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Preventing Substance Abuse Among American-Indian Adolescents: A Bicultural Competence Skills Approach

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Abstract

Tobacco, alcohol, and drug use are problems for American-Indian people. We reviewed these problems and the explanations for them and described a bicultural competence skills approach for preventing substance abuse with American-Indian adolescents. Data from a study of that approach suggest its efficacy with American-Indian youth. At posttest and a 6-month follow-up, American-Indian subjects who received preventive intervention based on bicultural competence skills concepts improved more than did American-Indian subjects in a no-intervention control condition on measures of substance-use knowledge, attitudes, and interactive skills, and on self-reported rates of tobacco, alcohol, and drug use. Our findings have implications for future substance-abuse prevention research with American-Indian people.

Earlier, in this journal, LaFromboise and Rowe (1983) noted the value of skills training to increase bicultural competence among American-Indian people. According to LaFromboise and Rowe, bicultural competence is the capacity of “making one’s desires or preferences known in an Indian or in a non-Indian setting” (p. 592). Bicultural competence skills seem appropriate for use in helping American-Indian young people combat substance abuse and its related problems. More than other Americans, Indian and Alaska-Native children and adults suffer from such substance-related problems as school failure, antisocial behavior, unemployment, criminal arrest, and increased morbidity and mortality (Malone, 1985; Weibel-Orlando, 1984; Westermeyer & Neider, 1984).

This article addresses gaps in the science of preventing substance abuse with American-Indian adolescents. Most in need of research are theory-based, culturally sound interventions to prevent substance abuse among American-Indian and Alaska-Native youth. Drawing from

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bicultural competence theory and social learning principles, we describe an intervention approach to prevent tobacco, alcohol, and drug abuse with young American-Indian people. We report data from an outcome study of that preventive intervention approach and conclude with an agenda for future research on substance abuse prevention among American-Indian youth.

Several explanations have been put forth for substance-abuse problems among American-Indian and Alaska-Native people. An ethnographically based explanation is that psychoactive substances have spiritual value (Weibel-Orlando, 1985). Because tobacco, alcohol, and drugs cause an altered state of consciousness, some American-Indian and Alaska-Native tribal groups may value substance-involved experiences.

Acculturation is another explanation for American-Indian and Alaska-Native people's substance use (Beauvais & La-Boueff, 1985; Bobo, 1985; Walker & Kivlahan, 1984). Acculturation is stressful (Topper, 1985), and tobacco, alcohol, and drugs offer coping responses (Trimble, Bryan, & Padilla, 1985). Other explanations include peer pressure (Carpenter, Lyons, & Miller, 1985) and use of tobacco, alcohol, and drugs as indicators of adulthood (Schinke, Gilchrist et al., 1985; Schinke, Schilling et al., 1985).

The problems and explanations of substance abuse among American-Indian and Alaska-Native people call for new approaches to preventive intervention. Conceptually, these new approaches to preventive intervention can profit from bicultural competence theory. First advanced by LaFromboise (1982), bicultural competence encompasses skills that can enable American-Indian people to “blend the adaptive values and roles of both the culture in which they were raised and the culture by which they are surrounded” (p. 12).

Elaborating on the concept, LaFromboise and Rowe (1983) wrote,

A socially competent, bicultural assertive lifestyle involves being benevolently interested in the needs of the group, socially responsible to perpetuate a belief system that highly values personal rights and the rights of others, self-confident... and decisive.... Subgoals include the knowledge and practice of the following: communication skills to enhance self-determination; coping skills to resist the pressure to acculturate or give up one's Indian identity; and discrimination skills to determine the appropriateness of assertive behavior in Indian and non-Indian cultures, (p. 592)

The three subgoals of bicultural competence as specified by LaFromboise and Rowe—knowledge and practice in communication, coping, and discrimination skills—provide a theoretical foundation for intervention to prevent substance abuse with American-Indian youth.

Operationally, preventive intervention that includes knowledge and practice in bicultural competence skills can occur through cognitive and behavioral principles drawn from social-learning theory (Beauvais, 1980; Botvin & Wills, 1985; Schinke & Gilchrist, 1985). Guided by learning theory, cognitive principles of information, problem solving, and self-instruction can be combined with behavioral principles of nonverbal and verbal communication, coaching, and social network building (Connors & Tarbox, 1985; Pentz, 1985). To empirically test the effects of combined approaches, we evaluated the outcomes of bicultural competence skills and social-learning-based intervention to prevent substance abuse among American-Indian adolescents.

Method

Subjects

Subjects were 137 American-Indian adolescents from two western Washington reservation sites. Subjects recruited from tribal and public schools voluntarily participated in the study. Refusal rates did not differ by site and averaged 2% across the sample. Subjects had an overall mean age of 11.8 years; 54% were girls. By site, chi-square analyses on subjects' demographic characteristics revealed no significant differences. Data on subjects' household composition, level of acculturation, and current place of residence likewise failed to significantly distinguish between sites by chi-square tests.

Measures

Before, immediately following, and 6-months after prevention-condition (PC) subjects received intervention, all of the subjects completed four measures.

Knowledge test—Subjects answered questions about the health and social effects of substance abuse (Getting et al., 1980). Reliability coefficients for this test show Cronbach alphas of .71 to .89.

Attitude scale—Subjects were asked for their agreement with statements about substance use in American-Indian culture (Getting et al., 1983). This resulted in a test-retest reliability of .75.

Interactive behavior test—In interactive vignettes, subjects were asked to respond to culture-relevant peer influences on tobacco, alcohol, and drug use. Subjects' responses were independently scored by two assistants for frequency counts of self-control statements, alternative suggestions to substance-use opportunities, and positive assertion statements. Blind to condition assignments, the two assistants achieved 88% scoring agreement on a randomly chosen one-third subset of identical responses.

Past administrations of the interactive behavior test give a Kuder-Richardson reliability of .68 (Bobo, Snow, Gilchrist, & Schinke, 1985; Gilchrist, Snow, Lodish, & Schinke, 1985). The test's validity is suggested by a Pearson r of .79 between interactive test scores and videotape ratings of the same sampled behaviors.

Substance use reports—On 35 multiple-choice items, subjects anonymously reported their smoked and smokeless tobacco; beer, wine, and spirit; and marijuana, inhalant, amphetamine, barbiturate, cocaine, and nonmedical drug use for the last 14 days (Botvin, Baker, Renick, Filazzola, & Botvin, 1984; Getting et al., 1980). Self-reported data rather than objectively measured data were collected because of costs and logistics. Studies indicated that when adolescents anonymously report their tobacco, alcohol, and drug use, they describe their behavior accurately (Beauvais, Getting, & Edwards, in press; Harrell, 1985; McBride & Clayton, 1985). Adapted from Getting et al. (1983), the self-report measure has test-retest reliability of .77 and is scored for subjects' interval-level use rates on each index substance.

Procedure

After pretesting, subjects were randomly divided by reservation site into prevention and control conditions. Prevention-condition subjects at each site participated in 10 group intervention sessions to learn bicultural competence skills. Group leaders were two American-Indian counselors. Subjects assigned to the control condition (CC) at each site received no preventive intervention. Via cognitive and behavioral methods, PC subjects were instructed in and practiced communication, coping, and discrimination skills, as explicated by LaFromboise and

Rowe (1983) and as operationally defined in past substance-abuse prevention studies with American-Indian and non-American-Indian adolescents (Beauvais, 1980; Botvin & Wills, 1985; LaFromboise, 1982; Pentz, 1985; Schinke & Gilchrist, 1985).

Communication skills were introduced with biculturally relevant examples of verbal and nonverbal influences on substance use. For instance, leaders modeled how subjects could turn down offers of tobacco, alcohol, and drugs from peers without offending their American-Indian and non-American-Indian friends. While subjects practiced communication skills, leaders offered coaching, feedback, and praise.

Coping skills included cognitive and behavioral strategies of self-instruction and relaxation to help subjects avoid substance use situations and deal with pressure. Leaders suggested alternatives to tobacco, alcohol, and drug use, and taught subjects to subvocally reward themselves for positive decisions and actions.

Discrimination skills, together with information dissemination and social network building procedures, helped subjects anticipate temptations and explore healthy alternatives to substance abuse. With culturally meaningful examples, leaders helped subjects predict high-risk occasions for substance use. For instance, subjects generated lists of times, places, and peer and family situations in which substance use was likely. Leaders next demonstrated and subjects practiced ways to build networks with friends, family, and tribal members who could nurture and sustain responsible decisions about substance use.

Encompassing school, family, and reservation resources, social network procedures included homework assignments at the end of each group session. In the homework assignments subjects were asked to monitor and support one another's preventive intervention attempts between sessions. Reports on homework at the beginning of each session gave group members added opportunities to discuss social network building steps. Homework reports, along with practice, further allowed subjects to integrate communication, coping, and discrimination skills for bicultural competence and substance-abuse prevention.

Results

Attrition averaged 9% across the sample at 6-month followup, with no condition differences. By analysis of variance (ANOVA), PC and CC subjects did not differ on interval-level variables measured before randomization. To examine preventive intervention effects over time, a repeated measures multivariate analysis of variance (MANOVA) was performed, with condition as the between-subjects' factor and measurement occasion as the within-subjects' factor.

The 2×3 (Condition \times Measurement Occasion) analysis revealed main effects for preventive intervention, $F(1, 124) = 8.28, p < .005$, and for measurement occasion, $F(2, 124) = 6.13, p < .01$, and a Condition \times Measurement Occasion interaction, $F(2, 124) = 7.22, p < .01$. When univariate ANOVAS showed significant condition differences, posttest and follow-up data were analyzed by Tukey-Kramer procedures for paired comparisons, at an experimentwise alpha of $p < .05$ (Kirk, 1982). On posttest data, these analyses indicated that, relative to CC subjects, PC subjects had more knowledge about substance use and abuse, $PC(M = 14.3) > CC(M = 9.1)$, and held less favorable attitudes about substance use in American-Indian culture, $PC(M = 18.2) < CC(M = 23.6)$.

Scores from the interactive behavior test showed that PC subjects, compared with CC subjects, had higher ratings on parameters of self-control, $PC(M = 1.74) > CC(M = .83)$; alternative suggestions, $PC(M = .97) > CC(M = .34)$; and assertiveness, $C(M = 1.12) > CC(M = .86)$, when pressured by peers to use substances. Reported substance-use rates at posttest were lower in

the prevention condition than in the control condition for subjects' smokeless tobacco use, $PC(M = 2.38) < CC(M = 3.77)$; alcohol use, $PC(M = 3.63) < CC(M = 4.71)$; marijuana use, $PC(M = 2.12) < CC(M = 3.79)$; and nonmedical drug use, $PC(M = .84) < CC(M = 1.30)$, in the last 14 days.

At 6-month follow-up, PC subjects had higher scores than did CC subjects on the knowledge measure, $PC(M = 17.2) > CC(M = 11.5)$, and on ratings of self-control, $PC(M = 1.89) > CC(M = .87)$; alternative suggestions, $PC(M = 1.14) > CC(M = .43)$; and assertiveness, $PC(M = 1.38) > CC(M = .90)$, from the interactive behavior measure. Finally, PC subjects at 6-month follow-up, compared with CC subjects, reported less use of smoked, $PC(M = 1.41) < CC(M = 2.37)$, and smokeless tobacco, $PC(M = 2.56) < CC(M = 4.11)$; alcohol, $PC(M = 3.76) < CC(M = 4.92)$; marijuana, $PC(M = 1.97) < CC(M = 4.02)$; and inhalants, $PC(M = .94) < CC(M = 1.32)$, in the last 14 days.

Discussion

These data lend modest support to a bicultural competence skills intervention approach for preventing substance abuse among American-Indian youth. Within a controlled design, American-Indian youths who received such skills-based preventive intervention showed greater posttest and follow-up improvements than did American-Indian youths in a no-intervention control condition on measures of substance-related knowledge, attitudes, and interactive abilities and on self-reported rates of tobacco, alcohol, and drug use. Still, the data must be interpreted cautiously. Study subjects were a small sample of the myriad American-Indian and Alaska-Native groups in America. To generalize beyond the sample is unwise.

Past work on the validity of adolescents' reported substance use aside, substance-use rates among the present sample may be biased (Braucht & Braucht, 1984; Schinke & Gilchrist, 1983; Thompson & Wilsnak, 1984). The absence of a placebo or comparison control condition further precludes definitive conclusions about the efficacy of bicultural competence skills intervention. Nonetheless, on the whole, the study represents a pioneer step toward testing bicultural competence approaches to preventive intervention aimed at an important problem.

Additional substance-abuse prevention and health behavior research with American-Indian people is warranted (cf. Klippel & DeJoy, 1984). On the basis of this study, future research could take several directions. Conceptual work could refine prevention approaches with American-Indian and AlaskaNative groups. For instance, greater attention could be placed on such specific factors as acculturation, adult and peer modeling, and community influences in shaping substance use and abuse. Methodological work is needed to develop and tailor psychometric measures for research with American-Indian and Alaska-Native people (cf. Gade, Fuqua, & Hurlburt, 1984). Certainly, replication tests of the skills-based approach are needed before substance-abuse preventive interventions are ready for wide implementation with American-Indian youth. Perhaps the present intervention model and data will encourage new prevention research on substance abuse among American-Indian adolescents.

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