

Correlates of Home Smoking Bans Among Young Adults

Noella A. Dietz, David J. Lee, Kristopher L. Arheart, James D. Wilkinson,
John D. Clark III, Alberto J. Caban-Martinez

Abstract

Multivariable regression in 1,858 young adults 18-25 years of age was carried out to identify correlates of household smoking bans. Knowledge of tobacco health effects, higher educational attainment, and no reported cigarette smoking were independently associated with smoking bans. Educational interventions to increase household smoking bans in young adults are needed.

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Introduction

As the prevalence of smoking has decreased in the public sphere, secondhand smoke exposure (SHS) in the home has taken on increasing importance as a key exposure source (U.S. Department of Health and Human Services, 2006). Despite dramatic exposure reductions, approximately 43% of the non-smoking US population has detectable levels of cotinine, a key metabolite of nicotine, in their bloodstream (Pirkle, Bernet, Caudill, Sosnoff, & Pechacek, 2006). Lawmakers and public health policy advocates are ill-equipped to pursue SHS exposure regulations in the private sphere (e.g., homes); therefore, public health scientists must better understand individuals' motivation to reduce these toxic exposures. A focus on young adults is of particular importance since in some states, like Florida, this group has been exposed to strong anti-tobacco campaigns as adolescents and it is unknown if these exposures may have favorably influenced their rule setting regarding smoking in their own homes.

Purpose

The purpose of this study was to identify correlates of smoking bans in family households.

Methods

Sample

Data come from telephone interviews conducted by the University of Florida Survey and Research Center and sponsored by the Flight Attendant Medical Research Institute (FAMRI). The survey was designed to document respondent's exposures to secondhand smoke as well as attitudes/beliefs about tobacco use and the effects of secondhand smoke. Using a cross-sectional design, the data were collected in the spring of 2005 and concluded at the end of May 2005. The sampling frame was designed by Genesys, Inc. and was designed to identify households likely to contain a person within the targeted age range of 18-25 years. Using the vendor generated lists, we randomly sampled Florida households and because many young adults in this

age group attend University full-time, we also included a telephone list from the registrar's office from a large university. A total of 1,858 participants completed the telephone interviews. The average completion time for each survey was approximately 18 minutes. We allowed up to 10 callbacks for each survey and the overall response rate was 56%. Participants received a \$10 incentive for completing the survey. The study protocol was approved by the University's Institutional Review Board.

To determine if the sample was representative of the young adults residing in the state, we compared the sample to census-based figures from the 2005 American Community Survey for the targeted age range. Our sample has a higher proportion of women relative to the state population (59% versus 49%) and under-represents non-Hispanic Blacks (11% versus 23%), with more respondents reporting "other" (9% versus 4%, respectively). As expected, we also had a higher proportion of young adults with at least some college as compared to the state population (68% versus 43%). Finally, estimates of smoking rates among 18-24 year olds in the state, as measured by the Florida Behavioral Risk Factor Surveillance System, were slightly higher than the smoking rates noted in the present analysis, i.e., 25.9% versus 23.3% (Centers for Disease Control and Prevention [CDC], 2006).

Measures

Based on the US Surgeon General Report (2006) and other sources (CDC, 2006; Sly, Arheart, Dietz, Trapido, Nelson, Rodriguez, et al, 2005) we hypothesized that participant reports of household smoking bans would be positively associated with: 1) increased awareness of the hazardous health effects from tobacco smoke exposure; 2) increased skepticism toward tobacco industry solutions for reducing the hazardous health effects of SHS; 3) confirmed awareness of the "truth" and SWAT anti-tobacco campaign; 4) not being employed in a job with SHS exposure; and 5) not smoking.

Dependent Variable

Willingness to ban smoking in their home was assessed with the item: “If someone visited your household and started to light-up, would you tell them smoking is not allowed in your house?” Respondents reported whether they strongly agreed, agreed, disagreed, or strongly disagreed with this question. We created a dichotomous variable with 1=agreed or strongly agreed vs. 0=disagreed or strongly disagreed.

Independent Variables

We included a number of independent variables in the analyses. To test the general knowledge of young adults about the risky health effects of secondhand smoke exposure, we asked respondents a number of attitude/belief items. We asked respondents a series of questions about how they felt about tobacco products and their consequences, respondents having pro- or anti-tobacco views, and if there are health effects from exposures to secondhand smoke (Arheart, Sly, Trapido, Rodriguez, & Ellestad, 2004). The 13 items used in the survey are treated similarly to attitude/belief items used in previous studies (Sly, et al, 2005; Sly, Hopkins, Traido, & Ray, 2001; Yanez, 2002). For all of the attitude/belief items, we used a Likert scale format. Two questions were used to test respondent’s knowledge of SHS. Specifically, these items assessed awareness of the health consequences of SHS and disagreement with industry solutions to SHS: “Secondhand smoke from other people’s cigarettes can cause lung cancer when breathed” and “Light cigarettes produce less harmful SHS than regular cigarettes” Responses were dichotomized.

To measure if respondents were aware of the Florida anti-tobacco campaign, we asked participants if they had brand awareness from that campaign. Respondents were asked to tell us what they thought of when they see the word “truth” spelled with lower-case letters, inside an oval. Acceptable answers included those answers where respondents were able to give one of the campaign’s major message themes, such as “young people promoting not smoking” or “kids are leading the effort to fight tobacco.” Unacceptable answers included more general responses, such as “don’t smoke” (confirm logo=1; not confirm logo=0).

Respondents also were asked to tell us what they thought of when they see or hear the word SWAT spelled with upper case letters. Confirmed answers included those where respondents were able

to tell us exactly what the letters meant or if they could give one of the “truth” anti-tobacco campaign messages, such as “young people fighting big tobacco.” Unacceptable answers included more general responses, such as “a school club” (confirm SWAT=1; not confirm SWAT=0).

Next, we asked if respondents were exposed to tobacco smoke at their place of employment. We created a categorical variable (1=no; 0=yes) to measure workplace exposure. Current smoking status was measured with the item, “during the last 30 days, on how many days did you smoke cigarettes, even just a puff or two?” The response category “none” was coded as 1 and all other answers were coded as 0. The control variables included demographic characteristics such as age, race/ethnicity, educational attainment, and gender.

Analysis Method

We used multivariate logistic regression to examine the association between awareness among young adults of the consequences of tobacco use and whether or not they would limit SHS exposure in their homes. Data were analyzed using SPSS 11.0. Initially, we conducted bivariate logistic regressions, followed by multivariable modeling to determine the independent associations with SHS exposures in the home, after testing for the presence of interactions among the variables.

Results

Nearly 60% of the sample were women (59.1%); 68.9% of the sample were non-Hispanic White; 10.3% non-Hispanic Black; 11.5% Hispanic; and 9.3% stated Other/mixed ethnicity. The mean age of the sample was 21.1 years. Approximately two-thirds had some college, while 8.9% did not complete high school. Most respondents reported having a household smoking ban (86.8%). The majority of respondents reported having a high amount of awareness of hazardous effects of SHS (83.9%). Forty-nine percent of young adults disagreed with the tobacco industry solution to the hazards of SHS. Fifty-three percent of young adults confirmed knowledge of the “truth” logo, while 21.8% confirmed knowledge of SWAT. Of those employed, 76.1% responded they were not exposed to SHS at work. Using the CDC definition of a current smoker, 23.3% of young adults reported smoking in the past 30 days, whereas the majority of young adults were nonsmokers (76.7%).

Table 1. Logistic Regression Analyses of Young Adults and Household Smoking Ban

Variables	Bivariate Logistic Regression		Multivariable Logistic Regression	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Age	1.12*	1.05-1.20	1.00	.99-1.22
Race/Ethnicity				
Black	1.72*	1.01-2.93	1.57	.78-3.15
Hispanic	1.03	.67-1.59	.91	.52-1.61
Other/Mix Ethnic	1.02	.64-1.63	2.22	.86-5.74
White/Ref Cat				
Education				
Some College + HS or Less/Ref Cat	1.96*	1.49-2.59	1.85*	1.21-2.83
Gender				
Female	1.37*	1.04-1.80	1.06	.73-1.55
Male/Ref Cat				
Aware Health Effects from SHS				
Aware	2.84*	1.80-4.46	1.94*	1.05-3.60
Not Aware/Ref Cat				
Aware of Industry Solution				
Disagree	1.31	.92-1.86	1.15	.72-1.85
Agree/Ref Cat				
Aware “truth”				
Aware	1.18	.90-1.54	.82	.57-1.21
Not Aware/Ref Cat				
Aware SWAT				
Aware	1.48*	1.03-2.11	1.37	.87-2.17
Not Aware/Ref Cat				
SHS at Work				
No SHS	1.48*	1.03-2.14	1.13	.75-1.70
SHS Work/Ref Cat				
Smoke Status				
Nonsmoker	3.47*	2.62-4.60	3.37*	2.31-4.91
Smoker/Ref Cat				

*Denotes statistical significance $p < .05$.

The data in Table 1 show results of the logistic regression analyses. In the multivariable model, young adults aware SHS could cause lung cancer were about twice as likely to report a home SHS ban relative to unaware adults (OR=1.94, 95% CI=1.05-3.60). Participants who did not smoke were more likely to report home smoking bans (OR=3.37, 95% CI=2.31-4.91), as were those individuals with more educational attainment (OR=1.85, 95% CI=1.21-2.83).

Discussion

Several important findings should be noted from our study. First, we documented that a high percentage of young adults do not permit smoking in their homes (87%). Interestingly, we anticipated nonsmokers to ban smoking in their homes; however,

as our findings indicate, a number of smokers also ban smoking in their homes. Second, contrary to our expectations, awareness of Florida’s youth-targeted anti-tobacco campaigns appear to have, at best, a modest influence on the development of SHS rule setting in the homes of young adults. Third, knowledge of the adverse health effects from SHS exposure was associated with household smoking bans. Fourth, nonsmokers had a higher likelihood of having a household smoking ban in place. Fifth, higher educational levels were associated with a greater likelihood of smoking bans. Targeted SHS educational campaigns may be necessary in adolescents/young adults with less education and who may be current smokers. Our results suggest that targeted campaigns and those developed for a broader audience should include information about

the health effects of SHS.

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Noella A. Dietz, David J. Lee (corresponding author dlee@med.miami.edu), and James D. Wilkson, Sylvester Comprehensive Cancer Center and the Department of Epidemiology and Public Health, University of Miami Miller School of Medicine, Miami, FL; Kristopher L. Arheart, John D. Clark III, and Alberto J. Caban-Martinez, Sylvester Comprehensive Cancer Center, University of Miami Miller School of Medicine, Miami, FL. This paper was submitted on May 15, 2007 and accepted for publication on June 30, 2007. Copyright 2007 by the *Florida Public Health Review*.