

Work Site Group Meetings and the Effectiveness of a Televised Smoking Cessation Intervention¹

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At the work site, smoking accounts for increased health care expenses and worker absenteeism due to smoking-related illness and reduced productivity and lost wages. Developing comprehensive and accessible smoking cessation programs at the work site is an important objective for health care profes-

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sionals. In this study, employees of 43 corporations participated in a televised smoking cessation program accompanied by self-help manuals. The media component involved presenting a smoking cessation program on a network television affiliate station during the 4:30 p.m. and 10:00 p.m. news for 20 days. Employees at half the corporations also had access to semiweekly self-help group meetings. Adding self-help support groups to a program involving self-help manuals and the media reports was found to significantly increase abstinence and its maintenance over time. The implications of using the media, self-help groups, and work site locations in large-scale community-based interventions are discussed.

Cigarette smoking is the cause of more illness and death than all other drugs (*Smoking and Health*, 1979). Smokers at the workplace average 2 to 3 more days of absenteeism (Fielding, 1982), a twofold increment in work accidents yearly (*Smoking and Health*, 1979), and an estimated \$190 per year in excess medical costs over a lifetime than nonsmoking employees (Luce & Schweitzer, 1978). As a result, nonproductivity and reduced levels of employee morale may occur. In a recent review of work site smoking cessation programs, it was found that only one of five studies employed an experimental design (Orleans & Shipley, 1982). In addition, none of these published studies evaluated the effectiveness of self-help smoking cessation programs at the work site.

Since key markers for relapse, such as negative emotional states and social pressure (Marlatt & Gordon, 1980; Shiffman, 1982), often do occur at work sites, these settings appear to be ideal locations for creating supports to help individuals quit smoking. Social support might occur naturally in work site smoking cessation programs; therefore, it would be useful to review studies that have investigated this promising component. Janis and Hoffman (1970) varied three levels of social support in combination with a standardized smoking cessation program. Smokers in the high contact condition (e.g., daily partner meetings) reported smoking significantly fewer cigarettes per day at the 6-month, 1-year, and 10-year follow-up when compared to smokers in the lower contact conditions (Janis, 1983). Hamilton and Bornstein (1979) used phone contact between partners as one aspect of a social support intervention. This social support intervention resulted in significantly lower smoking rates at 3- and 6-month follow-ups than the same program without the social support. In Malott, Glasgow, O'Neill, and Klesges (1984) and Glasgow, Klesges, Godding, Vasey, and O'Neill's (1984) work site programs, at a 6-month follow-up, there were particularly high rates of maintenance of abstinence among those who had quit by program end. The authors suggested high maintenance was due to the high levels of social support that occur naturally at the work site. It does appear, from these studies,

that work site settings might represent ideal locations for smoking cessation efforts.

Given the finding that 95% of the 30 million smokers who have quit smoking since 1964 have done so on their own (*Smoking and Health*, 1979), understanding self-help processes is particularly important in the development of work site smoking cessation programs. In a review of studies involving self-help manuals, Glasgow and Rosen (1984) stated that the majority of manuals provided no significant posttreatment change. One of the most behavioral and comprehensive set of self-help manuals has been developed by the American Lung Association (ALA). This includes a cessation manual, *Freedom From Smoking in 20 Days*, and a companion maintenance manual, *A Lifetime of Freedom From Smoking*. Davis, Faust, and Ordentlich (1984) evaluated use of these self-help manuals in several different ways. The combination of the ALA cessation plus maintenance manuals resulted in 13% of participants abstinent at a 6-month follow-up (6% continuously), with even higher rate (18%) at the 12-month follow-up (5% continuously). There was a selection factor, however, since participants had to be willing to pay a \$20 deposit that was refundable after the last interview.

It needs to be emphasized that the majority of individuals prefer self-change approaches in quitting smoking. Seventy to eighty percent of smokers report that they would use self-help manuals if effective ones were available (McAlister, 1975). The combination of self-help manuals plus actual self-help groups at work sites might provide better results than have been obtained by the studies cited above.

In addition to self-help processes, another cost-effective approach for disseminating smoking prevention and cessation information involves the media. Although several television-based smoking cessation programs have disseminated materials to the public (Best, 1980; Dubren, 1977a, 1977b; Dyer, 1983; Flay, Johnson, Hansen, & Grossman, 1983; Korchin, Dosman, Froh, & Li, 1983; LeRoux & Miller, 1983), few studies have actually attempted to establish support groups to accompany the media interventions.

Perhaps the most well-known smoking cessation media intervention was the Stanford Three-Community study (Maccoby & Alexander, 1980). Intensive instruction (group sessions, home counseling) plus use of the media produced a greater reduction in the percentage of smokers than the media alone. In another program, McAlister (1976) had groups of smokers watch an expert on a closed-circuit television give direct counseling to a group of other smokers. Untrained community volunteers acted as the coordinators of these groups. These television-viewing groups achieved similar rates of reductions in smoking cessation as the group which received face-to-face counseling from an expert. This study points to the potential of using self-help groups in conjunction with television-based smoking cessation efforts. McAlister, Puska,

Koskela, Pallonen, and Maccoby (1980) broadcast a smoking cessation course on Finnish television (there were seven 45-minute sessions over 1 month). The program featured 2 counselors who helped 10 voluntary smokers and their efforts to cease smoking. People had opportunities to view programs in organized, supportive groups (200 leaders were recruited to lead self-help groups at the start of the program). In panel surveys of the community that received the groups plus media versus only the media program, there were directional but not significant differences in smoking rates (the percentage that achieved 6 months of continuous nonsmoking was 2.3 vs. 1.3%).

Although several studies have found that the combinations of cessation and maintenance manuals, cessation manuals and media intervention, and media intervention and support groups have each had some degree of success with helping smokers to quit, the present study combined all three interventions. It was hypothesized that work site employees who used the *Freedom From Smoking* manuals, watched the televised smoking cessation news programs, and attended self-help groups at their corporate sites would stop smoking more frequently and would maintain their abstinence longer than work site employees who used the manuals and watched the news program but did not attend a work site support group.

METHOD

Television Component

During November 1984, six weeks before the beginning of a television news series on smoking cessation, five volunteers agreed to be filmed as they went through the American Lung Association's "Freedom From Smoking in 20 Days" program. Representing different population segments, these five volunteers allowed WMAQ, the local Chicago NBC television station, to follow them for 20 days. Ultimately all five quit smoking. In addition, the Chicago Lung Association recruited a person who had quit on her own 3 years earlier, using only the self-help manual. This person was also featured on the television series.

Working with the WMAQ promotion department, several Chicago celebrities, including the Governor of Illinois, donated their time and prestige by appearing on 10- and 30-second commercials to promote the series. Altogether, approximately 250 promotions were aired during the month of December 1984.

We also enlisted the help of two high-profile quitters, Marva Collins, Director of Westside Preparatory School, and Ron Magers, News Anchor for WMAQ-TV5. Both quit on the air during the run of the series. Dr. Barry Kaufman, as the station's health reporter, assumed a motivator's and instruc-

Table I. Key Features Covered in the 20-Day Television Program

Day	Feature
1	Individuals who quit on TV identified; they talk about reasons for quitting. The manual introduced and three basic steps to quitting are explained. Recording, rating, and tally sheets are discussed.
2	An on location work site setting is featured. Triggers for smoking are discussed. Record keeping and tally sheets are presented. Deep breathing exercises to relax are demonstrated.
3	Dr. Kaufman emphasizes it is still time to join the program. Steps to break smoking patterns, difficulty in quitting, and possible weight gains are discussed.
4	Quitting experiences are shared. Exercise to prevent weight gain are discussed.
5	Contracts with buddies discussed. Daily rewards for achieving goals are stressed. Viewers are asked to cut down number of cigarettes.
6 & 7	Past week's activities are reviewed. Withdrawal symptoms are discussed.
8	Smoking patterns should be changing. The viewers asked to call in and indicate: if they are going to taper off or quit now.
9	Telephone survey results are presented. Withdrawal symptoms are again reviewed.
10	Withdrawal symptoms and ways of coping with them are discussed.
11	Smokers are asked to change brands and put all cigarettes butts into a visible butt jar.
12	Ways to break the smoking pattern are discussed, as well as how to cope with withdrawal.
13 & 14	Difficulties in quitting or tapering off are discussed. Coping strategies are reviewed.
15	The smokers asked to prepare to quit. Aids to quitting are presented.
16	This is the day before the Quit Day. Viewers are urged to sign a contract.
17	This is the Quit Day. Ways to cope with withdrawal strategies are reviewed.
18	Avoiding smoking situations and coping with temptation are discussed. Viewers are told to send away for the maintenance manual.
19	Physical adjustments to being a nonsmoker are discussed. Quitting experiences of people are shared. The 30-minute TV special reviewing the program is announced. (It airs on Sunday, Day 22)
20	Withdrawal symptoms and ways to cope are again reviewed. Strategies to maintain nonsmoking status are mentioned.

tor's role and provided the viewing audience with the step-by-step method to quit smoking. The program was introduced on the 10 p.m. Sunday news, January 6, 1985 (see Table I for a day-by-day description of the content of these broadcasts). There were 10 subsequent 10 p.m. news segments on Sundays, Tuesdays, and Thursdays, and 14 subsequent 4:30 p.m. news segments.

(On several days, the program was featured on both the 4:30 p.m. and 10 p.m. news.) At the end of the program, there was a special one-half hour show that reviewed the experiences and success of the smokers who had been featured in the telecasts. Ratings during the month of January indicated that approximately 300,000 people and 500,000 people, over 18 years old, watched the 4:30 and 10:00 WMAQ news, respectively.

Work Site Component

Four-hundred and thirty-one companies affiliated with PruCare health maintenance organization participated in the program. For each of these corporations, program registration forms, posters, and counter displays were sent to a central coordinator. From this overall list, 100 of these corporations were selected randomly. The corporations were ranked and then matched for number of employees (1 = less than 500, 2 = 501–1000; 3 = 1,001–5,000; 4 = $\geq 5,001$) and estimated willingness to participate in the study (1 = most interested, 2 = interested, 3 = least interest). This willingness scale was completed by a PruCare employee who had worked with these corporations. Corporations were then randomly assigned to self-help group (G) and no-group (NG) conditions. Company officials were sent a letter asking if they would be willing to participate in research project evaluating the media cessation intervention.

For the G corporations, the officials were also told that support groups would also be established to accompany the program. Forty-three corporations agreed to participate in the research phase of the study (21 G and 22 NG).³ There were no significant size ($\chi^2(3) = 0.09$) or willingness score ($\chi^2(2) = 0.46$) differences between the 21 G and 22 NG corporations.

Central coordinators for the smoking cessation program were established at the G and NG corporations. The central coordinators in the G companies recruited employees to function as group leaders. These leaders attended a 3-hour training session that informed them about the overall project, issues they might confront when leading a group (e.g., providing opportunities for everyone to participate, beginning and ending the group), and behavioral techniques that were part of the program.. The group leaders and

³For one of the NG corporations, a company employee was mistakenly invited to the support group training program, and a group was formed in this corporation. This corporation became one of the 21 Gs. For two of the G corporations, group leaders could not attend the training program and groups were consequently not formed. These 2 G corporations became 2 of the 22 NG corporations. Data analyses were also conducted with these 3 atypical corporations deleted, and the findings were similar to the analysis with all 43 corporations. Data reported in the present study included all 43 corporations.

the NG companies' central coordinators were sent registration forms, which contained WMAQ's program schedule, baseline questionnaires, and the self-help manuals. The cessation manual has daily lessons devoted to helping individuals understand their smoking habit, identify triggers of smoking, determine ways to cope with triggers, and develop plans for obtaining help from others around them. The leaders then recruited work site employees to participate in the program. Participants in the G condition completed the registration forms, received a manual, and enrolled in a work site self-help group. Participants in the NG condition only completed the registration forms and received a manual. Two-hundred thirty-three participants were in the G condition and 192 in the NG condition. All participants were instructed that they would be participating in a research project and that they would be interviewed at program end and at a follow-up. Four participants at immediate posttesting and three at the 3-month follow-up testing did not want to be interviewed, and their decisions were honored.

The companies' group leaders scheduled six 45-minute support group meetings. Meetings were held twice a week; the days, times, and place of the meetings varying among corporations. Group leaders were asked to limit groups to 5-9 members. In those corporations with 10 or more participants, several different groups were formed. Group participants used the manual's activities and the televised news program in their effort to stop smoking. The groups provided the smokers with a supportive setting in which they could share experiences, obtain advice from other smokers, and ask questions about the manual and television programs. Those in the NG condition did not participate in work site support groups. They only utilized the manual's activities and watched the televised program.

Immediately following the program's completion, all G and NG participants were interviewed by telephone. Information regarding their current smoking status, use of the manual, viewership of the televised program, participation in support groups, and general demographic characteristics was obtained. Also, the name and phone number of a contact person, who would be able to reach the program participant in the next year, were obtained to ensure the procurement of follow-up data. Follow-up questionnaire data were collected 3 months after the program's completion.

RESULTS

Corporations were the unit of analysis for comparison reported in this article. However, statistical analyses were also conducted using the individual as the unit of analysis and generally, similar results were found. For those comparisons where findings do differ, they are noted in the text.

Pretest Comparability

The G and NG groups of corporations did not differ significantly at preintervention on demographic characteristics, years smoking, pattern of smoking, and number of other smokers in their household (see Table II).⁴ The two conditions also did not differ in how much they wanted to quit smoking, how much they believed that their family or friends would help them to quit, their estimation of how difficult it would be for them to quit, or their reasons for wanting to quit (see Table III).⁵

Program Impact

The experimental manipulation of social support had a significant effect on initial quit rates, with an average (across corporations within conditions) of 41% of participants in the G condition and 21% of participants in the NG condition reporting at immediate posttest that they had quit smoking with the program, $F(1, 41) = 7.51, p < .01$. An average of 22% of participants in the G condition and 12% of participants in the NG condition reported not smoking by the 3-month follow-up, $F(1, 41) = 4.58, p < .05$, and averages of 14 and 7%, respectively, reported not smoking continuously, $F(1, 41) = 3.18, p < .08$.⁶ At immediate posttest G participants were smoking significantly fewer cigarettes per day than NG participants, and their tar, nicotine, and carbon monoxide content were lower, but all these differences had decayed by the 3-month follow-up (see Table IV).

⁴Pre- and posttest data were available for 233 G participants and 192 NG participants (data losses at follow-up are described later). Thirty-seven Gs and 38 NGs who initially signed up for the program were not included in this study for a variety of reasons (e.g., could not be located for posttesting, changed jobs, received the manual after the program ended, smoked only cigars or pipes, did not attend any groups, refused to be interviewed).

⁵Using the individual as the unit of analysis, the Gs did indicate that they would have significantly more difficulties quitting than NGs ($M = 1.3$ vs. 1.4 ; $F(1, 407) = 4.13, p < .05$).

⁶All but seven participants (4 G, 3 NG) were reinterviewed at the 3-month follow-up. (Two had moved, 2 could not be reached despite numerous attempts to contact them, and 3 refused to be reinterviewed.) The first figure (22 vs. 12%) refers to all participants who were not smoking at the time of the 3-month interview, regardless of whether they had experienced periods of relapse during the past 3 months. Continuous nonsmoking refers to all individuals who stopped smoking at program end and did not experience any relapse by the 3-month follow-up. Using the individual as the unit of analysis, Gs evidenced a significantly higher continuous nonsmoking rate than NGs ($M = 12$ vs. 5% ; $\chi^2(1) = 6.60, p < .01$). Since the corporations had unequal group sizes, different percentages did emerge when the individual versus the corporations were used as the unit of analysis.

Table II. Demographic Characteristics and Preintervention Measures on Self-Help Group and No Group Conditions

	Self-help group	No Group
Gender		
Male	27%	29%
Female	73%	71%
Age (mean years)	38.3	37.7
Mean years smoking	19.5	18.5
Preintervention smoking		
Number of cigarettes per day	30.4	28.5
Tar (mg/cig) ^a	10.8	10.8
Nicotine (mg/cig) ^a	0.77	0.75
Carbon Monoxide (mg/cig) ^a	10.6	10.9
Tried to quit previously	82%	82%
Mean number of prior quit attempts	3.5	3.9
Previously stopped smoking ≥6 months	25%	30%
Mean number times stopped smoking ≥6 months	0.31	0.43
Education ^b		
Grammar school	1%	0%
Some high school	3%	7%
Graduated high school	22%	24%
Some college	35%	39%
Graduated college	26%	19%
Some postgraduate education	7%	5%
Postgraduate degree	6%	5%
Employment ^b		
Labor/craft	7%	8%
Service	35%	39%
Professional-managerial	58%	53%

^aThe participants told interviewers their brand of cigarette, and these brands were checked with the January 1985 Federal Trade Commission Report to obtain tar, nicotine, and carbon monoxide levels.

^bThe individual, rather than the corporation, was the unit of analysis.

Participation Characteristics

Participants' levels of involvement in the program, which are reported in Table V, are important to inspect because they might differ as a function of G versus NG, and these differential effects might be related to success. The Gs received the manual significantly earlier than NGs. When the time the manual was received was used as a covariate, there was still a significant difference between Gs and NGs in abstinence rates at immediate posttest, $F(1, 40) = 8.46, p < .01$. The Gs also referred to the manual significantly more frequently and rated the manuals as significantly more helpful than the NGs. There were no significant differences between Gs and NGs on the other items. Table VI presents G versus NG differences at the 3-month follow-up. Although none of these comparisons was significant, a higher percentage

Table III. Preintervention Motivation and Family Variables

	Self-help group		No group	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
How much do you want to quit smoking ^a	1.4	0.21	1.4	0.34
How much will your family or friends help you to quit? ^a	1.7	0.52	1.6	0.41
How difficult will it be to quit ^b	1.3	0.17	1.4	0.35
Why are you trying to quit smoking? ^c				
Number who mentioned health alone or in combination with another reason		200		171
Number who mentioned other nonhealth reason (does not look good, social pressure, family pressure)		15		17

^aA 4-point scale was used (1 = a lot to 4 = not at all).

^bA 4-point scale was used (1 = very difficult to 4 = not at all difficult).

^cFor this item, the unit of analysis is the individual.

of Gs indicated that they received support from their co-workers between the end of the program and the follow-up.⁷

Predictors of Abstinence

A multiple regression analysis was used to predict percentage abstinence at immediate postintervention. Predictor variables were selected because they represented the primary aspects of the program or they significantly differentiated G and NG groups. The order of forced entry was: when the manual was received, the number of times referring to the manual, the rated helpfulness of the manual, the number of television broadcasts watched, and the number of group meetings attended. The number of times the manual was referred to was entered before perceived helpfulness of the manual because it was thought important to assess the extent of the variance accounted for by a more objective measure of manual use before a more subjective measure of manual use had been entered.⁸ The number of group

⁷Using the individual as the unit of analysis, the Gs reported receiving significantly more support than the NGs ($M = 73$ vs. 61% ; $\chi^2(1) = 5.14$, $p < .05$).

⁸The number of times referring to the manual was significantly related to when the manual was obtained ($r(41) = .29$, $p < .05$), so an analysis of covariance was performed using G vs. NG as the independent variable, when the manual was obtained as the covariate, and number of times referring to the manual as the dependent variable. Significant effects were found for G versus NG ($F(1, 40) = 11.16$, $p < .01$) and when the manual was obtained ($F(1, 40) = 4.58$, $p < .05$). Because of these results, both when the manual was obtained and the number of times referring to the manual were included as predictor variables in the regression equation.

Table IV. Immediate Post-test and 3-Month Follow-Up Measures on Number of Cigarettes, Tar, Nicotine, and Carbon Monoxide Levels

	Self-help group		No group		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Post					
Number of cigarettes	9.2	5.0	13.4	6.1	6.06 ^a
Tar	5.5	2.5	7.7	3.7	5.50 ^a
Nicotine	0.39	0.17	0.55	0.24	6.11 ^a
Carbon monoxide	5.6	2.3	7.8	3.5	5.80 ^a
Follow-up					
Number of cigarettes	15.7	5.5	15.9	5.5	0.01
Tar	7.6	2.5	8.6	3.1	1.33
Nicotine	0.54	0.17	0.62	0.20	2.17
Carbon monoxide	7.6	2.4	8.7	3.0	1.71

^a*p* < .05.

Table V. Immediate Post-test Participation Characteristics

	Self-help group		No group		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
When the manual was received ^a	1.3	0.26	2.0	0.69	18.23 ^h
How often referred to manual ^b	1.9	0.46	2.7	0.80	16.13 ^h
Helpfulness of manual ^c	1.6	0.32	1.9	0.52	5.43 ^g
No. 4:30 shows watched	0.7	0.81	0.8	1.49	0.18
No. 10:00 shows watched	3.8	1.03	3.5	2.08	0.34
Helpfulness of television shows ^c	2.8	0.60	2.6	0.46	1.21
Number group meetings	3.5	1.04			
Helpfulness of group meetings ^c	1.8	0.50			
Number of other smokers in the household	0.6	0.31	0.5	0.36	1.41
Number of nonsmokers in the household	0.8	0.55	0.7	0.36	0.06
Helpfulness of other smokers ^c	2.4	0.75	2.7	1.04	1.32
Helpfulness of other nonsmokers ^c	2.0	0.63	1.9	0.69	0.12
How difficult to quit ^d	1.6	0.24	1.5	0.35	0.23
How confident not smoking in 3 months ^e	2.6	0.55	2.6	0.62	0.27
% Recommend the program to someone else ^f	99%	0.03	97%	0.06	2.60

^aA 3-point scale was used (1 = received manual before the program started, 2 = received it during first week of program, 3 = received it after the first week).

^bA 5-point scale was used (1 = referred to it daily, 2 = 2 to 6 times per week, 3 = once a week, 4 = less than once a week, 5 = read it once).

^cA 4-point scale was used (1 = a lot, to 4 = not at all).

^dA 4-point scale was used (1 = very difficult, 4 = not at all difficult).

^eA 5-point scale was used (1 = very confident, 5 = not at all confident).

^fUsing the individual as the unit of analysis, a significantly higher percentage of Gs (99%) than NGs (96%) would recommend the program to someone else, $\chi^2(1) = 3.86$; *f* < .05.

^g*p* < .05.

^h*p* < .01.

Table VI. Three-Month Follow-up Participation Characteristics

	Self-help group		No group		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
% smokers who planned to quit someday	99	0.06	100	0.01	0.71
% received support from co-workers	73	0.16	61	0.30	2.46
% referred to manual during past 3 months	42	0.14	45	0.28	0.19
% participated in other type of smoking cessation intervention since end of program	7	0.13	6	0.16	0.02

meetings was used as a predictor instead of G versus NG because it was a more sensitive index of the treatment condition. Number of group meetings was entered last to determine if there were any effects of the intervention independent of the participation variables that were entered before it. The number of times referring to the manual explained 24% of the variance, F change = 12.60, $p < .01$, the helpfulness of the manual accounted for an additional 11% of the variance, F change = 6.73, $p < .05$, and the number of group sessions attended accounted for 8% of the variance, F change = 5.06, $p < .05$. None of the other variables significantly increased the amount of predicted variance.

A similar analytic procedure was used to predict abstinence at the 3-month follow-up. The same variables and order were used except for the addition of whether support was received at the work site during the 3 months (this variable was entered last). Helpfulness of the manual explained 17% of the variance, F change = 8.68, $p < .01$; and worker support accounted for an additional 8% of the variance, F change = 4.96, $p < .05$. The other variables did not significantly increase the amount of explained variance. When the same variables were used to predict continuous abstinence at the 3-month follow-up, helpfulness of the manual accounted for 18% of the variance, F change = 8.98, $p < .01$, and worker support accounted for an additional 15% of the variance, F change = 10.00, $p < .01$.

Postintervention Quitters Versus Nonquitters

In order to determine for whom the program was most effective, all the variables in Tables II and III were used as dependent measures in 2×2 ANOVAs, with G versus NG and quit smoking versus not quit smoking at immediate posttest as independent variables. No interaction effects were

significant, and quitters in comparison to nonquitters at immediate posttest were significantly younger ($M_s = 35.9$ vs. 38.7 years; $F(1, 420) = 5.44$, $p < .05$), had smoked for significantly less time ($M_s = 16.7$ vs. 20 years; $F(1, 420) = 8.04$, $p < .01$), found quitting significantly less difficult ($M_s = 1.4$ vs. 1.3 ; $F(1, 404) = 3.93$, $p < .05$), and had significantly higher status jobs ($M_s = 2.6$ vs. 3.1 ; $F(1, 418) = 6.20$, $p < .05$). Individuals were the unit of analysis in these comparisons.

DISCUSSION

The main finding of this study was that the provision of twice weekly discussion groups at work sites doubled the effectiveness of a televised, self-help oriented, smoking cessation program. The 41% initial quit rate by group participants is significantly higher than for most other televised smoking cessation programs (Flay, 1986). This finding is consistent with that of the one other reported study of the effects of group viewing and discussion—North Karelia (Puska, Koskela, McAlister, et al., 1979; Puska, McAlister, Pekkola, & Koskela, 1981), where 41% initially quit and 21% stayed quit continuously for 2 years.

Our analyses showed that the group discussion condition increased reported use and usefulness of the self-help manual, though it did not increase the amount of television viewing. Group discussions also apparently increased the likelihood of social support from workmates during the 3 months following the program. It appears that increased program participation led to increased quit rates by program end, and increased social support led to those initial differences being maintained over 3 months. (Note, however, that relapse rates were the same for the two experimental groups.) Thus, group meetings and discussion affected quitting behavior largely by (a) helping a higher proportion of smokers to quit initially, and then (b) aiding in the maintenance of that advantage (not by reducing the probabilities of relapse).

This pattern is consistent with findings from other studies, where it has been initial quit rates that have been altered, for example, by community programming, but with the slope (rate) of relapse not being affected (Flay, 1986). Future research might attempt to improve rates of maintenance. Co-worker support might be strengthened, for example, by having groups composed of co-workers who see each other most days during their normal working days. Alternatively, further programming might be needed to improve maintenance, for example, booster sessions, newsletters, or a telephone hot line, approaches that have proven effective in other media studies (Dubren, 1977b; Mogielnicki et al., in press).

Besides providing information, television was used to alert thousands of individuals to the availability of a free, accessible, and comprehensive smoking cessation program. Besides the hundreds of promotional announcements on WMAQ, several newspapers published feature stories on the intervention, ads were placed in newspapers, and hundreds of posters were distributed at PruCare corporations and True Value stores (at 300 True Value stores, people could pick up registration forms to obtain manuals.) Fifty-thousand manuals were distributed throughout the Chicago metropolitan area. Several radio stations also provided free publicity. At least one radio station, WBEZ, actually followed one of the participants through the program with daily interviews of her progress. (The smoker was not part of the study reported in this article.) The wide media exposure of this intervention generated considerable interest by the public, and was helpful in motivating employees to register for the work site programs.

One weakness in the study is that only a 3-month follow-up was conducted. Prior research does suggest that most relapses in smoking cessation interventions do occur within several months of the programs' termination (Hunt & Bspalec, 1974). Still, longer term follow-up data would provide more conclusive evidence of the effectiveness of both interventions. Finally, it should be mentioned that follow-up interviews might have been reactive and served to increase abstinence rates. However, if this effect occurred, then it operated for both Gs and NGs.

Since the end of the program, individuals representing organizations from four other cities have heard of our project and approached the investigators for information about the project and are now in the process of developing and implementing similar community-wide smoking cessation programs. In addition, we have just completed another 20-day media program for the Chicago area. One-hundred-thousand self-help manuals were prepared for this program, and many more corporations established support groups to accompany the media program. Developing collaborative health promotion programs involving community agencies, work site locations, the media, and self-help groups, appears to be a promising approach that clearly incorporates the values and technology of community psychology. The use of groups at work sites appears to be a particularly promising approach to increasing the effectiveness of other media and community activities.

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