



A CD-ROM Based Cancer Prevention Program for the Workplace

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Abbreviated Abstract

Dr. Royer Cook is a research psychologist and the founding president of the ISA Group, a behavioral health research organization specializing in technological approaches to health improvement. After receiving his Ph.D. in 1968, Dr. Cook held research positions at the Army Research Institute and the American Institutes for Research. Since founding the ISA Group in 1978, he has directed a program of R&D on health improvement programs, serving as Principal Investigator on more than 25 research projects, supported mainly by numerous grants from the National Institutes of Health. He is the author of more than 75 peer-reviewed publications, a frequent speaker at conferences here and abroad, and has presented testimony before committees of the U.S. Congress. In 2002, he established the Center for Workforce Health, a division within ISA focused on applying technology to workforce health improvement. During the past decade, Dr. Cook and his colleagues at the ISA Group have focused on workforce health improvement programs that combine health behavior change methods with multi-media technologies, including video, CD-ROM, and the Internet. Program topics include nutrition, weight management, fitness/exercise, stress management, smoking cessation, alcohol abuse prevention, depression and anxiety, a parent's guide to youth mental health, and a guide to safe prescription drug use.

Primary Investigator

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Research Team & Affiliations

Senior ISA staff: Dr. Rebekah Hersch, Dr. Diane Deitz, and Dr. Douglas Billings. Consultants: Dr. Wayne Miller, Professor of Exercise Science, G.W. University, and Director of Healthy Weight Management (weight loss clinic); Dr. James Quick, Professor of Occupational health, University of Texas; Dr. Ricardo Munoz, Professor of Psychology, University of California at San Francisco; Dr. Glorian Sorenson, professor of Health and Social Behavior, Harvard University

Total Budget

\$749,698

Research Objectives

Aim 1: Decrease consumption of high-fat foods

Aim 2: Reduce alcohol use by heavy drinkers

Aim 3: Smokers to cease smoking and the use of other tobacco

Aim 4: Reduce risk of cancer among working adults

Theory/Hypothesis

The guiding conceptual model was developed by Cook & Youngblood, and draws heavily on Social-Cognitive theory, Health Belief Model, and the Stages of Change Model. Particular emphasis is placed on boosting self-efficacy through observational learning, increasing social support and the teaching skills to change behavior.

Central hypotheses were that compared to the control group, Pathways users would (1) decrease consumption of high fat foods and increase consumption of fruits and vegetables; (2) decrease consumption of alcohol; (3) cease use of tobacco; and (4) find the program more engaging and motivating.

Experimental Design

Randomized pretest-posttest trial. Experimental group received CD-ROM-based Pathways program; control group received print materials on similar topics. Pretest survey questionnaire was followed two-month intervention (CD or print), followed by posttest questionnaire



Final Sample Size & Study Demographics

188 employees of two companies participated in the study, exhibiting the following characteristics:

	Experimental Group	Control Group
Average Age	45	48
Gender		
Male	46%	60%
Female	54%	40%
Ethnicity		
White	95%	79%
African American	0%	7%
Asian	6%	6%
Hispanic/Other	0%	7%
Marital Status		
Married	79%	76%
Single	21%	24%
Other		
Education		
High School or Less	17%	9%
Some College or	25%	16%
Bachelors or higher	58%	74%

Data Collection Methods

Confidential self-report health questionnaire containing several measures of health practices and attitudes, and reactions to materials

Outcome Measures

The self-report health questionnaire was composed mainly of measures that had been used in previous studies by the research team to assess tobacco use, alcohol consumption, and dietary practices, supplemented by questions assessing reactions to Pathways/print materials.

Evaluation Methods

Pretest-posttest experimental design, using self-report health questionnaire. Data analyzed by ANCOVA and MANOVA.

Research Results

Significant program effects were found mainly in the area of dietary practices, with the experimental group participants significantly improving their eating practices (increasing consumption of fruits and vegetables, whole grains, and lower-fat meats and dairy products) from pretest to posttest. The control group showed no such improvement. The experimental group also gave the Pathways program significantly higher ratings than control group participants on 1) whether the program was appealing



and engaging, 2) whether the program motivated the user to adopt a lower fat diet, and 3) whether the program encourage the user to examine his or her dietary fat consumption. No effects were found on alcohol consumption or tobacco cessation, a result attributable in part to very few participants being heavy drinkers or smokers at pretest.

Barriers & Solutions

Barriers were encountered with respect to both program usage (relatively low penetration of the workforce) and reaching sufficient numbers of heavy drinkers and smokers to test the program's efficacy. In the future, program usage could be increased by engaging in a more intensive promotional campaign at the worksite, and creating a web-based version that would allow for easier access. Future research should seek to test the program with larger samples of smokers. The Alcohol Savvy part of pathways was recently transformed into a web-based program and tested in thousands of military personnel, with multiple positive effects.

Product(s) Developed from This Research

Pathways to Health: Three Giant Steps