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Adoption of Smoking Policies by Automobile Dealerships

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Synopsis.....

Despite an increase in policies regulating smoking at the workplace, little research has been conducted on organizational factors that may be associated with the adoption of those policies. In November 1986, a survey assessing tobacco use habits was sent to 3,432 employees of 68 auto dealerships in western New York. Managers at the worksites were

surveyed by telephone in 1986 and 1 year later to assess their attitudes about smoking by employees and changes in smoking policy implementation:

At the time of the initial survey, 21 percent (N=14) of businesses had smoking restrictions. Among the 54 worksites with no smoking restrictions, 14 (26 percent) adopted smoking policies within a year. The strongest predictor of policy adoption was an interaction between the presence of floating smoking restrictions (not tied to a specific area) and the manager's willingness to impose smoking restrictions on employees. Adoption of policies was also more likely to occur among worksites with younger employees.

That adoption of smoking policies was more likely to occur among worksites with floating smoking policies underscores the idea that focusing efforts at the managerial level within an organization can accelerate the diffusion process. In addition, the presence of unions and employee concerns about smoking policies are likely to impact upon management's decisions regarding implementation of policies. Given the potential of smoking prohibitions to influence the smoking habits of employees, future studies should begin to focus on ways to facilitate the adoption of smoking policies in worksites.

STIMULATED BY BOTH PUBLIC and private initiatives, an increasing number of businesses are adopting policies that either limit or ban smoking at the workplace. Regulating smoking in the workplace is not a new idea. Employers have, for many years, instituted smoking restrictions to prevent fires or product contamination (1). However, only

recently have employers established smoking policies primarily to protect the health of employees.

The concept of worksite smoking restrictions has become more acceptable as the hazards of involuntary smoking have become known (2-4). A 1985 survey of health promotion activities conducted by the Department of Health and Human Services

determined that 27 percent of private sector businesses sampled reported having smoking policies (5). A 1985 survey by the Bureau of National Affairs reported that 57 percent of worksites sampled had established smoking policies for reasons of employee health; a similar survey conducted by the Bureau of National Affairs in 1986 reported that 36 percent of worksites had current smoking restrictions (6,7).

Despite the trend in establishing policies regulating smoking at the workplace, little research has been conducted on factors intrinsic to the worksite that may be associated with the adoption of smoking policies. It has been shown that the size of the worksite and type of industry can affect the likelihood of policy implementation; larger businesses and nonmanufacturing industries are more likely to adopt smoking policies (1,5,7).

In this paper we report on the characteristics of worksites associated with adoption of smoking policies over a 1-year period.

Methods

Initial survey. In November 1986, a questionnaire assessing tobacco use habits was sent to 3,432 employees of 68 auto dealerships in western New York State. Employees were queried about their use of tobacco products and attitudes about smoking restrictions. In addition, current smokers were asked about their interest in stopping smoking and interest in attending a stop smoking program. To encourage return of the surveys from the single mailing, employees were offered four chances to win a \$25 cash prize. A total of 1,989 employees returned their surveys, resulting in an overall response rate of 58 percent.

Managers at the worksites were interviewed by phone to assess their attitudes about smoking by employees, use of tobacco products, willingness to assist their employees in quitting smoking, previous health promotion programs at the worksite, and current smoking policies at the worksite.

Followup survey. One year later, in November 1987, all managers (followup rate = 100 percent) were reinterviewed by phone to determine changes in smoking policies implemented during the last year. A number of variables were evaluated with respect to their influence on implementation of smoking policies, including the prevalence of smoking at the worksite, attitudes of employees and managers regarding smoking restrictions, employees' complaints about smoking, average age of

employees, smoking status of the manager, the manager's willingness to promote a stop smoking program and assist employees in stopping smoking, history of health promotion efforts at the worksite, presence of cigarette vending machines, worksite size, the presence of floating smoking policies (not tied to a specific area), and whether the work force was unionized.

Worksite smoking restrictions. Two general types of smoking restrictions based on policy severity were identified: (a) permanent restrictions and (b) floating restrictions. Permanent restrictions were defined as specific areas of the worksite where smoking was prohibited. These included no smoking in designated offices, the customer lounge area, meeting room, or on the showroom floor. Floating restrictions were not as cogent as permanent restrictions since they varied, depending upon the circumstance, and were not limited to a specific area of the worksite. For example, in many worksites, the "no smoking with customers" rule was no longer relevant if the customer lighted a cigarette. A smoking salesperson was then free to light up a cigarette. In addition, worksites with policies prohibiting smoking in company cars could not enforce this rule when employees were off the company grounds. Floating restrictions, then, included no smoking with customers or in company or customer vehicles. Therefore, only worksites with permanent smoking restrictions were defined as having true smoking policies.

Results

Data analysis. Bivariate analysis was used to determine the relationship between predictor variables and adoption of smoking policies. Analyses were based on one-way ANOVA or chi-square as appropriate. Because response rates varied between worksites (range: 19 to 100 percent), parallel analyses were run on predictor variables to compare worksites with 60 percent or greater response rates to those with less than 60 percent response rates. No differences in the predictor variables were found between worksites with low employee response rates and those with high response rates. Results are based upon data from all worksites.

Characteristics of employees. Among employees surveyed in the 68 auto dealerships, 98 percent were white, 76 percent were male, 63 percent were married, and 94 percent had received a high school diploma. The average age among employees was

35.7 years (range: 26–45), and the average length of employment was 5 years (range: 13 months–12 years). Among survey responders, 32 percent were nonsmokers, 24 percent were ex-smokers, and 44 percent were current smokers. Among current smokers, cigarette consumption was fairly heavy; the average daily intake was 24 cigarettes (range: 1–90). Seventy-three percent of employees thought that passive smoking was dangerous to their health. Among smokers, 54 percent thought that passive exposure to smoke was dangerous to their health compared with 87 percent of nonsmokers ($\chi^2(1, N = 1,906) = 263.2, P < .001$). Ten percent of employees agreed that smoking should be completely banned at the worksite, 51.8 percent agreed that smoking should be permitted only in designated areas, and 38.2 percent thought that smoking should be allowed without restriction at work. Thirty-seven percent of smokers agreed that smoking should be permitted in certain areas or banned at the worksite compared to 80 percent of nonsmokers ($\chi^2(2, N = 1,911) = 396.4, P < .001$).

Characteristics of managers. Among managers surveyed, 53 percent were willing to impose smoking restrictions on their employees. Seventy-one percent were willing to promote a smoking cessation clinic, and 75 percent were willing to assist their employees in stopping smoking. Only 5 percent of managers, however, previously had offered their employees incentives for stopping smoking. In 51 percent of worksites, managers recalled instances of employee complaints about exposure to tobacco smoke. Among the managers surveyed, 26 percent were current smokers, 43 percent were ex-smokers, and 31 percent were nonsmokers.

Characteristics of worksites. Smoking prevalence rates at worksites ranged from 20–93 percent with an average of 44 percent. Worksite size was determined by the total number of employees. Worksites employed an average of 51 employees (range: 8–175). Almost one-half (49 percent) of worksites were unionized; in the 33 worksites with unions, 49 percent of managers believed that the union was a barrier to instituting a smoking policy. Cigarette vending machines were present in 72 percent of worksites. Only 6, or 10 percent, of businesses had previously sponsored health promotion programs (for example, smoking cessation programs, blood drives, weight loss programs).

Implementation of smoking policies. Of the 68 worksites surveyed in 1986, 14, or 21 percent, had

Table 1. Types of smoking restrictions and percentage of worksites with specific policies, followup survey of auto dealerships, New York State, 1987

Type of restriction	Percent of worksites	Number
Permanent restrictions ¹	41.2	28
Showroom	8.8	6
Lounge area	1.4	1
Meeting room	23.5	16
Offices	20.6	14
Floating restrictions ¹	36.8	25
With customers	27.9	19
Customer's vehicles	5.9	4
Company vehicles	17.6	12

¹ Worksites may possess more than 1 type of smoking restriction.

one or more current smoking restrictions. Of the 54 worksites with no restrictions in 1986, 14 (26 percent) adopted permanent restrictions on smoking within the next year. Table 1 describes the types of smoking regulations observed at the 1-year followup survey. Forty-one percent of worksites possessed permanent restrictions on smoking. The most common restrictions included the prohibition of smoking in designated offices and meeting rooms. Floating restrictions were present at 37 percent of worksites. The most common floating restrictions were no smoking with customers or in company vehicles.

Effects of worksite factors on adoption of smoking policies were evaluated by comparing the 14 worksites that adopted policies over the subsequent year with the 40 worksites that did not adopt policies. As indicated in table 2, the manager's willingness to impose smoking restrictions on employees predicted adoption of permanent smoking policies. Worksites with floating smoking restrictions were also more likely to adopt permanent smoking restrictions than worksites without floating restrictions. In addition, worksites with younger employees were also more likely to adopt permanent smoking restrictions.

To evaluate the independent effects of these variables, significant predictors ($P < .10$) of adoption of smoking policies were entered into a logistic regression analysis. In addition, a variable representing the interaction between the presence of floating policies and the manager's willingness to impose restrictions was entered into the equation. Entry of this interaction term was based on the assumption that the manager's opinion about smoking restrictions may have been associated with preexisting nominal restrictions (even before these variables were assessed at baseline), although the

Table 2. Relationship between organizational factors and adoption of smoking policies in auto dealerships, New York State, 1987

Factor present at worksite	Adopters (N = 14)		Nonadopters (N = 40)		X ² or F	P
	Number	Percent or mean	Number	Percent or mean		
<i>Characteristics of worksites</i>						
Cigarette vending machines.....	10	76.9	30	76.9	0.00	1.00
Unions.....	4	28.6	21	52.5	1.52	.22
Past health promotions.....	1	7.1	3	7.7	0.00	1.00
Floating policies.....	9	64.3	7	17.5	8.76	<.01
<i>Characteristics of managers</i>						
Managers who smoke.....	3	23.1	12	30.0	0.02	.90
Manager's willingness to restrict employees' smoking.....	11	78.6	14	37.8	5.21	.02
Manager's willingness to promote stop smoking clinic.....	11	84.6	23	67.6	0.64	.42
Manager's willingness to assist employees in stopping smoking.....	11	84.6	28	73.7	0.18	.67
<i>Characteristics of employees</i>						
Employee complaints about smoking..	7	50.0	16	41.0	0.34	.56
Average smoking prevalence.....	14	39.1	40	43.6	1.22	.27
Average employees per worksite.....	14	55.4	40	43.6	1.91	.17
Average age of employees per worksite (years).....	14	33.6	40	36.3	3.77	.06

cause-effect relationship between the two variables is unknown since both were measured simultaneously.

The results indicated that the most powerful predictor of adoption of smoking policies was the interaction between the manager's willingness to impose a smoking restriction on employees and the presence of floating policies at the worksite. Worksites with floating restrictions and managers who favored restrictions were 26 times (95 percent CI: 4.2, 164.3) more likely to adopt a smoking policy compared to worksites at which either one or none of these predictors existed.

The average age of employees was also a significant predictor of policy adoption. Worksites with employees whose average age was 35 years or younger were almost four times (RR = 3.85, 95 percent CI: 1.6, 9.3) more likely to adopt a smoking policy compared to worksites with employees whose average age was 36 years or older.

Discussion

Orlandi and Fielding both have identified the importance of management's support for worksite health promotion activities (8,9). The findings from this study underscore the idea that adoption of smoking restrictions in the workplace depends upon management support for imposing restrictions.

The strongest predictor of policy adoption was an interaction between the presence of nominal smoking restrictions at the worksite and the manager's willingness to impose smoking restrictions on

employees. It is clear from this finding that adoption of permanent smoking policies was more likely to occur when worksites possessed nominal smoking policies. The change in smoking restrictions observed over the 1-year period suggests that worksites seem to move along a continuum in which the probability of smoking policy adoption is contingent upon the existence of nominal floating restrictions. Perhaps the diffusion process can be accelerated by convincing top management to incorporate, at the very least, nominal types of smoking restrictions.

Age of employees was also found to be a significant predictor of policy adoption. Policy adoption was more likely to occur among worksites with younger employees even after controlling for other potential confounders. Given the fact that average daily cigarette consumption and age were significantly related ($r(53) = .26, P = .03$), a possible explanation for this finding is that smoking policies may be more difficult to implement in worksites with heavy smokers. Another related explanation for this finding is that age was related to beliefs about the dangers of passive smoking. Employees at worksites where the employees' average age was 35 years or less were more likely to believe that passive smoking was dangerous to their health than employees at dealerships where the employees' average age was greater than 35 years (76 percent versus 70 percent, respectively; $F(1,52) = 3.83, P = .06$).

The overall result of this study suggests a need to focus efforts on educating managers about the

benefits of incorporating smoking policies into the workplace. Interestingly, managers who had received complaints from employees about smoking at the workplace held more favorable opinions about establishing a smoking policy compared with managers who received no complaints, although this difference was not statistically significant at the 5 percent level (57 percent versus 43 percent, respectively; $\chi^2(1, N = 51) = .94, P = .33$. Surveying employees about their attitudes toward smoking restrictions or knowledge about the health consequences of passive smoking may help to provide information useful in persuading managers to adopt more stringent smoking policies.

The presence of a union may present a barrier to the adoption of policies on smoking. In unionized worksites where the manager favored smoking restrictions, only 33 percent (4 of 12) adopted a smoking policy. In contrast, in nonunionized worksites where the manager favored smoking policies, 54 percent (7 of 13) adopted new smoking restrictions. In addition, smoking policies were not adopted by any unionized worksites where the manager was unwilling to impose smoking restrictions. These findings suggest that enlisting the support of unions may help to facilitate adoption of policies. In addition, lack of cooperation between management and the union can act as a barrier to policy implementation.

A number of limitations to the study deserve mention. First, the 58 percent average rate of response by employees was relatively low, even given the fact that incentives were used to enhance return rates. Parallel analyses run on predictor variables to compare worksites with low (<60 percent) and high (≥ 60 percent) response rates yielded similar results.

A second limitation of the study is the nature of the worksites sampled. Thus, predictors of smoking policy adoption among auto dealerships may not influence policy adoption in other types of organizations, such as health care facilities or factories. This is one of the few studies, however, that has examined policy adoption in multiple private sector work settings.

Although the owner of the company may have had a strong influence on management's decision to implement smoking policies, general managers were typically responsible for making decisions regarding policy implementation since they were more familiar with the daily operations of the dealership and also interacted daily with employees. At some of the smaller worksites, the owners acted as general managers. Although attempts were made

to contact the owners of the dealerships, virtually all were unavailable for interviews or were typically off company grounds, or both.

Not investigated in this study were issues that also may have motivated management's decision to adopt a smoking policy such as health care costs, loss of productivity, or even the demands of nonsmoking employees. Previous studies have indicated that adoption of smoking policies can be influenced by worksite-specific factors, such as the increased financial burden of smokers to their employers, or by extrinsic factors, such as State or local legislation (1,7).

While the findings of this study seem self-evident, this is the first study to demonstrate prospectively the importance of management in the establishment of smoking policies in the private sector. In addition, the study identifies factors that can facilitate intervention efforts toward adoption of smoking policies at the managerial level of an organization. Given the potential influence of smoking prohibitions on influencing the smoking habits of employees (10-12), future studies should begin to focus on ways to facilitate the adoption of smoking policies in worksites.

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Environmental Health Faculty in Schools of Public Health

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Synopsis

This paper profiles the faculty in schools of public health, particularly in environmental health.

IN 1980, NATIONAL GOALS were established to improve the health of the nation substantially by 1990. Two of the 15 priority areas targeted for action were the control of toxic materials and the improvement of occupational safety and health. Specific objectives were set to improve health status, reduce risk factors, increase public and professional awareness, improve services and protection, and improve surveillance and evaluation systems. One of the measures suggested to meet the stated objectives was to "educate health professionals . . . about toxicology, epidemiology, industrial hygiene, medical surveillance, control technology design, and hazardous substance control" (1).

Those who conducted the midcourse review of the 1990 Health Objectives for the Nation in 1985 found the toxic control priority area to be still in a "relatively embryonic stage of development," reflecting a "relatively new perspective on environmental hazards" and "very little in the way of baseline data" (2). Of the 20 stated objectives for toxic agents and radiation control, only 4 were on track for completion by 1990. There were no data

There are approximately 1,650 faculty members in schools of public health; 300 of them are in environmental health.

The future demand for personnel in environmental health appears to be for generalists, as well as specialists in toxicology, epidemiology, environmental chemistry and biology, industrial hygiene, vector control, and institutional environments. These demands will require new and updated programs and additional faculty. While PhD scientists and engineers (the pool of potential new faculty) are increasingly being drawn to industry rather than academia, new personnel for faculty positions are expected to be available in the market.

available to assess the progress of the remaining 16 objectives. Similarly, in the occupational health priority area, only 8 of the 20 stated objectives had been achieved or were on track for completion by 1990.

Training and technology transfer in toxics management and occupational health are lagging substantially behind legislation in these two areas. It is imperative that those responsible for the control of the environment be knowledgeable, not only in the basics of environmental health, but in the substantive information related to their chosen field.

The purpose of this paper is to assess the environmental health faculty workforce in schools of public health who are, in part, responsible for training the manpower to meet current and future environmental needs.

Schools of Public Health

Schools of public health are professional schools educating individuals at the graduate level in methods of health promotion and disease prevention.