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BRIEF REPORT
ACQUISITION OF SMOKING REFUSAL SKILLS IN JUNIOR HIGH SCHOOL STUDENTS

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Abstract — This study examined the effects of a smoking prevention program on the acquisition of refusal skills among junior high school students. Two conditions were compared: one in which the subjects participated in a videotaped training program on resisting pressures to smoke, and the other an untreated control group. As predicted, the results showed significant improvement in the skill training group, while the untreated controls showed no change relative to their pretest performance. These findings suggest that smoking prevention programs which focus on resisting social pressures can enhance the young person's ability to say "no" to smoking.

Pressure from peers and the media are two of the most important factors in the onset of smoking (Evans, 1976; U.S. Dept. of Health, Education, and Welfare, 1979). Consequently, many smoking prevention programs for young people endeavor to teach specific refusal skills to help them resist pressures to smoke (e.g., Botvin & Eng, 1982; Evans, Henderson, Hill, & Raines, 1979; McAlister, Perry, Killen, Slinkard, & Maccoby, 1980; Schinke, Gilchrist, & Snow, 1985; Telch, Killen, McAlister, Perry, & Maccoby, 1982; Telch, Miller, Killen, Cooke, & Maccoby, 1986). Although the results of these programs have been encouraging (see Flay, 1985 or Killen, 1985) many unanswered questions remain about *why* they are effective (McCaul & Glasgow, 1985). For example, it is not known if smoking reductions are the result of the students' ability to perform the refusal skills they are taught, or whether they are caused by other variables such as normative shifts or increased awareness that smoking is not the "in thing to do." It is not even known if refusal skills are ever learned in the first place because these skills are rarely assessed in any systematic fashion (Flay, 1985).

The present study examined whether smoking refusal skills *are* acquired following participation in a refusal skills-focused prevention program. Two groups of junior high school students were compared: one that received a student assisted videotaped training program based on the work of Telch and his colleagues (1986), and another that received the same pre- and posttest assessment but without training. It was hypothesized that students who received training would perform the targeted refusal skills better than those who did not.

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METHOD

Participants

Sixty-three 7th grade students were drawn from three social study classes at a large urban junior high school under the guise that they had been chosen to participate in a school project to educate them about the hazards of smoking. The students ranged in age from 12 to 14, they were of mixed racial backgrounds from a predominantly working class area, and less than 5% of them admitted to being regular smokers. After parental consent was obtained, all students were randomly assigned to either a refusal skill training group ($N = 29$) or an untreated control group ($N = 34$).

Materials

The "Resisting Pressures to Smoke" videotape and training manual used in the Telch et al. (1986) study provided the basis for the refusal skills training program. This is a five part interactive videotaped program designed to teach students how to recognize and resist social and media pressures to smoke. The students' refusal skills were videotaped during pre- and postassessments. Trained high school students assisted in the assessment and training phases.

Procedure

The experiment used a 2 × 2 repeated measures design with training (yes or no) as the between-subject factor, and assessment (pre and post) as the within-subjects factor. Refusal skill performance was the dependent variable.

All students were assessed individually using a standardized role play situation. This was done with the help of high school trainers who presented the student with a situation description of a pressure to smoke (e.g., You are at a party and your friend says do you want a cigarette?) and then asked the student what they would do in that situation. For scoring purposes, the refusal skill was divided into five components, each of which was operationally defined and weighted equally. Thus a total of 5 points could be earned at both pre- and postassessments depending on the student's proficiency. A discrete categorization method (Kazdin, 1982) was used to assess the student's performance, with one point awarded for each of the component behaviors that occurred at criterion level. The components were (a) appropriate eye contact with the trainer when speaking and listening, (b) upright posture, (c) clearly audible and firm voice tone, (d) clear rejection of the offer to smoke, and (e) providing a reason for the rejection. It should be noted that these component behaviors were selected because of their similarity to the models' behavior in the training videotape the students observed. The selection was also partly intuitive, because we reasoned the components would add credibility to the students' response and help them resist smoking pressures more effectively.

Reliability (agreements/agreements + disagreements multiplied by 100) was calculated for the five component behaviors during pre- and posttesting. Results of these assessments were consistently 90% or better.

Refusal skill training consisted of 3 one hour training sessions led by an adult trainer (CR) and scheduled over a three day period. Students participated in the program as a group in a classroom located on the school grounds. The training sessions incorporated the "Resisting Pressures to Smoke" videotape along with enactive mastery exercises (i.e., role-playing and behavioral rehearsal) that were led by trained high school students.

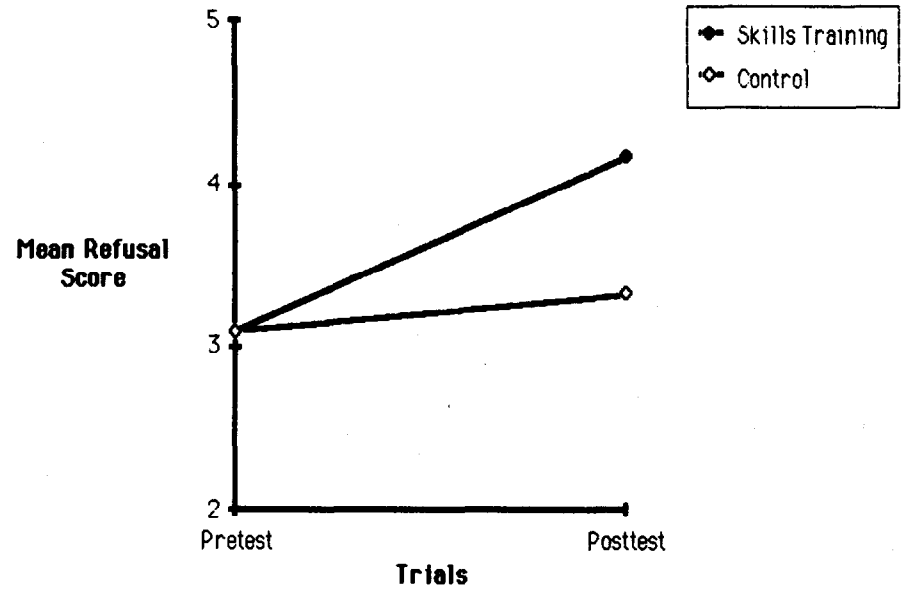

Fig. 1. Mean refusal scores at pre- and posttest assessment for all subjects.

During the *first* session, students learned about the immediate and long-term effects of smoking as well as pressures that influence young people to start smoking (advertising, peers, rebellion). They also viewed the first two segments of the videotape which provided modeled demonstrations on how to handle these pressures.

The *second* session focused on teaching students how to say "no" when confronted with pressures to smoke. Students were instructed on the importance of making eye contact, standing firm, sounding self-assured, and being able to provide a valid reason for saying "no" to an offer to smoke. High school trainers were used to model refusal responses and later they were involved in role-playing and behavioral rehearsal with the students. Trainers provided the students with feedback and social reinforcement about their performance.

In the *third* session, students were asked to select a smoking advertisement from a popular magazine, to identify the type of pressure(s) contained in the ad, and to develop an appropriate counterargument. The emphasis was on helping the students develop and practice self-instructional responses to counter specific pressures to smoke. The students were posttested individually within 3 days of this third training session.

RESULTS AND DISCUSSION

Figure 1 shows the mean refusal score at pre- and posttest for students in the training and control groups. An analysis of variance of these data yielded significant main effects for groups ($F(1, 61) = 4.51$, $p < .05$) and trials ($F(1, 61) = 25.38$, $p < .001$). A significant group by trial interaction ($F(1, 61) = 10.37$, $p < .01$) was also found indicating that students who received training performed more proficiently at posttest than those in the control group. The superiority of the training condition was also shown by examining the number of students who earned perfect

scores (5) on their posttest assessment. Forty-one percent of the students in the skill training group (12 of 29) achieved this level of performance, while in the control condition only 15% (5 of 34) were able to do the same ($\chi^2 = 5.65$, df 1, $p < .025$). Although students in the control group improved from pre- to posttesting, the level of improvement did not reach statistical significance.

These results provide direct evidence that a student assisted videotaped smoking prevention program can teach junior high school students to say "no" to smoking. Although previous studies have inferred this outcome from questionnaire data showing differences in smoking onset rates in treated and untreated schools (e.g., Botvin & Eng, 1982; Telch et al., 1982), the results of this study demonstrate that refusal skills are actually acquired. It is unlikely that the changes were due to the reactive effects of pretesting since students in the control condition received the same assessment and yet failed to show comparable improvement.

Finally, it is important to realize that there is no necessary empirical connection between the ability of students to perform the refusal behaviors we taught them and their motivation to refrain from smoking in the real world. Whether students actually use these skills and decide not to smoke was beyond the scope of the study. It may be that all the student needs to do is say "no" to smoking regardless of whether they make good eye contact, speak in a firm voice, stand erect, or offer a reason for their refusal. While a relationship could exist between these component behaviors and the ability to resist peer and media pressures, at present we can only speculate that it does. The issue, however, is testable, and the strength of the relationship can be determined by further study.

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