Increasing low income employee participation in a worksite health promotion program: a comparison of three common strategies

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Abstract

The relative effectiveness of three common strategies to increase participation in worksite health promotion programs was assessed. The interventions, designed for low income employees, were (1) written information, (2) written information and an informational meeting, and (3) written information, an informational meeting and a group contest. Thirty teams of low income employees were randomly allocated to receive one of the three interventions. Participation was measured at baseline and at follow-up. Team participation did not vary by strategy but individual participation was more likely for those offered the contest than for those provided only written information or written information and a meeting. Even under the most intensive recruitment condition, however, few teams and housekeepers participated in the health promotion program. Interviews were conducted with housekeepers to obtain reasons for participation and non-participation, and to identify suggestions for facilitating participation.

Introduction

The purpose of the research reported in this paper was to compare the effectiveness of three methods for recruiting low paid employees to a worksite health promotion program. The methods are (1) written information, (2) written information and an information session, and (3) written information, an information session and a group contest. These are commonly used or considered program-recruitment strategies.

Glasgow and his colleagues provide a detailed rationale for the importance of identifying ways to increase low income employee participation in worksite health promotion programs (Glasgow et al., 1993). Our study began with the assumption that participation can be beneficial (Hollander and Lengermann, 1988; Fielding, 1990). In the US in 1992, two-thirds of private worksites with 50 or more employees offered health promotion activities (USDHHS, 1993). When a program is offered, 20–40% of the work force participates in them (King et al., 1990; Lovato and Green, 1990). Relative to higher paid employees, employees who receive low pay are at greater risk of preventable health problems and are less likely to participate in worksite health promotion programs (Dobson et al., 1985; Buring et al., 1987; Blozis et al., 1988). Evaluation of methods to increase employee participation in worksite health promotion typically have involved middle class populations (Glasgow et al., 1993), although blue-collar populations have been studied (Erfurt et al., 1990).

The study setting and intervention

Regular program

The HEELS for Health Program (the Program) is the health and wellness program for the 7900 faculty and non-faculty employees of The Univer-
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The full-time director, an exercise physiologist, is assisted by a part-time graduate assistant and a secretary. The Program offices, and a fitness center with an aerobic room and exercise equipment, are located at the center of the campus. The Program offers individual fitness assessment for a fee and free counseling, aerobics classes, a walking program, and educational seminars and workshops. The Program provides a full fitness assessment for a fee; a simplified assessment was provided free for this research. Instruction on nutrition, a smoking cessation program and motivation schemes are offered. The campus gymnasiums and swimming pools are available to employees for a fee.

Program participation

Since the Program began in December 1991, participation has been tracked by sign-in attendance and completed medical history forms. Participants almost exclusively have been faculty, administrators, secretaries and clerks. Housekeepers, the lowest paid segment of the work force, rarely attended the Program. Indeed, during the 3 month baseline period of our research, only one of the 392 member housekeeping staff participated in the Program. This research focused on the housekeepers.

Housekeeper salaries average $14,322 per year. They clean campus buildings and provide routine maintenance of buildings. The housekeepers are organized in teams, each of which has one or more supervisors. Most of the teams are assigned to specific buildings, and a few teams have specialized tasks that cross buildings, such as a moving crew and floor repair team. Many housekeepers work an 8 h shift that ends at noon, and therefore they have more time relative to most other employees that is free from university employment obligations when program staff and facilities can be accessed.

The housekeeping staff was the focus of this study because of their low pay and rare participation in the Program.

Special program components for the housekeepers and the study

Informal interviews with housekeeping staff suggested many housekeepers were unaware of the Program and that motivation for participation was low for those who were aware of it. The following three methods, prepared and implemented specifically for this research, were designed to increase participation by housekeepers. All written materials were assessed for reading level and comprehension by the investigators, Program staff and advisors, and feedback from housekeepers during implementation suggested the materials were generally understood.

Written information

Mailing written information to employees had been the primary method used to recruit participants to the Program before this research. For this research, a brief information booklet that described the Program location, activities, services, and schedule of services and activities was prepared specifically for the housekeepers. It was distributed to housekeepers through their supervisors, the normal channel for providing information to housekeepers. Every indication during implementation was that the information was readily understood by the housekeepers. The major attractiveness of this method is its low cost. Golaszewski and Yen found low level and less educated employees use written health promotion materials more than higher level and more educated employees; they did not explain this finding (Golaszewski and Yen, 1992).

Written information and information meeting

In addition to receiving the written information described in the preceding paragraph, program staff met with individual teams at their buildings to provide information about the Program and to encourage participation. This included a 30–45 min slide presentation about the Program developed for the housekeepers and this study. It included the information that was in the booklet prepared for housekeepers and the opportunity for questions and answers. The main advantages of this approach over using only written information is the personal nature of the contact and the opportunity for questions and answers. Lowe and colleagues found personal methods more effective than impersonal
methods in recruiting employees to a worksite smoking cessation program (Lowe et al., 1987).

**Written information, information meeting and team contest**

In addition to the written information and the information meeting described above, housekeepers offered this method were given the opportunity to participate in a housekeeper team contest. Teams were assigned points based on member participation in Program activities during May, 1992, with the first place team receiving $500, the second place team receiving $250 and the third place team receiving $150. Members of winning teams received equal shares of the prize awarded their team. A team competition rather than only an individual incentive was used because we inferred from sociological theory that a group competition would be most effective (Heckathom, 1990).

Incentives and contests have been used in other worksite health promotion programs (Forster et al., 1985; Jeffrey et al., 1985; Brownell and Felix, 1987; Cohen et al., 1987; DeJoy and Wilson, 1995).

Participation was voluntary and most housekeepers (58.6%) chose to be in the contest. Participants were eligible for contributing points for their housekeeper team and for receiving their share of a prize. No information was gathered to determine why some housekeepers chose not to participate in the contest.

**Methods**

There were 38 teams of housekeepers at the study university. To enhance homogeneity across treatment groups, the six teams comprised mostly of supervisors were excluded from the study. Two additional teams were excluded because they had fewer than three members. The remaining 30 teams remained eligible for study. The number of housekeepers ranged from three to 30 across all teams.

To assure equal team size across treatment conditions, the 30 teams were placed into three strata with 10 teams each. The three strata contained teams with three to seven members, eight to 18 members and 19 to 33 members. Within each stratum, a table of random numbers was used to randomly allocate teams to receive one of the three methods described above. When the team was the unit of analysis, there was no statistically significant difference at baseline between the three groups in mean age, gender, race and years served at the university; this suggests that random allocation achieved its purpose of yielding comparable groups.

There were 392 housekeepers eligible for study. During the observation period February 1 to August 31, 1992, six housekeepers left the housekeeping staff through resignation, termination or transfer. Attrition was equally distributed across treatment groups. Most housekeepers were black (92.3%) and female (60.6%). The mean age of study subjects was 43.0 years and the mean time working at the University was 6 years and 9 months.

Participation is defined as attendance at any of the pre-determined activities as indicated by a completed sign-in sheet or personal health information form. A team is considered a participant when one or more team members participated; because so few teams had participants, other measures of team participation (e.g. percent of team members who participated) were not used. Baseline participation was tallied from February 1 through April 30, 1992. The treatments were implemented throughout May, 1992. Follow-up participation was measured from May 1 through August 31, 1992. The one subject who had participated in the Program during baseline is removed from all analyses; that person was in the group that received written information only and also participated at follow-up. Parallel analyses including that subject yielded conclusions identical to those presented below.

The main analyses focused on the individual housekeeper rather than the team as the unit of analysis, but the methods for them accounted for intraclass correlation among members of the same team. These analyses have the advantage of greater power because of the larger number of analytical units and the ability to control for the employee-level background variables. Logistic regression
analysis was used because the dependent variable is dichotomous. Because logistic regression can yield unstable results when all housekeepers in a subgroup for a background variable have the same status for the dependent variable (such as, all are non-participants), two records were created for each subject. One record was classified as participant and the other was classified as non-participant, and a weight of 0.99 was assigned to the true record and a weight of 0.01 to the other record. Both records had the same explanatory variables. Computations to account for this record structure, to account for intraclass correlation among housekeepers on the same teams and to adjust for background variables were done with the SUDAAN computing package (Shah et al., 1991).

Additional analyses compared the treatment conditions using dichotomous summary measures for each team, i.e. team was the unit of analysis. Fisher's exact test was used for these comparisons.

From June 24 to 30 and July 1, 1992, after the study interventions had been implemented, the first author interviewed 92 housekeepers to identify their reasons for participating and not participating in the Program, and to obtain suggestions for increasing participation. Available resources precluded interviewing all housekeepers. Fifty-two of the 92 respondents were housekeepers in five teams that received all promotional activities; they were from the two teams with program participants and three teams selected randomly from teams without participants. Nineteen respondents were from the one team selected randomly from the teams that received the written information and the informational meeting and 21 were from the one team selected randomly from the teams that received only written information. The interviews took place at the work-site during the work day, averaged 10 min and were not tape recorded.

### Primary findings

**Employee as the unit**

Table I shows housekeeper participation at follow-up by treatment. In the treatment group that received the contest, 8.6% of the housekeepers participated, whereas 0.7 and 0.0% participated in the groups that did not receive the contest. The treatment groups were the same in mean age and years employed by the University but they differed significantly by gender and race. When using a logistic regression with SUDAAN to control for gender, race and the intra-class correlation for members of the same team, a statistically significant relationship was indicated between treatment and participation ($P = 0.048$ for Satterthwaite adjusted $F$). Parallel statistical analyses without controls for gender and race yielded identical conclusions.

**Team as the unit**

At follow-up, in the treatment group that received written information only, no team had a participant and at least one participant was represented in each of the other treatment groups. There was no statistically significant treatment effect (Fisher's exact test, $\alpha = 0.05$) when team was the unit of analysis.

**Follow-up interviews**

Of the 80 interviewed respondents who had not participated in the Program, the three reasons for not participating given by most were dependence on carpools for transportation to and from work ($n = 17$), lack of awareness of the Program ($n = 16$), and lack of time because of a second job ($n = 15$). Lack of awareness was cited as a reason for not participating by 19.0% of the 21 subjects who received only the written information, and by 5.3% ($n = 19$) and 7.5% ($n = 52$) of the respondents who had also received the informational meeting and the meeting and contest, respect-

| Table I. Housekeeper participation at follow-up by treatment group |
|-------------------|-------------------|-------------------|
|                  | Written information | Written information and meeting | Written information, meeting and contest |
| Participation    | Percent            | N                 | N                 | N                 |
|                  | 0.0                | 117               | 135               | 140               |
Health promotion program participation

Seven of the 80 non-participants said they were uninterested in the Program or did not need it. Less frequently mentioned reasons were conflict with work, illness during the study period and involvement in another fitness program.

Among the 12 program participants interviewed, seven cited an interest in health as their main reason for participating in the contest while four said they did so for the cash prizes. One said she participated primarily because others did so.

The 92 interviewed subjects were asked for suggestions for making it easier for housekeeping staff to take part in the Program. The most frequent suggestion, given by 24 of the subjects, was to be allowed to participate during work hours. Twelve of the respondents suggested that publicity about the Program be improved and three recommended offering weekend activities. Reasons given by fewer subjects included providing transportation to their homes, rescheduling programs to better fit work schedules, mailing publicity materials to supervisors or to employees' homes, free physical assessments, activities for older employees and conducting programs for individual teams.

Whether changes suggested by housekeepers would increase participation remains to be demonstrated.

Conclusions

The strategy that included written information, an informational meeting and a contest increased participation more than the strategies of either written information and the informational meeting or only written information. The effect was small, however, as evidenced by the observation that 4 months after the treatment began even in the most intensive group more than 90.0% of the eligible housekeepers had not participated. Changes beyond those embodied in the interventions evaluated for this research may be necessary to substantially increase participation by low income employees.

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