

Do restrictions on smoking at home, at school and in public places influence teenage smoking?

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<http://www.uic.edu/orgs/impactteen>



Introduction

- As bans in public places become more extensive, smoking may be perceived as more undesirable and inconvenient
- Bans at home associated in adults with increased quit attempts, sustained cessation, reduced daily consumption
- Even when parents smoke, bans at home give a strong message of social unacceptability
- Frequent exposure to ETS may reduce noxious experience of first cigarette and promote uptake

Survey Method

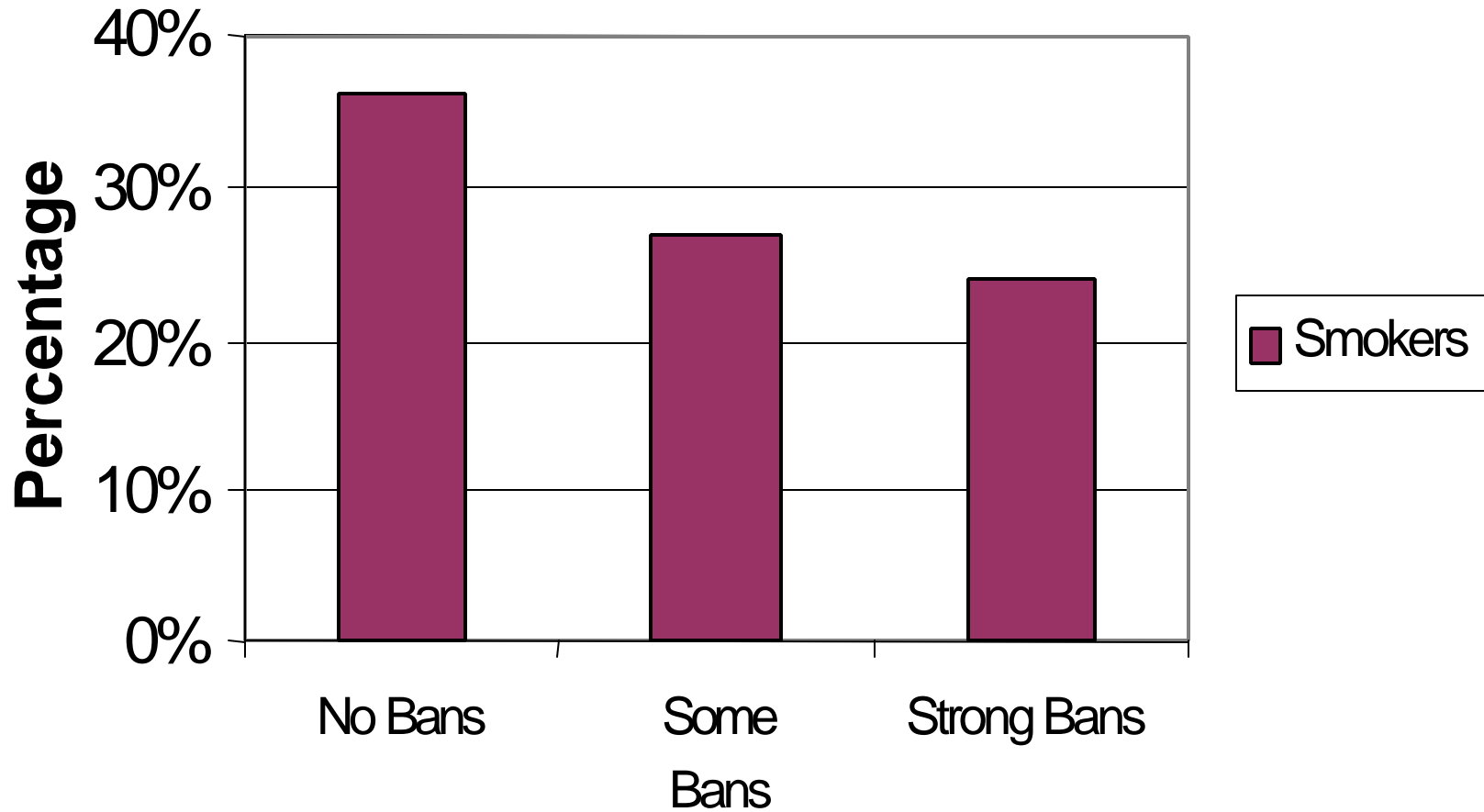
- National survey of 17,287 schoolchildren in Spring 1996, grades 9-12
- Multi-stage sampling procedure, using counties, schools and classes
- Self-administered questionnaire in classroom
- At school level, 73% response rate; at student level 80% response rate

Survey respondents		Percent
Grade	9	26%
	10	28%
	11	25%
	12	21%
Gender	Male	47%
	Female	54%
Race	White	47%
	African American	20%
	Hispanic	23%
	Other	10%

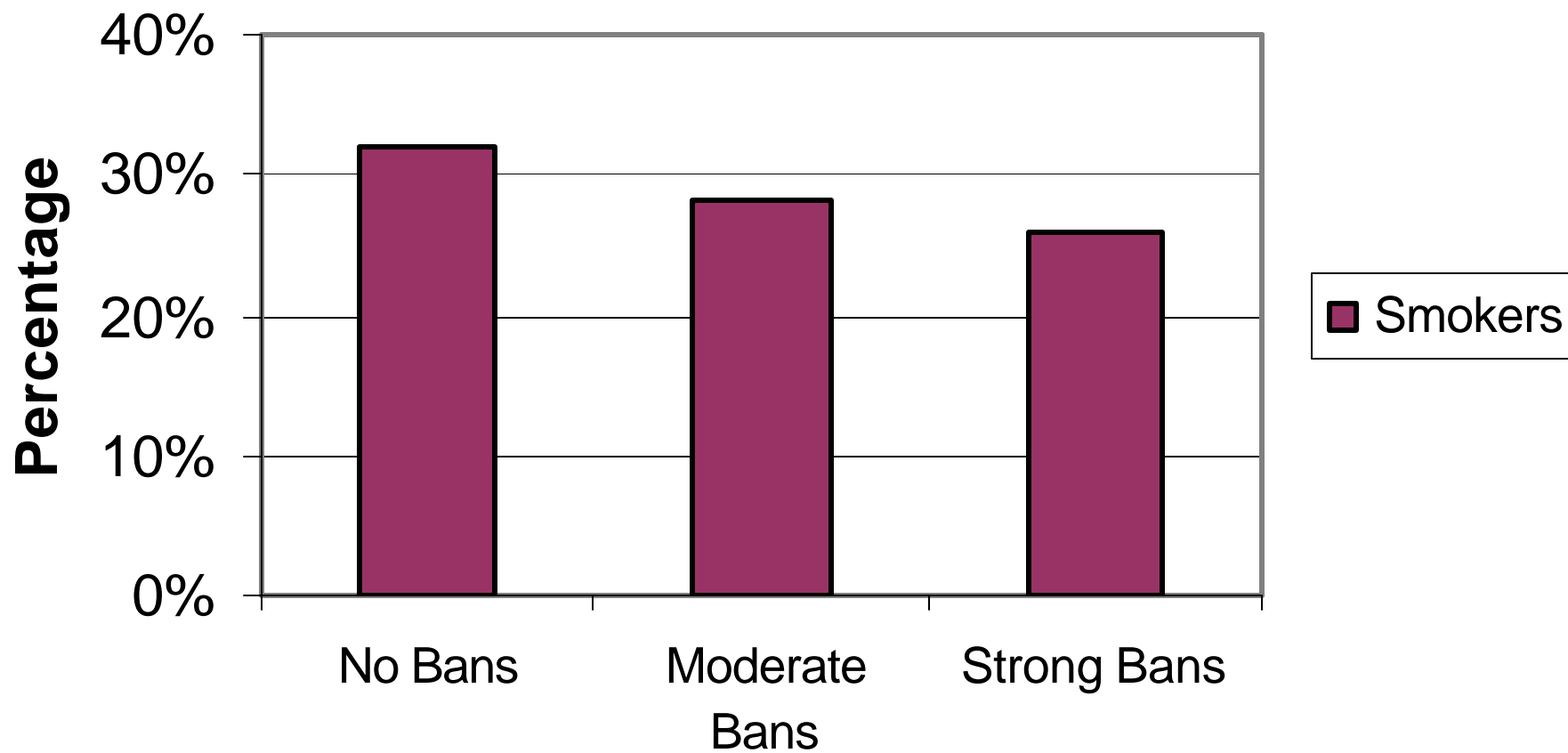
Ban prevalence	Percent
Public places:	
Strong	57%
Moderate	19%
Weak	24%
Home bans:	
Total ban	48%
Some ban	27%
No ban	25%
School ban:	
Ban exists	92%
No ban exists	8%
Enforced school ban:	
Strong ban	28%
Weak or no ban	72%

Smoking behavior	Percent
Nonsusceptible nonsmoker	26%
Susceptible nonsmoker	13%
Early experimenter	19%
Advanced experimenter	22%
Established smoker	20%
30 day smoking prevalence	28%
Daily consumption	5.7 (7.0)

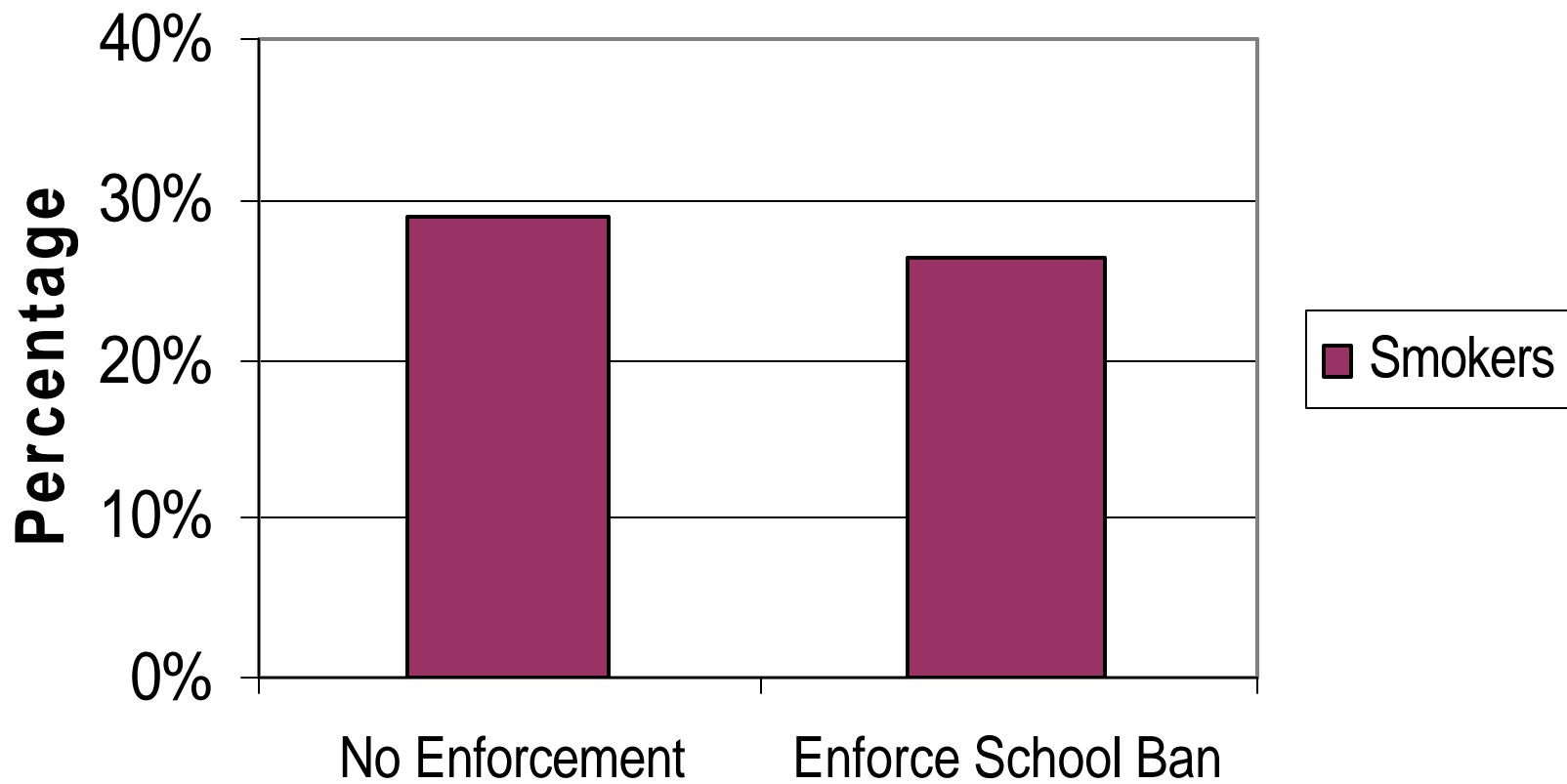
Smoking Prevalence by Home Bans



Smoking Prevalence by Public Places Bans



Prevalence of Smoking by Enforced School Bans



Thresholds of Change Model of Uptake of Smoking: Odds ratios

	OR SNS Threshold	OR EE Threshold	OR AE Threshold	OR ES Threshold
Public places ban	0.96	0.93	0.92* ⁺	0.90* ⁺
Total home ban	0.64*	0.69* ⁺	0.71* ⁺	0.78* ⁺
Some home ban	0.83*			
School ban	0.92	0.98	1.07	1.22* ⁺
Enforced school ban	0.89*			

ICC=.042, cluster variance =.14, p<.0001

N = 14,977, adjusted for grade, sex, race, adult smokers in home, and sibling smokers

*p<.05, ⁺ p<.05: Odds ratio is significantly different (non-proportional) from odds ratio at first threshold

Logistic regression: 30-day smoking prevalence

	OR	95% CI	p value
Public places ban	0.91	0.83 - 0.99	0.03
Total home ban	0.79	0.67 - 0.91	<.001
Some home ban	0.85	0.74 - 0.95	<.01
School ban	0.99	0.85 - 1.13	0.86
Enforced school ban	0.86	0.77 - 0.94	<.001

ICC=.038, cluster variance =.131, p<.00000.

N=14,746; adjusted for grade, sex, race, adult smokers in home, and sibling smokers

Multiple Regression: daily consumption

Variables	Estimate	SE	P> T
Intercept	1.02	0.08	0.00000
Public places ban	-0.02	0.02	0.32
Total home ban	-0.25	0.04	<.0001
Some home ban	-0.16	0.04	<.0001
School bans	-0.003	0.06	0.96
Enforced school ban	-0.13	0.04	<.001

ICC=.034, cluster variance =.029 p<.00003.

N=3,934; adjusted for grade, sex, race, adult smokers in home and sibling smokers.

Summary of results

- Home bans associated with lower uptake, prevalence, consumption
- Stronger public places bans associated with lower uptake and prevalence; weaker than home bans
- Public places bans have no association with daily consumption; teenage smokers are unlikely to be directly inconvenienced by these restrictions
- School bans associated with lower uptake, prevalence and consumption, but only when compliance is high

Study limitations

- Cross-sectional survey limits conclusions about direction of causality
- Validity of strength of public places measure
- No information about duration of smoking restrictions
- No measures of actual enforcement or compliance

Possible implications

- Home smoking bans have a protective effect on teenage smoking, even where parents are smokers - another reason to ban smoking at home?
- Public places bans have a more modest, but significant, independent effect
- Although most schools have a ban, this study underscores importance of enforcing it