6.69	2.79	2.79	0.84	1.54	3.23	3.00	93,929	210	
Wisconsin	60.18	6.90	27.64	6.30	5.87	3.31	2.35	2.14	3.96	2.75	310,824	338	
Wyoming	58.11	9.42	31.58	8.87	2.85	3.18	3.13	3.32	4.33	3.88	22,609	149	

Note: CI = 95% confidence interval.

*Source: 1992/93 Current Population Survey.

Table 3-10
 Nation: Current Smoking Status among Indoor Worker Self-respondent Adults who were Daily Smokers 1 Year Ago, Age 25 and Older,
 1995/96 Current Population Survey

Nation	Current Smoking Status												Sample Size (n)
	Daily Smokers No Quit Attempts		Daily Smokers w/Quit Attempts		Occasional Smokers		Former Smokers <3 Months		Former Smokers 3+ Months		Population Size (N)		
	%	CI	%	CI	%	CI	%	CI	%	CI			
Total	67.5	0.9	24.2	0.8	2.7	0.3	2.0	0.3	3.6	0.4	13,184,031	13,422	
Workplace Smoking Rules, listed as:													
Work Area Level [Public Areas Level]													
Ban [Ban]	65.3	1.3	25.2	1.2	3.1	0.5	2.1	0.4	4.2	0.5	7,200,542	7,392	
Ban [No Ban]	70.8	2.4	22.7	2.2	2.4	0.8	1.6	0.7	2.6	0.8	1,786,388	1,779	
Restrict [Ban]	68.0	2.6	24.1	2.4	1.9	0.8	2.6	0.9	3.4	1.0	1,679,520	1,720	
Restrict [Restrict]	67.6	6.8	25.5	6.3	3.0	2.5	1.6	1.8	2.3	2.2	245,711	239	
No Restrictions	71.5	2.1	22.0	2.0	2.0	0.7	1.6	0.6	2.9	0.8	2,271,869	2,292	
Age (Years)													
25-44	66.1	1.1	25.2	1.0	2.8	0.4	2.2	0.4	3.7	0.5	8,884,812	8,931	
45-64	70.4	1.6	22.0	1.4	2.4	0.5	1.7	0.4	3.5	0.6	4,299,219	4,491	
Race/Ethnicity													
Non-Hispanic White	68.2	1.0	23.4	0.9	2.6	0.3	2.1	0.3	3.7	0.4	10,839,373	11,541	
Hispanic	68.1	5.7	23.5	5.2	3.8	2.3	1.3	1.4	3.3	2.2	641,866	494	
African-American	63.6	3.1	29.2	2.9	2.9	1.1	1.5	0.8	2.8	1.1	1,277,602	983	
Other	60.5	5.4	29.9	5.1	2.5	1.7	2.1	1.6	5.0	2.4	425,189	404	
Education (Years)													
<12	73.4	2.6	20.5	2.3	1.9	0.8	1.6	0.7	2.6	0.9	1,537,128	1,473	
12	69.7	1.4	23.7	1.3	2.0	0.4	1.5	0.4	3.1	0.5	5,816,058	6,014	
13-15	63.9	1.7	26.0	1.6	3.6	0.7	2.5	0.6	3.9	0.7	3,959,563	4,074	
16+	63.6	2.5	24.8	2.3	3.4	1.0	2.7	0.9	5.4	1.2	1,871,281	1,861	
Cigarettes Smoked per Day													
1-4	52.7	6.2	28.4	5.6	10.9	3.9	2.4	1.9	5.6	2.8	336,446	318	
5-14	58.4	2.0	31.0	1.8	4.1	0.8	2.3	0.6	4.1	0.8	3,229,042	3,248	
15-24	68.9	1.3	24.0	1.2	2.1	0.4	1.8	0.4	3.1	0.5	6,689,405	6,885	
25+	76.1	1.8	16.6	1.6	1.4	0.5	2.0	0.6	4.0	0.8	2,929,138	2,971	

Table 3-10 (continued)

Nation	Current Smoking Status												Sample Size (n)
	Daily Smokers No Quit Attempts		Daily Smokers w/Quit Attempts		Occasional Smokers		Former Smokers <3 Months		Former Smokers 3+ Months		Population Size (N)		
	%	CI	%	CI	%	CI	%	CI	%	CI	%	CI	
Household Income (Dollars)													
<10,000	67.0	3.6	25.9	3.3	3.0	1.3	1.4	0.9	2.7	1.2	890,140	922	
10,000–19,999	69.7	2.3	23.8	2.1	2.3	0.7	1.5	0.6	2.8	0.8	2,035,953	2,100	
20,000–29,999	70.2	2.0	22.9	1.9	2.5	0.7	1.6	0.6	2.8	0.7	2,563,182	2,637	
30,000–49,999	66.9	1.7	24.4	1.5	2.8	0.6	2.1	0.5	3.9	0.7	4,117,727	4,253	
50,000–74,999	65.5	2.2	25.0	2.0	3.0	0.8	2.7	0.7	3.8	0.9	2,394,938	2,394	
75,000 +	64.5	3.2	23.9	2.8	2.7	1.1	2.7	1.1	6.2	1.6	1,182,091	1,116	
State													
Alabama	67.4	8.3	28.3	8.0	1.8	2.3	1.2	1.9	1.3	2.0	182,677	161	
Alaska	63.0	7.6	30.4	7.2	2.1	2.3	0.6	1.2	3.9	3.0	31,231	138	
Arizona	63.0	7.8	25.9	7.1	2.9	2.7	5.6	3.7	2.7	2.6	197,215	197	
Arkansas	75.2	6.4	20.2	5.9	1.9	2.0	.	.	2.7	2.4	153,177	207	
California	62.4	4.0	26.4	3.6	4.0	1.6	2.4	1.3	4.9	1.8	964,676	589	
Colorado	61.7	7.8	25.4	7.0	3.2	2.8	4.1	3.2	5.7	3.7	198,247	206	
Connecticut	67.4	8.9	27.2	8.5	1.6	2.4	1.1	2.0	2.7	3.1	144,552	108	
District of Columbia	67.1	10.2	27.6	9.7	3.0	3.7	1.2	2.4	1.0	2.2	19,597	87	
Delaware	70.0	7.5	18.8	6.4	4.4	3.3	3.5	3.0	3.3	2.9	40,305	149	
Florida	68.4	3.9	23.3	3.5	2.4	1.3	2.0	1.2	3.9	1.6	672,955	539	
Georgia	73.6	6.7	21.2	6.2	.	.	3.0	2.6	2.2	2.2	348,989	212	
Hawaii	68.7	9.2	21.2	8.1	2.6	3.2	3.9	3.9	3.6	3.7	45,482	86	
Idaho	64.9	8.1	22.2	7.1	5.0	3.7	2.5	2.6	5.4	3.8	50,023	165	
Illinois	68.6	4.1	23.5	3.7	2.8	1.4	1.8	1.2	3.4	1.6	648,422	601	
Indiana	75.3	5.9	19.4	5.4	.	.	0.8	1.3	4.4	2.8	405,977	248	
Iowa	70.4	6.9	20.7	6.1	3.5	2.8	1.4	1.8	3.9	2.9	168,848	221	
Kansas	75.6	6.5	18.5	5.9	1.8	2.0	1.5	1.9	2.5	2.4	154,920	228	
Kentucky	69.2	7.0	25.5	6.6	1.3	1.7	1.1	1.6	2.9	2.5	222,143	197	
Louisiana	77.1	7.3	14.1	6.0	2.0	2.4	2.0	2.4	4.8	3.7	182,864	136	
Maine	66.7	7.7	27.5	7.3	0.8	1.4	1.6	2.0	3.5	3.0	69,418	163	

Table 3-10 (continued)

State	Current Smoking Status												Sample Size (n)
	Daily Smokers No Quit Attempts		Daily Smokers w/Quit Attempts		Occasional Smokers		Former Smokers <3 Months		Former Smokers 3+ Months		Population Size (N)		
	%	CI	%	CI	%	CI	%	CI	%	CI			
Maryland	62.4	8.2	27.3	7.5	4.9	3.7	1.6	2.1	3.7	3.2	253,032	146	
Massachusetts	55.9	5.3	32.7	5.0	3.2	1.9	3.2	1.9	5.0	2.3	302,728	350	
Michigan	62.6	4.0	29.4	3.8	2.3	1.2	2.1	1.2	3.7	1.6	622,882	649	
Minnesota	63.4	7.3	24.7	6.5	5.1	3.3	3.6	2.8	3.1	2.6	274,423	243	
Mississippi	65.0	8.0	27.3	7.5	1.1	1.8	3.2	2.9	3.3	3.0	126,519	151	
Missouri	66.0	6.7	24.9	6.1	3.7	2.7	1.0	1.4	4.3	2.9	361,678	234	
Montana	67.4	8.0	27.1	7.5	2.4	2.6	0.5	1.1	2.6	2.7	39,296	183	
North Carolina	70.7	4.6	21.1	4.1	2.6	1.6	2.7	1.6	2.9	1.7	426,357	507	
North Dakota	74.2	7.3	20.4	6.8	1.3	1.9	3.1	2.9	1.0	1.7	31,021	195	
Nebraska	70.7	7.2	21.8	6.6	2.2	2.3	3.5	2.9	1.8	2.1	83,923	195	
Nevada	67.0	7.0	25.6	6.5	3.9	2.9	1.1	1.6	2.4	2.3	95,940	171	
New Hampshire	58.8	8.0	31.0	7.5	3.3	2.9	2.9	2.7	4.0	3.2	72,494	166	
New Jersey	69.2	4.5	21.5	4.0	1.3	1.1	4.0	1.9	4.1	1.9	380,038	395	
New Mexico	64.7	8.4	24.8	7.6	4.5	3.6	2.4	2.7	3.6	3.2	67,139	154	
New York	64.5	3.7	25.8	3.3	3.1	1.3	1.6	1.0	5.0	1.7	742,585	644	
Ohio	73.4	3.6	19.4	3.3	2.7	1.3	1.9	1.1	2.6	1.3	707,330	681	
Oklahoma	68.5	7.0	24.8	6.5	4.1	3.0	1.8	2.0	0.8	1.3	181,739	238	
Oregon	72.8	7.9	20.3	7.1	2.0	2.5	.	.	4.9	3.8	146,569	151	
Pennsylvania	66.7	4.0	24.5	3.6	3.4	1.5	0.7	0.7	4.7	1.8	669,981	658	
Rhode Island	61.5	7.9	31.2	7.5	1.6	2.0	2.3	2.4	3.4	2.9	59,114	145	
South Carolina	77.0	6.1	17.2	5.4	2.1	2.1	1.7	1.8	2.1	2.0	237,363	182	
South Dakota	62.1	7.5	26.3	6.8	5.1	3.4	2.6	2.5	3.9	3.0	36,583	210	
Tennessee	72.5	6.4	21.0	5.8	2.7	2.3	1.0	1.4	2.9	2.4	327,339	204	
Texas	67.3	4.1	25.7	3.9	2.6	1.4	1.8	1.2	2.6	1.4	847,183	556	
Utah	68.3	9.1	21.2	8.0	5.9	4.6	1.4	2.3	3.2	3.4	60,579	120	

Table 3-10 (continued)

State	Current Smoking Status												Sample Size (n)
	Daily Smokers No Quit Attempts		Daily Smokers w/Quit Attempts		Occasional Smokers		Former Smokers <3 Months		Former Smokers 3+ Months		Population Size (N)		
	%	CI	%	CI	%	CI	%	CI	%	CI	%	CI	
Vermont	65.8	7.5	27.2	7.1	1.4	1.9	1.4	1.9	4.2	3.2	36,771	3.2	176
Virginia	69.5	6.8	22.8	6.2	1.6	1.8	2.5	2.3	3.7	2.8	362,169	2.8	241
Washington	59.2	8.8	30.6	8.3	1.4	2.1	3.8	3.4	5.0	3.9	248,779	3.9	152
West Virginia	70.8	7.4	21.9	6.8	3.3	2.9	1.1	1.7	2.9	2.7	84,774	2.7	185
Wisconsin	65.5	6.5	26.7	6.0	3.6	2.6	1.0	1.3	3.3	2.4	370,648	2.4	299
Wyoming	71.2	7.6	21.0	6.9	1.9	2.3	1.0	1.7	4.8	3.6	25,339	3.6	203

Note: CI = 95% confidence interval; " " = insufficient data.

*Source: 1995/96 Current Population Survey.

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