

MEDIUM-SIZED BUSINESS EMPLOYEES SPEAK OUT ABOUT SMOKING

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ABSTRACT: A health promotion study, funded by a state health department to meet objectives 3.4 and 3.11 of *Healthy People 2000*, was designed to: (1) identify tobacco use; (2) assess employees' beliefs on one's health and family member's health; and (3) assess the type of smoking policies favored. Using the *Health Belief Model*, it was hypothesized that there were differences in the health beliefs of tobacco users, former users, and never users. A 34-item questionnaire was administered to 1090 employees with a return rate of 603 (55%). Results: tobacco users perceived weight control and reduction of tension as benefits; they accepted warning label as hazardous but reported smokeless not as harmful; they perceived heart disease and cancer as related to tobacco use; and 62% had tried to quit smoking. Former and never users wanted "total ban policies" while, tobacco users wanted "designated areas" for smoking. All perceived their smoking and environmental tobacco smoke hazardous to their health and the health of family.

INTRODUCTION

In the United States, consumption of tobacco is the most preventable cause of death, yet more than 50 million Americans continue to use tobacco products. The American Lung Association estimates that 430,700 Americans die yearly from diseases directly related to cigarette smoking.¹ Exposure to smoking, is no longer viewed individually but plurally. With evidence that environmental tobacco smoke endangers nonsmokers, smoking is transformed from an individual to a social and business problem as well.^{2,3}

While educational anti-smoking campaigns emphasize tobacco-related health problems, many individuals continue to use tobacco products

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ignoring the health risks.^{4,5} Changing one's behavior is often negated by nicotine's addictive powers, and its pleasurable effects.^{6,7} Additionally, the millions spent by tobacco companies in advertisements and promotions circumvent the health education strategies.^{3,8}

Some causal relationships exist between cigarette smoking and cardiovascular and respiratory diseases, as well as oral, gastro-intestinal, and genitourinary cancers.^{7,9} For women, tobacco consumption contributes physiologically to cervical cancer, low birth weight babies, intrauterine fetal growth retardation, infant mortality, and possibly sudden infant death syndrome.¹⁰

Smoking in the workplace is a paradoxical but portentous health issue. The National Institute for Occupational Safety and Health (NIOSH) in 1991 made recommendations for employers to maintain indoor air quality by restricting smoking to separately ventilated spaces or by totally banning smoking indoors.¹¹ In 1993, the Environmental Protection Agency classified environmental tobacco smoke (ETS) as a known human (Group A) carcinogen.¹²

As previously documented in epidemiological studies, an increased risk of lung cancer exists in nonsmokers chronically exposed to tobacco smoke. Separation of smokers and nonsmokers within the same air space may reduce, but does not eliminate nonsmokers' exposure to environmental tobacco smoke nor their risk of disease.^{12,13} Although nonsmokers are usually aware of the health risks associated with ETS exposure, the majority are regularly exposed at the workplace.¹⁴ Using restrictive, workplace smoking policies can be a primary means of reducing ETS exposure and cigarette consumption.¹⁵⁻¹⁹

Additionally, people who smoke and engage simultaneously in certain industrial occupations have an even greater risk of cancer.^{20,21} Components of indoor air pollution, asbestos fibers, and radon decay products interact with cigarette smoke, thereby producing compounded occupational health risks.²² These combinations are not only addictive but also synergistic.²³

Since the evidence of the causal relationship between exposure to environmental tobacco smoke and its health effects is well documented,²⁴⁻³⁰ employers are increasingly being pressured to establish restrictive smoking policies in the workplace.³¹ Workplaces with restrictive smoking regulations have a lower prevalence of smoking employees.¹⁹ Brenner and Mielck report that prohibiting smoking at the workplace substantially reduces the number of smokers, particularly among female employees.¹⁶ Other researchers conclude that regulation of smoking at the workplace may help active smokers substantially reduce their daily consumption.¹⁵⁻¹⁹ Prohibition of smoking at

the workplace therefore, might be a particularly cost-effective public health measure.

In affirmation of *Healthy People 2000's*³² workplace health promotion activities, the City Health District submitted and received a grant from the Ohio Department of Health, Bureau of Health Promotion and Risk Reduction. These two objectives from *Healthy People 2000* were addressed in the proposal.

- 3.4 Reduce cigarette smoking among people aged 20 and older; and
- 3.11 Increase the proportion of worksites with a formal smoking policy that prohibits or severely restricts smoking at the worksite.

As an initial step toward meeting these objectives, the current study was designed to: (1) identify tobacco smoking practices among employees from medium-sized businesses; (2) assess the employees' beliefs regarding smoking effects on one's health and the health of family members; and (3) assess the types of smoking policies favored. Reciprocally, researchers offered participating businesses health promotion programs related to smoking and smoking policies.

HEALTH BELIEF MODEL

The Health Belief Model (HBM) posits that individuals will take action to control a harmful condition under the following conditions: if they perceive themselves as susceptible to the condition; if they believe it to have potentially serious consequences for them; if they believe a course of action is available that would be beneficial in reducing either the severity of or their susceptibility to the condition; and if they believe the costs of, or anticipated barriers to taking the action are outweighed by the benefits. This framework, which was used in developing the study's instrument, incorporated the key concepts of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action.³³

HYPOTHESIS

There are differences in the health beliefs of tobacco users, former users, and never users.

METHODS

Sample

Businesses for this study were identified through a listing from the Chamber of Commerce and the Coalition for Cancer Control and Prevention in the Black Community. The criteria for participating businesses were that they: (1) were located within the county and employed 200 or less; (2) were not a tobacco-free business; and (3) would allow their employees to be surveyed. Twenty-two medium-sized businesses met the criteria and each chief operating officer was contacted by telephone. Eleven businesses, ranging from medium-sized retail stores to light manufacturing companies, agreed to participate in the Project.

Instrument

A culturally sensitive questionnaire on tobacco use was not found through an exhaustive literature search nor numerous contacts with other researchers. Consequently, the researchers carefully designed a 34-item questionnaire to survey this population. It was reviewed by experts for content validity and cultural sensitivity, but more importantly it reflected content that business owners felt was important to assess. Additionally, the questionnaire was administered to 50 employees of a large business who were not included in the sample. Revisions of three items were made to increase clarity.

Procedure

The eleven businesses employed 1090 persons. Department heads were identified and given the following procedural instructions for questionnaire administration: (1) provision of an opportunity for every employee to participate without repercussions to personal or job security; (2) oral explanations regarding questionnaire completion and maintenance of confidentiality; (3) collection of questionnaires immediately after completion by employees; and (4) return of all questionnaires to researchers.

In the eleven businesses, questionnaires were distributed to all employees. The participating businesses were further identified by the allowance of smoking on business premises. None of the businesses had written policies on tobacco use, smoke-free environments, or policies on smokeless tobacco. However, those that allowed smoking were categorized as "smoking"; and those that allowed smoking in designated areas were categorized as "smoking in designated areas." Of the eleven businesses in

the sample, six businesses had designated areas and five allowed smoking anywhere on the premises.

RESULTS

Eleven businesses returned 603 completed questionnaires, which constituted a 55% return rate.

Description of the Sample

The sample consisted of 136 (23%) females and 467 (77%) males with 536 (89%) reported as full-time employees. By race, the sample was: 24 (4%) African Americans; 10 (2%) Alaskan/American Indians; 11 (2%) Asian/Pacific Islanders; 533 (88%) Caucasians; and 8 (1%) Hispanics. The employee categories were nonmanagement bargaining unit represented by 61 (11%); management represented 99 (18%); others 105 (19%), which consisted of contract and part-time employees; and nonmanagement, non bargaining unit consisted of 273 (49%). The age ranges of the respondents were as follows: 235 (38%) were between the ages of 26 and 35; 206 (34%) were between 36 and 55; and 100 (17%) were between 18 and 25. Educationally, an equal number of respondents graduated from high school as college (47%) with only 6% having less than 11 years of education.

The sample was delineated into tobacco users, never users, and former users for analyzing data relating to the five HBM constructs. Descriptively, 255 (42%) were users of tobacco products; 182 (30%) were never users; and 166 (28%) were former users of tobacco products (Table 1).

Perceived Benefits from tobacco use included weight control and tension reduction. Eighty (31%) of the tobacco users perceived that tobacco usage controlled weight, and 208 (82%) perceived usage reduced tension.

Perceived Severity was determined by the respondents believing the warning label "that smoking is hazardous to one's health" and a second belief "that smokeless tobacco is less hazardous than smoking." Smoking was recognized as hazardous to health by 237 (93%) of the tobacco users, 82 (45%) of the never users, and 59 (36%) of the former users. For smokeless tobacco, 247 (97%) of tobacco users perceived smokeless tobacco not as harmful as tobacco smoking products, while 181 (99%) of the never users, and 136 (82%) of the former users reiterated the same perception.

Perceived Barriers were assessed by the employee's smoking, the smoking of family members, and effects of smoking on children living in

TABLE 1

Frequencies and Percentages for HBM Components on Tobacco Users, Never Users, and Former Users in Medium-Sized Businesses*

<i>Question</i>	<i>Tobacco Users</i>		<i>Never Users</i>		<i>Former Users</i>	
	<i>F</i>	<i>P%</i>	<i>F</i>	<i>P%</i>	<i>F</i>	<i>P%</i>
	<i>N = 255</i>		<i>N = 182</i>		<i>N = 166</i>	
<i>Perceived Benefits</i>						
5. Controls weight	80	31	1	<1	8	5
4. Reduce Tension	208	82	4	<1	4	3
<i>Perceived Severity</i>						
6. Smoking hazardous label	237	93	82	45	59	36
13. Smokeless not harmful	247	97	181	99	136	83
<i>Perceived Barriers</i>						
10. Your smoking hazardous to other family	250	98			134	81
11. Family smoking hazardous to employee	194	76	106	58	92	55
12. Children smoking parent's more resp. problems/ear infections	245	96	179	98	136	82
<i>Perceived Susceptibility</i>						
14. Smoking heart disease	216	85	170	93	131	80
15. Smoking lung cancer	233	91	173	95	133	80
<i>Cue to Action</i>						
16. Smoking harmful quit	160	63				
17. Smoking not harmful want to quit	130	51				
18. Program to quit enroll	105	41				
Quit on own	29	11				
20. Tried to quit before:						
once	57	22				
twice before	39	15				
3 or more times	65	25				
never tried	34	13				

*The frequencies and percentages on Table 1 are based on the responses of individuals in each question and may not equal 603 (100%).

the household with smokers. Among the smokers, 250 (98%) perceived their smoking as hazardous to the other family members' health, and 134 (81%) of former users reported the same perceptions of risks. Employees who perceived the smoking of family members as hazardous to their health were reported by 194 (76%) of tobacco users, 106 (58%) of never users, and 92 (55%) of former users. Two hundred forty-five (96%) of tobacco users perceived that children living with parents who smoked had more respiratory problems and ear infections. The same perceptions were reported by 179 (98%) of nonusers, and 136 (82%) of former users.

Perceived Susceptibility described smoking relative to perceptions of heart disease and lung cancer. Tobacco users, 216 (85%) perceived smoking as related to heart disease followed by 170 (93%) of never users, and 131 (80%) of former users. Lung cancer's association to smoking was perceived by tobacco users as 233 (91%), never users as 173 (95%), and former users as 133 (80%) susceptibility.

Cue to Action was established with 4 questions. Tobacco users reported that they: (1) believed smoking was harmful and wanted to quit, 160 (63%); (2) believed smoking was not harmful but wanted to quit, 130 (51%); (3) wanted to enroll in a program to quit, 105 (41%); and (4) previously had tried to quit—once 57 (22%), twice before 39 (15%), three or more times 65 (25%), and never tried 34 (13%).

Other Results

An important finding was that approximately one-half of the sample [tobacco users, 137 (53%); never users, 90 (49%); and former users, 72 (43%)] indicated that they preferred designated smoking areas. The tobacco users' responses were subdivided according to preference in descending order: 194 no restrictions, outside building; 131 no restrictions in rest rooms; 120 no restrictions in company vehicles; 106 designated areas in lunch room; 99 no restrictions, in hallways; and 97 for a designated area in conference rooms. For these same areas, never smokers and former smokers preferred "total bans" in all areas.

Beliefs of Tobacco Users, Never Users, and Former Users

Chi-square analyses were used to determine the differences between beliefs of tobacco users, never users, and former users. From the results as reported in Table 2, significant differences were found in various categories. Current tobacco users reported that they used their first tobacco product between 12 and 16 years of age ($p < .000$) and are daily users ($p < .000$). Beliefs identified were: (1) smoking controlled weight

TABLE 2

Current Smoker Status Related to Select Variables

<i>Variable</i>	χ^2	<i>p-value</i>
Present Tobacco Users Began 1st Tobacco Product Between 12 and 16 Years of Age	244.19	.000***
Tobacco Users Use Daily	339.45	.000***
Tobacco Use Controls Weight	208.30	.000***
Tobacco Users Believe Usage Hazardous to Health	142.96	.000***
Tobacco Users Believe Smokeless Tobacco Less Harmful Than Smoking Cigarettes	38.50	.001**
Tobacco Users DO NOT Believe Smoking Is Related To Heart Disease	32.74	.001**
Tobacco Users DO NOT Believe Smoking Is Hazardous to Family Member(s)Health	247.98	.000***
Tobacco Users DO NOT Believe Children Living With Them Have More Colds and Ear Infections	53.34	.001**
Former and Never Users Bothered by Someone Else Smoking	132.30	.000***
Former and Never Users Believe Family Member's Smoking Hazardous to Their Health	76.89	.000***
Former and Never Users Bothered by Smoking in the Workplace	132.30	.000***
Former and Never Users Bothered Most by Burning, Watery Eyes and Smelly Clothes	150.79	.000***

** $p < .01$ *** $p < .001$

($p < .000$); (2) smoking hazardous to health ($p < .000$); and (3) smokeless tobacco was less harmful than smoking cigarettes ($p < .001$).

Never and former users reported that: (1) they were bothered by someone else smoking ($p < .000$); (2) family members' smoking was hazardous to their health ($p < .000$); (3) they were bothered by smoking in the work place ($p < .000$); and (4) they were bothered most by burning/watery eyes and smelly clothes ($p < .000$).

For parents, significant gender differences were found. Females believed living with a smoker gave children more colds and ear infections ($p < .01$) and more female than male parents smoked daily ($p < .05$). Male rather than female parents were bothered more with smoking at work ($p < .01$). Male parent never users and former users with smoking family

members believed that secondary smoke was harmful to their own health ($p < .05$).

DISCUSSION

This study was designed to assess employees' beliefs on individual and workplace tobacco use. Tobacco usage has been and continues to be a problematic health issue, not only for the user but for all those subjected to environmental tobacco smoke. Businesses, like other environments, are concerned about the health hazards of tobacco usage.

The sample was comprised of 603 employees from eleven medium-sized businesses that lacked specific policies on tobacco use. The respondents were further categorized as tobacco users, never users, and former users. Descriptive statistics identified respondents' beliefs in reference to five constructs of the Health Belief Model. In addition, chi-square analyses identified smoker status related to select belief variables.

Weight control and tension were the "perceived benefits" from tobacco use. The majority of tobacco users reported smoking to reduce tension, while one third believed that tobacco use helped in weight control. Although nicotine has a relaxing effect, more positive and healthful coping mechanisms can be substituted to reduce workplace tension.

Interestingly, a higher percentage of tobacco users believed the "smoking hazardous to health" label than the never users or former users. Belief that smoking is harmful can be a precursor to action, but is the incentive strong enough to persuade the user to take positive action in extinguishing the behavior? The vast majority of all three groups believed that smokeless tobacco use was not as harmful as smoking. This myth can be a stereotypical response of tobacco users, because smokeless tobacco is often not associated with major life-threatening cancers since it is presumed localized to the mouth.

A majority perceived the effects of environmental tobacco smoke (ETS) as a barrier to health. Although the employees believed that ETS increased health risks, they continued smoking and to expose themselves, family members, and coworkers to the ETS disease producing and carcinogenic effects.

Between 80–95% perceived smoking and ETS as increasing one's susceptibility to heart disease and lung cancer. The knowledge of the risk factors is present, but the perceived susceptibility to the chronic diseases was not a motivating "cue to action" to change the behavior.

In the cue to action construct, respondents have admitted trying to stop smoking as many as three or more times. Since nicotine addiction is

stronger than other legal and illegal drug dependency, attempts to quit without the use of a pharmaceutical agent and/or supportive counseling can be ineffectual for some individuals.

Tobacco users recognize that although there has been a vast quantity of information about the personal and environmental effects of smoking, the addiction, the media, or other personal factors are stronger and more controlling than the individual's ability to stop smoking. This study found that 62% of the respondents attempted to stop smoking but were unsuccessful. The recidivism rate is high, contributing to the complexity of the issue.

Through research it has been documented that workplaces with restrictive smoking policies may: (1) reduce employees' overall ETS exposure;¹⁴ (2) decrease smoking prevalence and cigarette consumption among continuing smokers;^{18,19} and (3) assist several smokers, particularly female smokers, to quit.¹⁶ Addiction, habit, and having friends who use tobacco products have been identified as barriers in cessation efforts.³⁴

Although women in the sample believed that living with smokers increased colds and ear infections among children, more female parents smoked than male parents. Parent(s) who exposed children to tobacco use may be sponsoring a future tobacco customer. This role modeling and the inability of children to make informed decisions about tobacco use can be detrimental to the health and well-being of the child.

The use of tobacco products by employees affects the individuals, the family, and the workplace environment. With continual escalation of healthcare costs, employees and employers must collaborate on means to improve health and decrease healthcare costs. Health education professionals must join with employers and employees in setting restrictive workplace policies that require smoke-free environments and in developing alternative strategies and techniques i.e., stress reduction, weight control, and coping mechanisms to assist current tobacco users in quitting. In this study, former user and never users reported their preference for "total ban" policies in the workplace. With enforcement of restrictive workplace policies, employers' proactive stances can be supportive to individuals (62%) in the "cue to action" phase of the HBM. Secondly, educators must conspire with school personnel to incorporate primary prevention educational programs in school curriculums to prevent children from initiating tobacco use. Through this concerted effort, health professionals and workplace personnel can improve quality of life for individuals across the lifespan.

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