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USING PARTICIPATORY RESEARCH TO ADDRESS SUBSTANCE ABUSE IN AN AMERICAN-INDIAN COMMUNITY

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Both the United States, in general, and New Mexico, in particular, present a picture of great disparities regarding alcohol-related (and other substance use) problems, with American Indians[1] suffering disproportionately from alcohol, illegal substance use, and suicide when compared to other ethnic groups (New Mexico Department of Health, 2009; Szlemko, Wood, & Thurman, 2006). The U.S. Department of Health and Human Services' (HSS, n.d.-b) Indian Health Service (IHS), the federal health program for American Indians and Alaska Natives, estimated that, for the years 2000–2001, alcohol-related mortality for American Indians, compared with

the general population, was eight times greater for those between the ages of 25 and 34, and 6.5 times greater for ages 35 to 44. Four of the 10 leading causes of death for American Indians at that time were alcohol-related chronic liver disease and cirrhosis (e.g., four times higher than the general population), homicide, and other injuries (HSS, n.d.-b). In New Mexico, alcohol-related mortality affects American Indians disproportionately much higher than it does non-Hispanic whites (96.1/100,000 vs. 41.5/100,000 for 2006–2008; New Mexico Department of Health, 2009). Overall in New Mexico, age-adjusted mortality rates for American-Indian males and females exceed those for non-Hispanic whites (HSS, n.d.-b).

Research on early substance-use onset shows that American-Indian children begin using alcohol and other recreational drugs earlier than any other ethnic group (Beauvais, 1996; New Mexico Department of Health, Community Health Assessment Program, Epidemiology and Response Division, 2005). Early initiation of such drugs has been correlated with engaging in a number of high-risk behaviors, including driving under the influence, unprotected sexual activity, depression, delinquency, and suicide; disproportionately high mortality rates; and greater likelihood of those drugs later in life (Hawkins, Cummins, & Marlatt, 2004). According to the IHS (as cited by Hawkins et al., 2004), 3 of the top-10 leading causes of death among American-Indian adolescents (accidents, suicide, and homicide) are associated with alcohol.

At the same time, there are a number of protective factors for health in American-Indian communities, such as strong community and cultural identities, strong families, and social capital (E. Duran & Duran, 1995; Wallerstein & Duran, 2006). These protective factors provided the basis for our communication and public health intervention project to prevent early onset of drinking alcohol in late elementary school and early adolescent youth that was implemented in the Ramah Navajo community in New Mexico. The project was a collaboration between Ramah Navajo community members and researchers from the University of New Mexico (UNM) that was developed at the behest of the community to address this key health problem. In this chapter, we first describe some explanatory factors of substance abuse for American Indians, then discuss the nature of this communication activism intervention, provide an analysis of the partnership processes and some preliminary pilot outcomes, and conclude by discussing lessons learned about communication activism scholarship.

EXPLANATORY FACTORS OF SUBSTANCE ABUSE FOR AMERICAN INDIANS

Researchers have identified a number of explanatory factors of substance abuse for American Indians. In addition to poverty and discrimination, the role of culture, in general, and cultural conflict, in particular, are persistent themes in studies of the development of American-Indian children and adolescents. *Cultural conflict* refers to challenges that American Indians face interacting with mainstream Americans, as well as to internal struggles among American Indians as a result of external contact with others. Cultural conflict has been used to explain American-Indian academic problems, such as school dropout and low achievement (Bakes, 1993; Bowker, 1992), suicide (Bechtold, 1994; Lin, 1987), and substance abuse (Oetting & Beauvais, 1991; O'Nell & Mitchell, 1996). Most of those studies, however, are based on small samples and are exploratory in nature; systematic studies based on larger samples have yet to establish clear, replicable support for the influence of cultural conflict on these problems for American Indians (Oetting & Beauvais, 1991; Oetting, Edwards, & Beauvais, 1989).

Traditional norms within American-Indian communities surrounding proper childrearing also may complicate the role of culture in child development. Although varying by nation, parenting norms of noninterference and early independence of children (Ishisaka, 1978), laissez-faire childrearing practices (e.g., letting children learn from experience), and a lack of family sanctions for substance abuse (Oetting, Beauvais, & Edwards, 1988) may not curb early experimentation with alcohol and other recreational drugs in time, meaning that any lessons learned about those drugs may come too late (i.e., due to addiction to those drugs or because negative consequences have occurred). Some of these problematic parenting practices were a result of the boarding school catastrophes of the past 2 centuries, with American-Indian children who were taken away from their culture and families not learning to parent properly, and subsequent generations suffering for this loss (Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001).[2]

Although there are indications that cultural conflict plays a role in early onset of alcohol and other recreational drug use, there also is evidence that *cultural identification*, the strength of identity a person has with his or her cultural group (Walters & Simoni, 2002; Whitbeck, Hoyt, McMorris, et al., 2001), may act as a buffer for health outcomes. Studies indicate that the effects of alcohol largely are indirect, with adolescents' cultural identification increasing their self-esteem, but not being directly related to their problem behaviors. Further cultural identification effects may be indirect through influences on prosocial behaviors (e.g., helping others), parenting (e.g., increasing parental warmth and supportiveness), and academic success

(Whitbeck, Hoyt, McMorris, et al., 2001; Whitbeck, Hoyt, Stubben, & LaFromboise, 2001).

COMMUNICATION ACTIVISM TO ADDRESS SUBSTANCE ABUSE PROBLEMS: FOUNDATIONAL PROGRAM

Although certainly understudied, the extant literature in communication studies has examined a variety of communication/rhetorical patterns in American-Indian communities (e.g., Black, 2007; Bolls, Tan, & Austin, 1997; Bresnahan & Flowers, 2008; Carbaugh, 1999; Covarrubias, 2007; Cowden, 2008; Merskin, 1998; Morris & Wander, 1990; Rogers, 2009; Sunwolf, 1999). These studies identify American-Indian cultural communication patterns, often juxtaposed with those of the dominant culture and placed in a context of a lack of privilege and discriminatory practices. For example, Covarrubias (2007) interviewed American-Indian college students to examine mismatches between the communication style of those students and mainstream university education. The findings showed that although American-Indian college students preferred using silence in strategic and culturally supportive ways, compared with talking, to learn, that strategy did not serve them well in the university classroom, and that it was one of the reasons the American-Indian students felt disconnected from the university.

Such research helps to understand how communication plays a role in creating culture and in contributing to negative social consequences such as a lack of school achievement, but there are only a few studies of American-Indian communities and health outcomes, let alone substance use. A study conducted by Kalbfleisch (2009) identified strategies (e.g., providing information indirectly through storytelling and using example) for effective communication with American Indians by health care providers. Additionally, Oetzel, Duran, Jiang, and Lucero (2007), examining the relationship between social support and social undermining (negative communication) for mental health disorders in American-Indian women presenting for primary care, found that social undermining, in comparison with social support, within participants' social networks had a stronger impact on alcohol, drug, and mental disorders in this population.

In addition to the limited examination of communication and health outcomes in American-Indian communities, such research has been conducted from a third-person perspective (see Frey & Caragree, 2007, this volume). In contrast, this study uses a first-person perspective to examine an intervention that was created in collaboration by researchers and members of an American-Indian community (Ramah Navajo) who had an active role

in addressing a social problem that was important to them. The result was a culturally supported intervention (CSI) that is an example of communication activism scholarship.

CSIs represent a stream of research-based programs that historically have been conducted to address alcohol problems in tribal communities (B. Duran, Wallerstein, & Miller, 2008; Hall, 2001). In general, among tribal populations, CSIs often rely on spiritual–religious practices that are deeply embedded in the culture and may be readily adopted by members of tribal communities, although CSIs have not been well documented or evaluated (Miller & Meyers, 1999). Additionally, CSIs often integrate culturally supported indigenous theories on alcohol use that have emanated from community and tribal social service agencies in the field; these theories, and corresponding interventions, have been widely circulated at regional and national American-Indian conferences, and at other meetings. Despite their strengths within American-Indian communities, these theories and interventions have not been fully tested, especially with American-Indian children or youth, as contributing to a reduction in substance abuse and care of mental disorders.

An assumption of these indigenous approaches is that age-specific behavioral expectations and sanctions against deviant behavior (e.g., alcohol and other recreational drug use) have been weakened due to the dominance of external societal demands, discriminatory practices against American Indians, and the disruption of cross-generational teachings on traditional values and behavior (B. Duran, Duran, & Brave Heart, 1998; E. Duran & Duran, 1995). Additionally, some mainstream alcohol and other recreational drug-prevention approaches may be complicated by values embedded in American-Indian cultures; for example, individual refusal skills found in mainstream approaches may conflict with the high value placed in tribal cultures of fitting into one's peer group and not standing out (for an overview of a drug-resistance strategy project that takes into account the effects of culture and ethnicity, see Hecht & Miller-Day, 2009).

The public health and communication intervention implemented in the Ramah Navajo community was based on an empirically supported project, called "Bii-Zin-Da-De-Dah" (Listening to Each Other), which has been culturally embedded within the Anishinabe of Minnesota (Whitbeck, Hoyt, McMorris, et al., 2001; Whitbeck, Hoyt, Stubben, et al., 2001) Bii-Zin-Da-De-Dah is a psycho–cultural–educational intervention that seeks to reduce alcohol and other drug problems through combining culturally supported approaches (e.g., cultural transmission, work with families and elders, and cultural sanctions for substance abuse) with dominant culture adolescent empirically supported interventions (ESIs; such as developing parenting skills and adolescent communication refusal skills, and providing academic support to adolescents). Central to the notion of cultural adaptation of ESIs

is that proven efficacious mainstream components are maintained, but in addition, consideration is given to specific cultural risk factors (e.g., discrimination and historical trauma) and cultural protective factors (e.g., enhancing cultural identification). Results from the Bii-Zin-Da-De-Dah prevention trial (a pretest–posttest design) suggested that the strongest effects were for program components that had extensive cultural adaptations, specifically the sessions on family strengths, cultural values, traditional communicative practices, and traditional help-seeking practices (Whitbeck, 2001). Other sessions where the cultural context was less developed (e.g., managing anger and solving problems) showed less change in posttest results.

The results for the Bii-Zin-Da-De-Dah program showed significant effects for younger children (ages 10 and 11) who had not begun drinking (Whitbeck, 2001). Both boys and girls who were not drinking prior to participating in the prevention program had significantly lower levels of drinking onset 1 year after the program than did the same-aged children in the control group (who received no intervention). Specifically, among the 10-year-old boys, only 5% of the prevention program graduates started drinking in the following year compared with a 37% onset rate among the same-aged control group boys. The results were similar for the 11-year-old boys, with onset of drinking for 12% of the intervention group and 37% for the control group. For the 10-year-old girls, 13% of program graduates and 53% of the control group started drinking in the year following the intervention. As with the boys, the prevention program effects were smaller for the 11-year-old girls, with 28% of intervention program graduates starting to drink in the next year compared with 51% of the control group girls. There were no program effects for nondrinking youth who began the prevention program at a later age (ages 12–13), with older youth who received the prevention program just as likely to begin drinking 1 year later as those who did not receive the program. Finally, among children who had initiated drinking prior to the start of the program, regardless of their age, there was no program effect. Combined, these findings suggest the importance of targeting prevention programs at a young age (e.g., third and fourth graders), when fewer children have initiated substance use and when the cultural prevention messages appear to be most likely to have an impact (Whitbeck, 2001).

COMMUNICATION ACTIVISM TO ADDRESS SUBSTANCE ABUSE PROBLEMS: CURRENT INTERVENTION

The purpose of the Ramah Navajo Family Listening (RNFL) intervention research project was to develop, pilot, and prepare for implementation a cul-

tural and intergenerational family intervention to reduce alcohol and other drug initiation, use, and abuse among Ramah Navajo late elementary school youth. The RNFL project was designed in partnership with Ramah Navajo and funded by the Native American Research Centers for Health (NARCH), which "develops opportunities for conducting research, research training and faculty development to meet the needs of American Indian/Alaska Native (AI/AN) communities" (HHS, n.d.-a, para. 1). The collaborative development of this intervention is essential because of the history of mistrust by American-Indian people of white researchers. Historically, many outsiders, with little knowledge of American-Indian cultures, have brought interventions into tribal communities that have had little impact on improving the lives of American-Indian families, and, in fact, largely have created mistrust of researchers (Davis & Reid, 1999; Warne, 2006). Hence, it is critical to develop any intervention not only from insiders' perspective but also from the actual work of insiders.

This intervention research project directly addressed these and other issues by developing culturally specific prevention materials based on the wisdom and suggestions shared by members of the tribal community and elicited by trained facilitators from the community. This project constituted *community-based participatory research* (CBPR), which Minkler and Wallerstein (2008) defined as a collaborative approach that equitably involves partners in the research process and recognizes the unique strengths that each partner brings. CBPR begins with a research topic of importance to a community, with a key aim being the combining of knowledge and action for social change to, in this case, improve community health and to eliminate health disparities. The following sections describe the community in which the intervention occurred, discuss the coalition-building process used to develop the intervention, and detail the communication intervention.

The Ramah Navajo Community

The Ramah Navajo community is located in northwest New Mexico, near the Arizona border, about 2.5 hours west of Albuquerque; it encompasses about 146,953 acres, most of which is mountainous, high desert rangeland. The Ramah Navajo community is one of three noncontiguous satellite reservations from the main Navajo Reservation. Its land status is known as "checker-boarded" because it includes tribal land, Ramah Navajo Chapter land, individual American-Indian allotment land, privately owned land, and state land. Ramah officially was recognized as a Chapter of the Navajo Nation in the early 1930s. The Ramah Navajo community has a council delegate that represents it during the annual Navajo Nation Council Legislation session. Local government is through the recognized Chapter

and the elected officials of Chapter president, vice president, and secretary/treasurer, each of whom serve 4-year terms.

In 1970, under Public Law (PL) 93–638, the Ramah Navajo community exercised its right to self-determination and took control of allocated money for its education system. This initiative led to the development of the Ramah Navajo School Board, Inc. (RNSB) as a nonprofit organization to oversee the tribal school and to provide health, job training, and social services to the community. School board members are elected and they appoint administrative staff. In 1978, the RNSB expanded its role and assumed control of its health clinic and health and human services department, by contracting with the IHS through PL 84–437, the Indian Health Care Improvement Act.

Tribal rolls estimate that there currently are 3,500 people in the Ramah Navajo community, with more than 400 students in Pine Hills Schools, Head Start through 12th grade, served by a full-time staff of 85. The following demographic characteristics were found according to a random community profile conducted by the Ramah Navajo community and by us in 2004: 64% of the population was employed, 59% earned less than $20,000 per year, 27% had less than a high school diploma, 25% had a high school diploma, 27% had completed some college, and 21% were college graduates (including graduate degrees). In terms of alcohol use, the 2003 Navajo Nation Middle and High School Youth Risk Behavior Survey (HHS, 2003) found that 40% of middle school students and 69% of high school students had more than one drink of alcohol in their lifetime. For the past 30 days use, the percentages were 22% and 39% for middle school and high school students, respectively, compared with U.S. rates for high school students of 78% lifetime and 47% for the past 30 days. Furthermore, 36% of Navajo Nation middle school students and 67% of high school students had used marijuana during their lifetime (with 25% of middle schools students and 38% of high school students using it in the past 30 days), compared with U.S. rates for high school students of 42% lifetime and 24% for the past 30 days.

Building a Coalition

Building a coalition of internal and external partners is an important element in a CBPR approach. The RNSB participated in capacity development processes with Wallerstein and Belone (among others) of UNM through two prior research projects. The collaboration began through the Ramah Navajo's connection to the Albuquerque Area Indian Health Board (AAIHB). Wallerstein knew AAIHB's director, who connected Ramah Navajo community members and leaders to Wallerstein. Through these meetings, Wallerstein let these leaders and members know about an oppor-

tunity to participate in a capacity-building project, which they thought was a good idea. Ramah Navajo conducted an assessment of its capacities using the Centers for Disease Control and Prevention's (CDC) instrument that measures the performance of 10 essential public health services (English et al., 2004). Two priorities emerged from this assessment:

> Deepen the tribe's understanding of community members' concerns and strengths in health, social services, education, and economic development.
> Enhance the health-education capacities of the tribe.

These priorities provided the context for continuing intervention work that integrated the importance of culture and language to promote the health of tribal families and youth. Thus, UNM and Ramah Navajo decided to collaborate on this family intervention project.

To develop this intergenerational family communication intervention, a coalition was established with Ramah Navajo that required gaining tribal approval from key leadership organizations (e.g., RNSB) through tribal resolutions and letters of support. A formal coalition was created, termed the "Ramah Navajo Advisory Council" (RNAC) that held monthly strategic planning meetings, with membership from tribal administrators, program directors, and program staff, as well as community members and the UNM research team. The original Anishinabe family intervention (Bii-Zin-Da-De-Dah) was co-adapted by RNAC and UNM, which resulted in a curriculum manual specific to the cultural relevance of the Ramah Navajo community over a 3-year process. An example of this adaptation is the integration of stories, cultural symbols, and cultural traditions into the curriculum manual.

Monthly meetings of the RNAC concentrated on (a) reviewing the community health assessment results, (b) planning and conducting focus group research on the adapted family intervention, (c) adapting and revising the Anishinabe version of the curriculum, and (d) co-developing process evaluations and outcome measures. The focus groups were conducted by RNAC members with elders (three groups, up to 6 hours each) at their request, and explored key cultural traditions and lessons to impart to the youth. The Navajo language transcription of the focus group discussions (conducted by the RNAC) created rich historical teachings to insert in the curriculum, but slowed the final production with the piloting of the program beginning in fall 2008, after a 3-year start in fall 2005. The RNAC provided detailed oversight of the curriculum development, with members serving as cultural consultants to every aspect of the curriculum content, being trained as interviewers and conducting pretest–posttest interviews, facilitating the intervention, and co-analyzing the process and outcome evaluation data that were collected.

Reports written by the research team and RNAC were submitted to both the Navajo Nation Human Research Review Board and the RNSB, with the latter having ultimate approval of the final version of the cultural intervention curriculum. All research was approved by UNM's Institutional Review Board and by the Navajo Nation Human Research Review Board. Tribal approval and oversight create lengthy, but necessary, processes on American-Indian reservations to assure that ethical research practices are employed, that there is active tribal participation in research, and to minimize the potential for misunderstandings. Although these approval processes extended project time lines and required substantial time involvement of the UNM research staff, this participatory research model greatly improved the chances of success and sustainability of this intervention.

Intervention

Using the process just described, the RNAC created a detailed, 186-page family-strengthening curriculum consisting of 14 weekly sessions. The structure for each of the 14 sessions followed the following framework:

A family meal and prayer;
Sharing of individual clans (i.e., extended relations that are traced matriarchally) by each participant (child and parent or caregiver, which is traditional in Navajo introductions);
Sharing of "take home practice" activities from the previous session;
An icebreaker activity;
Facilitated experiential activities of the current session theme with a separate youth and adult groups;
Rejoining of youth and adults for a reflection on the experience and activities of the current session through presentation and writing journals;
Planning of community action project by each family;
Session wrap-up, including handouts of the take home practice activities and planning for the next session; and
Journaling by facilitators.

The 14 sessions covered the following topics: (a) A welcoming dinner, (b) My family, (c) Ramah Navajo History, (d) Ramah Navajo Way of Life, (e) Our Ramah Navajo Vision, (f) Community Challenges, (g) Communication and Help Seeking, (h) Recognizing Types of Anger, (i) Managing Anger, (j) Problem Solving, (k) Being Different, (l) Positive Relationships, (m) Building Social Support, and (n) Making a Commitment.

Additionally, embedded in this curriculum are New Mexico state educational standards, and alcohol and other recreational drug-prevention messages, and other health-promotion messages (e.g., participating in community events, such as picking up trash), for individuals (both youth and adult), families, and the community, which, simultaneously, reinforce Ramah Navajo knowledge. Furthermore, each family engaged in a community action project that involved selecting something that would be beneficial to the community and building on lessons learned in the curriculum (although this project was not directly evaluated; see later for details on the evaluation).

The theoretical underpinnings of the curriculum include family resiliency building (Benzies & Mychasiuk, 2009), cultural embeddedness (Dutta & Basnyat, 2008), and community empowerment within a public health-prevention framework (Wallerstein, 1999). *Empowerment* is a "a process … by which people, organizations, and communities gain mastery over their affairs" (Rappaport, 1987, p. 122; see also Papa, Papa, & Buerkel, chap. 9), with *community empowerment* being a social action process by which individuals, groups, organizations, and communities gain mastery to change their social, economic, and political environments to improve equity and quality of life (Wallerstein, 1999). The public health framework adds the recognition that disparities cannot be addressed successfully by single-level interventions but must be based on a socioecologic framework, engaging changes at individual, family, organization, and community levels to promote healthy communities (Stokols, 1996). The community action projects chosen by the families recognize the strength of psychological and family empowerment for community-level change as an important component of the intervention.

Implementation of the intervention required the development of a facilitator pool of six individuals from various tribal programs (e.g., behavioral health, health clinic, and scholarship, education, and training services) and the use of an elementary counselor from the local reservation school. A pool of facilitators ensured that there always were at least four facilitators present during each of the 14 sessions. Facilitator training, carried out by the UNM research team prior to each session, was critical not only in terms of delivering the program but also for maintaining a team structure, logistics, and planning.

Each session was led by two primary facilitators and two assistant facilitators, generally working as pairs, particularly when parent and youth groups were separated during a session. A Ramah Navajo tribal member or an individual who was working in the community served as one of the primary facilitators. The two lead facilitators guided participants through the curriculum activities, which required managing group discussion in an inclusive group learning atmosphere; the assistant facilitators helped the lead facilitators to manage time and capture discussion points on flipcharts. The

facilitators and assistants kept all participants engaged in the material and active during discussions. The facilitators of the adult sessions required the additional skill of verbally translating the English written curriculum into the Navajo language.

Evaluation Design

During fall 2008, the fourth year of this research project, the pilot test of the intervention was launched, consisting of 11 families (selected through network/snowball sampling and not based on any strict inclusion criteria), to assess the effectiveness of the curriculum through program operation (process evaluation) and participant pretest–posttest changes (outcome evaluation). All instruments were co-developed by the researchers and the RNAC. The process evaluations, which were comprehensive and conducted on a weekly basis, included: (a) attendance sheets to assess dose (i.e., whether everyone got the full intervention); (b) logs completed by facilitators to document their fidelity to the curriculum objectives and the degree of activity completion, flow of delivery, and barriers experienced with regard to implementation; (c) researchers' observations of facilitators' confidence and their ability to complete the activities; and (d) debriefing of facilitators and researchers through collaborative discussion about what curriculum components worked and what needed to be changed in the curriculum manual. Facilitators completed process evaluation forms after each session using a 5-point Likert-type scale (1 = *not at all*, 2 = *a little*, 3 = *somewhat*, 4 = *considerable*, 5 = *extensively*) to assess four areas:

> Cultural connections (e.g., "To what extent did you encourage the participants' exploration of their cultural values and traditions?"),
> Use of facilitation skills (e.g., "To what extent did you follow the structure of the session and maintain the agenda?"),
> Group process (e.g., "To what extent did participants verbalize their thoughts and opinions related to the topic presented?"), and
> Social analysis/critical thinking (e.g., "To what extent did you apply problem-solving strategies to a problem/issue raised during the session?").

The outcome evaluation consisted of a pretest–posttest, closed-ended questionnaire, as well as a qualitative set of 360-degree evaluation questions, asking family members to assess changes made by them and other family members after completing the sessions. The instrument assessed a number of variables (e.g., sense of community, coping behaviors, and social norms), but

the focus here is on four key variables: (a) Cultural identity, (b) Family communication, (c) Substance use/intention, and (d) General health. (The items and measures of internal consistency, where appropriate, are included in the appendix.)

Our purpose was to determine if the intervention increased participants' cultural identity, family communication, and perception of general health, as well as lowered substance use intention by youths (and substance use by adults), from pretest to posttest. We examined substance-use intention because we anticipated low, if any, substance use by the children.

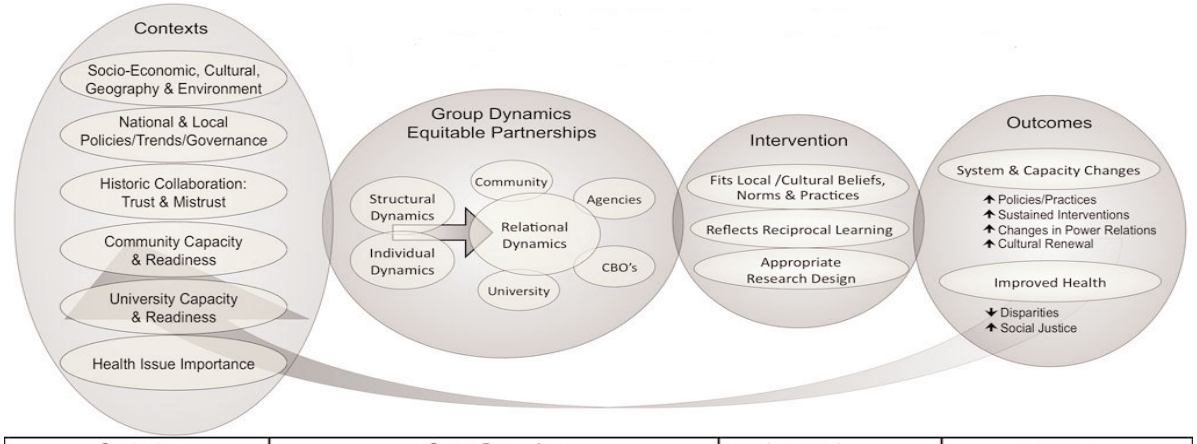
The measures were adapted from validated scales created by Whitbeck (2001; Whitbeck Hoyt, Stubben, et al., 2001). The RNAC reviewed each measure and made slight adaptations to items to assure cultural appropriateness. Measurements were collected from adults and youths by trained Ramah Navajo interviewers.

ANALYZING THE COMMUNICATION ACTIVISM INTERVENTION

The analysis of this communication activism intervention centers on three aspects: (a) group dynamics in community-based participatory research, (b) addressing paradoxes and tensions involved in research partnerships, and (c) outcome evaluation. These three aspects are central to the key processes involved in creating the intervention and its effectiveness.

Group Dynamics in Community-Based Participatory Research

Wallerstein and Duran (2006) maintained that "CBPR is not simply a community outreach strategy but represents a systematic effort to incorporate community participation and decision making, local theories of etiology and change, and community practices into the research effort" (p. 313). Wallerstein, Oetzel, Tafoya, Belone, and Rae (2008) developed a model to advance understanding and investigations of how CBPR processes influence or predict outcomes (see Figure 10.1). The model identifies four CBPR characteristics and suggests relationships between each category. First, *contexts* shape the nature of the research and the partnership, and can determine whether and how a partnership is initiated. Second and third, *group dynamics*, consisting of three subdimensions (structural, individual, and relational dynamics), interact with contexts to produce the *intervention*. Fourth, *outcomes* (i.e., system and capacity outcomes, and improved health) result



Contexts	Group Dynamics	Intervention	Outcomes
•Social-economic, cultural, geographic, political-historical, environmental factors •Policies/Trends: National/local governance & political climate •Historic degree of collaboration and trust between university & community •Community: capacity, readiness & experience •University: capacity, readiness & reputation •Perceived severity of health issues	*Structural Dynamics:* • Diversity • Complexity • Formal Agreements • Real power/resource sharing • Alignment with CBPR principles • Length of time in partnership *Individual Dynamics:* • Core values • Motivations for participating • Personal relationships • Cultural identities/humility • Bridge people on research team • Individual beliefs, spirituality & meaning • Community reputation of PI *Relational Dynamics:* • Safety • Dialogue, listening & mutual learning • Leadership & stewardship • Influence & power dynamics • Flexibility • Self & collective reflection • Participatory decision-making & negotiation • Integration of local beliefs to group process • Task roles and communication	•Intervention adapted or created within local culture •Intervention informed by local settings and organizations •Shared learning between academic and community knowledge •Research and evaluation design reflects partnership input •Bidirectional translation, implementation & dissemination	*CBPR System & Capacity Changes:* • Changes in policies /practices -In universities and communities • Culturally-based & sustainable interventions • Changes in power relations • Empowerment: -Community voices heard -Capacities of advisory councils -Critical thinking • Cultural revitalization & renewal *Health Outcomes:* • Transformed social /econ conditions • Reduced health disparities

Fig.10.1. Community-based participatory research conceptual logic model.
Source: Adapted from Wallerstein, N., Oetzel, J., Duran, B., Tafoya, G., Belone, L., & Rae, R. (2008). What predicts outcomes in CBPR? In M. Minkler & N. Wallerstein (Eds.), *Community-based participatory research for health: From process to outcomes* (2nd ed., pp. 371–392). San Francisco, CA: Jossey-Bass, p 381. Reprinted with permission by John Wiley & Sons, Inc.

directly from the intervention research. Although CBPR partnership processes and practices are presented visually in this model as linear, they are, in fact, dynamic and changing, with embedded paradoxes and tensions that are driven by both external and internal context changes (e.g., loss of funding, new leadership, and differences in partners' interpretations of events; see discussion below).

We center this analysis of the intervention on the group dynamics portion of the model because that is the process by which the intervention was created. Although the intervention is the communication activism directly, the process (i.e., group dynamics) creating this intervention is a key component. In fact, group dynamics are a central part of what makes CBPR work and enables culturally supported and sustainable interventions (Wallerstein et al., 2008). One key communication theory focusing on group dynamics in culturally diverse groups is Oetzel's (2005) intercultural workgroup communication theory, which examines contextual factors that affect group communication and how group communication affects outcomes. A key concept in the theory is *effective communication*, which is operationalized as respectful, collaborative, and equal participatory communication.

In terms of contextual factors, intercultural workgroup communication theory posits that the more culturally heterogeneous a group is and the more negative contextual factors (e.g., history of conflict and inequality) that a culturally diverse group faces, the less likely that group will experience effective communication. These propositions are supported in the extant literature (see, e.g., Oetzel, 2005), but fortunately, they were not supported in this intervention because of the use of CBPR processes that created effective group communication.

Although, as mentioned previously, Wallerstein and Belone were involved in two prior research projects over the span of 6 years with the Ramah Navajo, the individuals from the community who served as RNAC members, as well as some of the researchers, were not all involved in those two earlier projects; consequently, in early RNAC meetings, negative historical factors raised by new community members had to be addressed. For example, community members recalled research conducted by other institutions prior to the UNM projects in which information was gathered from the community but the results were never given to them. In line with the CBPR model, the development of the present intervention could not move forward with the RNAC until the historical context of this community's involvement with researchers from other universities was acknowledged and some level of trust was established with this new working group. Trust was established by engaging in effective communication and by demonstrating our commitment to the community over time. Finally, although the partnership included people with different cultural backgrounds (e.g., white researchers and American-Indian researchers from different tribes), there

was homophily in terms of their desire to work on the project and the manner in which it should be carried out (Lindamer et al., 2009).

In terms of the impact of group communication processes on group outcomes, Oetzel's (2005) theory proffers that the more groups use effective communication processes, the more likely they will achieve *task effectiveness* (i.e., the quality of group products), and *relational effectiveness* (i.e., the degree to which members can and want to work together interdependently in the future). The process evaluation and history of continued work between UNM and Ramah Navajo indicates that our team has been successful in achieving relational effectiveness. A large reason for this effectiveness is the strong effort to use effective and appropriate channels and messages. For instance, the university research team recognized early on that communicating primarily through e-mail would not be sufficient because many RNAC members did not have e-mail addresses or access to the internet. Communication, therefore, was conducted through telephone calls, faxing, and once-a-month, face-to-face meetings in the community, with e-mails and telephone calls primarily used to remind RNAC members of upcoming meetings. The monthly meetings were planned around the schedules of RNAC members, choosing a time of day that best fit their schedules. This decision represented a significant commitment by our research team because the community is a 2-hour drive from the university. The impact of group communication on task effectiveness is discussed in the outcome evaluation section.

Addressing Paradoxes and Tensions Involved in Research Partnerships

CBPR processes, like all research processes, are marked by potential (ethical) paradoxes (McDermott, Oetzel, & White, 2008). A *paradox* exists when people's need to fulfill a goal requires them to act in ways contrary to that goal (e.g., people working to achieve a participatory goal ignoring the participation process to be more efficient; see, e.g., Stohl & Cheney, 2001; Wendt, 1998). McDermott et al. (2008) identified three ethical paradoxes in CBPR: power, participation, and practice.

First, although partnership is the basis of CBPR, which implies equality and equity among partners, the paradox of power recognizes tensions in negotiating this partnership. For example, community members and researchers need to recognize that the structure of a research and program development partnership usually does not start off with those involved in equal roles. McDermott et al. (2008) identified three specific tensions associated with the paradox of power: (a) the process is researcher-initiated but must remain community-driven (i.e., who starts the process), (b) researchers

have more access to funding mechanisms than community members and yet are sharing financial resources with the community, and (c) equal partners and community members need to protect their community (and, thus, potentially withhold information from researchers). This intervention was designed collaboratively based on priorities that emerged from the community assessment conducted with the Ramah Navajo; specifically, these priorities were based on understanding the importance of the community's culture and language in developing interventions to promote the health of tribal families, elders, and youth. For that reason, UNM and Ramah Navajo jointly submitted a research plan to NARCH, which addressed the paradox of power with a community focus and the sharing of resources (primarily money). This solution was not perfect, as resources were not shared equally, but we did our best to allocate resources to the community.

Second, although participation in the CBPR process is intended to be empowering for those involved, the structure of the participation may hinder people from fully expressing their thoughts. For example, a discussion of key research ideas may result in community members being relatively silent because they believe that they are not knowledgeable. McDermott et al. (2008) identified three tensions associated with the paradox of participation: (a) competing needs to value but change the community, (b) researchers and community members deciding which community members get to participate (i.e., not everyone can be included in the partnership), and (c) balancing leadership with collaboration. This intervention was based on the findings of the community assessments and the community's need for a family intervention project; consequently, through the intervention, the community was valued. Furthermore, the intervention honored the community's request for a change within the community's fourth and fifth graders, and their families. However, despite the strengths of this intervention, we were not able to include every community member's perspective about the intervention nor were we able to include youth of older ages.

Third, given that researchers and community members may have different end goals and time lines, problems in practices may arise. McDermott et al. (2008) identified three tensions associated with the paradox of practice: (a) focusing on long-term outcomes and meeting immediate needs of the community, (b) adhering to best research practices and addressing community needs (e.g., sometimes community members want an intervention without evaluating its effectiveness), and (c) being both supportive and critical of the research process. This intervention addressed these tensions by being a unique intergenerational alcohol- and drug-prevention program, tailored to reinforce Navajo language use, in general, and Ramah Navajo values and way of life, in particular, to support healthier children and families, and to protect them from alcohol and drug abuse, but based on an empirically supported project (Whitbeck, Hoyt, McMorris, et al., 2001). The process of cre-

ating the adapted intervention managed the paradox of practice by encouraging both collaboration and critique, and, thereby, emphasized directly the paradox to manage its associated tensions.

Outcome Evaluation

The effectiveness of the CBPR collaboration and the intervention itself can be evaluated in two ways. The first way is whether the curriculum manual (i.e., intervention) was of high quality. Although an independent evaluation of the intervention was not conducted, the intervention was based in both culturally and empirically supported evidence. Furthermore, the intervention was coconstructed collaboratively by the UNM team and the RNAC, making it effective (or perhaps sustainable) because it was created through high-quality interaction among members of this diverse team.

The second way is whether the intervention resulted in outcomes in the desired direction. In addition to reporting statistical significance, we provide effect sizes, as these are better indicators of the strength of the outcomes, given the small sample size. The children demonstrated an increase in both cultural identity and family communication from pretest to posttest, but these effects were not statistically significant, cultural identity, $t(6) = 1.27$, $p = .25$, $d = .77$ and family communication, $t(9) = 1.27$, p = .42, $d = .19$ (see Table 10.1 for means and standard deviations). The low Cronbach's a for the cultural

TABLE 10.1. Means and Standard Deviations of Measures

		Pretest		*Posttest*	
	Measure	*M*	*SD*	*M*	*SD*
Child	Cultural identity	2.05	0.47	2.38	0.38
	Knowledge of Navajo culture	0.88	0.35	1.50	0.76
	Family communication	1.82	0.79	1.98	0.86
	Substance-use intention	2.33	1.51	3.00	1.55
	General health	3.10	1.10	3.50	1.65
Adults	Cultural identity	2.17	0.61	2.16	0.55
	Special things based on Navajo way of life	1.1	1.08	1.82	1.08
	Family communication	2.18	0.67	2.11	0.60
	Child's general health	4.09	1.04	4.45	0.82

identity measure led us to examine individual items, with one cultural identity item, "How much do you know about the Navajo culture?" showing a statistically significant increase from pretest to posttest, $t(7) = 2.38$, $p < .05$, $d = 1.05$. Additionally, children reported an increase in their general health, $t(9) = 1.86$, $p = .09$, $d = .29$. There were no significant differences in their actual substance use, but that likely is due to only one child reporting any substance use at the times of the pretest and posttest (that child reported at both the pretest and posttest having a sip of alcohol, smoking a cigarette, and using an inhalant). As a result, we examined the single item measuring behavioral intention toward future substance use ("Drinking as a teen will cause problems"), which demonstrated a moderate increase, $t(5) = 1.35$, $p = .24$, $d = .44$. In summary, the intervention had effects in the expected direction for most of the variables, with, in particular, a large effect on cultural identity, a medium effect on intended substance use, and small effects on general health and family communication.

The adults failed to demonstrate an increase in cultural identity or family communication from pretest to posttest, $t(9) = .09$, $p = .93$, and $t(10) = 59$, $p = .57$, respectively. However, one cultural identity item, "In your own family, do you do special things … based on the Navajo way of life?" did show a substantial increase from pretest to posttest, $t(10) = 2.06$, $p = .07$, $d = .59$. Additionally, parents reported that their children's general health had substantially increased, $t(10) = 1.79$, $p = .10$, $d = .38$. Substance use demonstrated no change, but this result largely is due to 7 of the 10 participants using no substances at the time of the pretest. In summary, the intervention had medium effects in the expected direction for one of the cultural identity items and for adults' perception of their children's general health, but not on the cultural identity and family communication variables overall.

The 360-degree evaluation produced short, open-ended responses about outcomes that participants perceived as a result of the intervention. The items were intended to provide supporting (or countering) evidence of the quantitative findings, especially regarding themes related to the quantitative measures for cultural identity, family communication, substance use, and general health. Two key findings emerged from this evaluation for both children and adults: improved family communication and enhanced understanding of Navajo culture. In terms of family communication, one parent reported that "there has been better communication between myself and my children … [in terms of] listening to their concerns," with her child reporting that "I'm listening to mom more." Another mother offered, "We're concentrating on being more open with each other… being more open with my daughter by expressing feelings." Her daughter supported this perspective, saying, "I had fun with my mom. We got to do something together, especially with our clan system." In terms of cultural identity, one parent stated, "We're practicing saying our clans," and her child said, "I learned how to say

my clan. … She [her mother] encouraged me to learn my clan by saying it over." Another child explained that "I learned how to say my clan in Navajo and I didn't know my clan until I went to the listening project." These two themes were addressed by almost every participant in the program and, thus, provide supporting evidence for the positive outcomes of the intervention in these two areas. Substance use and general health were not directly addressed by the participants in this evaluation method.

Taken together, the quantitative and qualitative results demonstrate some initial support that the intervention has positive effects on cultural identity, family communication, substance-use intention (for children), and children's general health. This conclusion is offered with two caveats. The qualitative findings indicated stronger support for the benefits of the intervention on cultural identity and family communication than did the quantitative findings. Furthermore, although there was statistical significance for the two single items of cultural identity, the overall means indicated only "a little" interest in cultural identity. There are at least three potential reasons for these findings. First, the qualitative interviews followed the entire program and the recall about the benefits may have been more salient for participants than were the quantitative interviews conducted 3 months earlier. Additionally, participants may have demonstrated a recall bias about the benefits to cultural identity and family communication. Second, the strength of children's cultural identity may be tempered by their age. The children were approximately 10 years old and, consequence, the importance of cultural identity may be relative given their other interests (e.g., playing with friends). However, recalling the importance of sharing clans was salient and easy for them to recall. Third, there may have been some measurement issues, as the cultural identity measure for children demonstrated low consistency, and the RNAC mentioned that rating scales can be problematic to use for some Navajos (usually elders and traditional Navajos) who distinguish more between the presence or absence of a phenomenon. Thus, a referent such as "a little" on a rating scale means that the phenomenon is there, but the referents "somewhat" and "extremely" are not important qualifiers. These measurement issues will have to be more carefully addressed in future evaluations of the intervention. Nonetheless, there was a significant increase from pretest to posttest on these items, meaning that the intervention did have a positive impact.

LESSONS LEARNED ABOUT COMMUNICATION ACTIVISM SCHOLARSHIP

The intervention involved two types of communication activism. The first type was the communication among the research team and the community

members, using effective CBPR processes to negotiate issues of difference, such as cultural background and community versus researcher perspectives. The second type was the communication activism in the intervention itself, with the sessions centering on improving family communication, communication about culture, and communication through the community action projects for families to have a positive impact in the larger community. All of these are key protective factors for adolescent substance use in American-Indian communities.

In this manner, this project constitutes communication activism scholarship that involves engagement and advocacy with those who are underresourced and marginalized to address issues of social justice (Frey, Pearce, Pollock, Artz, & Murphy, 1996). The overall purpose of the current intervention was to address a key health issue in an American-Indian community, which has been historically underserved and underresourced. The CBPR process, in particular, was employed to address social justice issues for several reasons: (a) 1. the partnership process helps to address issues of historical mistrust. (b) the CBPR process involves reciprocal learning that increases the capacity of community members and researchers. (c) the CBPR process results in a culturally supported and sustainable intervention (Wallerstein et al., 2008). Thus, CBPR is an important method for creating and implementing communication activism scholarship, especially for populations in need of social justice.

A key component of any CBPR project is to critically reflect on what worked and did not work, and why. This project involved a great deal of process evaluation, in addition to outcome evaluation. Through these evaluations and reflections, we identify several lessons learned about CBPR and this particular communication activism intervention.

First, CBPR is key to working with American-Indian tribes and to addressing paradoxes and tensions associated with research partnerships (Fisher & Ball, 2003). CBPR does not impose academic knowledge on communities as some other approaches do but, rather, relies on sharing perspectives (both culturally and empirically supported perspectives). Such open sharing and recognizing of paradoxes and tensions is especially important when historical mistrust is a significant issue, as was true in this case. In working with American-Indian tribes, CBPR emphasizes place, setting, culture, and identity, building community confidence and trust through stated agreements that research processes and data belong to the community. These steps are necessary for researchers to be proven sufficiently trustworthy, and they are effective for developing culturally centered interventions. CBPR also directly addresses the paradoxes of power, participation, and practice through the valuing and respecting of indigenous knowledge and expertise.

Second, communication is central to effective CBPR. Scholars have identified the partnership (or research team), and the group dynamics that

characterize it, as key to effective CBPR (e.g., Minkler & Wallerstein, 2008; Wallerstein, Duran, Minkler, & Foley, 2005). A critical element in partnerships between tribal communities and researchers is that the research team be culturally diverse. Although Oetzel (2005) noted that, all things being equal, culturally homogenous groups engage in more effective interaction processes than do culturally heterogeneous groups, our primarily American-Indian UNM graduate research team worked very hard over time to engage in effective group interaction and had the advantage of being "Indian," although members were not from the Ramah Navajo community. We were concerned with respectful, collaborative, and equal participatory communication, seeking ways to effectively manage the paradoxes and tensions inherent in CBPR (McDermott et al., 2008). The bottom line is that effective CBPR demands competent management of group interaction processes.

Third, managing differences is a key focus of positive group interaction. Two differences in our partnership were community versus researcher perspectives and cultural differences. We managed community versus researcher perspectives very well through effective group interaction. Specifically, the research team listened carefully to community perspectives and focused on what the community wanted. Community members also "bought into" the importance of this research. As one advisory council member stated, "The capacity has been built within me to go back and start questioning things again and really looking at these issues and these policies," demonstrating the understanding that research could directly benefit the community.

With respect to cultural differences, a key starting place was that three members of the UNM research team were native graduate students who are from several southwest tribes. The composition of the team was perceived as positive by one council member, who said:

> The research team has representatives of the Native community. Having your research team include Native people, even though they're not from our community, it still was a big comfort. And, I think for us, it was bonding; that first connect with us being that they were Native.

Furthermore, the research team and community had value homophily in that they shared a desire to work together on children's substance use and to emphasize positive aspects of the community to address the issue (Lindamer et al., 2009). Other potential difficulties with cultural differences largely were averted because of the strong collective reflection by the research team and self-reflection by its members. We examined why we were doing this work, what privileges we have, and how we could ameliorate power differences. The Native researchers also had added pressures to be positive stewards, knowing that if they "screwed up," they were negatively impacting the

(and their) American-Indian community, which can be a small place in New Mexico. Thus, our efforts to form a culturally diverse research team and to be self-reflective during the process provided strong pieces to managing potential difficulties during the partnership.

Finally, CBPR helps community researchers to create culturally appropriate interventions that are sustainable and empowering by building capacity in communities. CBPR is an improvement over other forms of research (e.g., community-placed research that is done in the community but is led and performed by researchers) because it increases community health through the contextual application of research findings to key health outcomes (including health disparities). CBPR also can lead to further collaboration between communities and researchers, and to generalizeable processes for planning, diagnosing, and matching, adapting, and evaluating interventions with specific communities. Furthermore, CBPR results in enhanced skills for community members. In our case, a number of community members now feel competent creating curriculum, facilitating discussion groups, and conducting interviews to address their community's issues in the future. As one advisory council member noted, "You have to have education, but if you play the game right, you can go all the way to change policy to have better outcomes in your native communities." The "game" to which this member referred is understanding the importance of research to achieve positive community outcomes.

Certainly, the process of creating and implementing this intervention was positive, with the community and university team both feeling pride in what was created and establishing long-term relationships. Additionally, community members believe that they have an intervention that will address cultural loss and substance use by their youth (given the results of the substance-use intention item). They also have stated a desire to sustain the project, which is a major milestone, as there are many curriculum manuals sitting on their shelves gathering dust because they were not applicable to their community. We have limited, although positive, evidence of the effectiveness of the intervention because the evaluation design is a short-term pilot study without a control group. The positive evidence of its impact includes adults and children reporting strong improvements in knowledge about their culture and improved family communication through the 360-degree evaluation. The quantitative results for the children demonstrated positive effects on all of the variables, including medium effects for substance use intention and large effects for cultural identity. Furthermore, there were improvements in children's health, as reported by both parents and children. In the future, a more rigorous experimental design could provide stronger evidence of the effectiveness. Moreover, a long-term analysis needs to determine whether this intervention addresses some of the important health disparities facing this community. Addressing health disparities is the key goal and,

hopefully, the positive features of this intervention and the CBPR process will reduce these disparities.

CONCLUSION

We began this project as a collaboration between the Ramah Navajo community and the University of New Mexico research team to address a key health concern in the community: substance use by youth. Although there are many approaches to addressing substance use by youth, most are mainstream approaches rather than cultural-specific approaches. Thus, we culturally adapted a family-based intervention that had demonstrated evidence of success in American-Indian communities. The results of the pilot evaluation are very promising, with positive improvements in cultural identity and substance use intention, although the long-term impact of the intervention remains to be seen and requires further evaluation. We will take heed of the lessons learned from this communication activism intervention as we continue its implementation.

APPENDIX

OUTCOME EVALUATION ITEMS AND MEASURES OF INTERNAL CONSISTENCY

Child Measures

Cultural Identity (pre $\alpha = .53$, post $\alpha = .33$)

(*Not at All* = 1, *A Little* = 2, *Somewhat* = 3, *Extremely* = 4)

1. How important is it to you to maintain your Navajo Identity, values, and practices?
2. How much do you know about Navajo culture?
3. How interested are you in learning more about Navajo culture?
4. How different do you think Navajo culture is from White culture?
5. I am proud to be a Navajo.
6. Do you see yourself as Navajo?

Family Communication (pre $\alpha = .65$, post $\alpha = .71$)

1. Have you had arguments with your parents in the last 2 weeks? (5 = *We always got along very well*, 4 = *We usually got along very well but had some arguments*, 3 = *I had more than one argument with at least one parent*, 2 = *I had many arguments*, 1 = *I was always in arguments*)

2. Have you been able to talk about your feelings and problems with your parents in the last 2 weeks? (5 = *I can always talk about my feelings*, 4 = *I usually can talk about my feelings*, 3 = *About half the time I felt able to talk about my feelings*, 2 = *I usually was not able to talk about my feelings*, 1 = *I was never able to talk about my feelings*)
3. Have you wanted to do the opposite of what your parents wanted in order to make them angry during the past 2 weeks? (5 = *I never wanted to do the opposite of what my parents wanted*, 4 = *Once or twice I wanted to do the opposite of what my parents wanted*, 3 = *About half the time I wanted to do the opposite*, 2 = *Most of the time I wanted to do the opposite*, 1 = *I always wanted to do the opposite*)
4. Have you been worried about things happening to your family without good reason in the last 2 weeks? (5 = *I have not worried without reason*, 4 = *Once or twice I worried*, 3 = *About half the time I worried*, 2 = *Most of the time I worried*, 1 = *I have worried the entire time*)
5. During the past 2 weeks, have you been thinking that you let your family down or have been unfair to them at any time? (5 = *I did not feel that I let them down at all*, 4 = *I usually did not feel that I let them down*, 3 = *About half the time I felt that I let them down*, 2 = *Most of the time I have felt that I let them down*, 1 = *I always felt that I let them down*)
6. During the last 2 weeks, have you been thinking that your family let you down or has been unfair to you? (5 = *I never felt that they let me down*, 4 = *I felt that they usually did not let me down*, 3 = *About half the time I felt they let me down*, 2 = *I usually have felt that they let me down*, 1 = *I am very mad that they let me down*)

Substance Use/Intention (Yes or No)

1. Had more than one or two sips of beer, wine, or hard liquor?
2. Use chewing tobacco or snuff (such as Redman, Levi Garrett, Beechnut, Skoal, Bandits, or Copenhagen)?
3. Smoked a cigarette, even just a puff?
4. Smoked marijuana?
5. Used an inhalant (e.g., glue, paint, poppers, rush, whippets, or white out)?
6. Used cocaine (powder or rock)?
7. Used any other illegal drug not listed?
8. If I drink as a teenager, it will cause me problems in the future (1 = *Never*, 2 = *A Little*, 3 = *Somewhat*, 4 = *A lot*)

General Health

1. I am doing just as well as other kids my age (1 = *None of the Time*, 2 = *A Little of the Time*, 3 = *Some of the Time*, 4 = *A Lot of the Time*, 5 = *Most of the Time*, 6 = *All of the Time*)

Adult Measures

Cultural Identity (pre $\alpha = .73$, post $\alpha = .69$)

1. Some families have special activities or traditions that take place every year at particular times, such as feast days, religious activities, healing ceremonies, squaw dances, or honoring powwows. How many of these special activities or traditions did your family have when you were growing up that were based on Navajo culture?
2. In your family, do you do special things together or have special traditions that are based on the Navajo culture?
3. In your family, do you do special things together or have special traditions that are based on the Navajo way of life?
4. To what extent does your family follow the Navajo way of life?
5. How well do you speak the Navajo language? (1 = *I don't speak the Navajo language*, 2 = *I speak Navajo a little, but not very well*, 3 = *I speak Navajo moderately well*, 4 = *I speak Navajo very well*)
6. It is important for my children and future generations to speak the Navajo language (1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Agree*, 5 = *Strongly Agree*)
7. How many of your close friends are Navajo? (1 = *None*, 2 = *Some*, 3 = *Most of Them*, 4 = *All or Nearly All*)

Family Communication (pre $\alpha = .88$, post $\alpha = .87$)
(1 = *Never*, 2 = *A Little*, 3 = *Often*, 4 = *All of the Time*)

1. How often did you and your child talk about schoolwork?
2. How often did you and your child talk about other things that he/she did at school?
3. How often did you and your child talk about things that he/she did with friends?
4. How often did you and your child talk about how he/she was feeling?
5. How often did you and your child talk about sex and/or romantic relationships?

Substance Use

1. Do you currently drink alcohol? (0 = *Never or less than monthly*, 1 = *Monthly*, 2 = *2–4 times a week*, 3 = *2–3 times a week*, 4 = *4 or more a week*)

2. How many drinks containing alcohol do you have on a typical day when you are drinking? (1 = *1–2 drinks*, 2 = *3–4 drinks*, 3 = *5–6 drinks*, 4 = *7–8 drinks*, 5 = *9 or more drinks*)
3. How often do you have 6 or more drinks on one occasion? (0 = *Never or less than monthly*, 1 = *monthly*, 2 = *2–4 times a week*, 3 = *2–3 times a week*, 4 = *4 or more a week*)
4. How often during the last year have you found that you were not able to stop drinking once you had started? (0 = *Never or less than monthly*, 1 = *Monthly*, 2 = *2–4 times a week*, 3 = *2–3 times a week*, 4 = *4 or more a week*)

General Health

1. Rate your child's health (5 = *Excellent*, 4 = *Very Good*, 3 = *Good*, 2 = *Fair*, 1 = *Poor*)

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NOTES

1. We use the term *American Indians* rather than the term *Native Americans* as per the recommendation of the *American Indian and Alaska Native Mental Health Research: A Journal of the National Center*. We use other group identifiers (e.g., Alaska Natives) if they were employed in a research study.

2. In the 19th and 20th centuries, many American-Indian children were removed from their homes to be educated in boarding schools and assimilated into the dominant European-American culture. Children were not allowed to speak their Native languages, had to cut their hair short, and had all American-Indian cultural aspects removed from their lives. This practice had significant negative effects on the physical and mental health of those children, and those negative effects have been found to persist in later generations that never directly experienced the boarding schools (and other atrocities committed against American Indians) through intergenerational, or historical, trauma (Whitebeck, Hoyt, Stubben, et al., 2001).

REFERENCES

Bakes, J. S. (1993). The American Indian high school dropout rate: A matter of style? *Journal of American Indian Education, 32*, 16–29. Retrieved from http://jaie.asu.edu/vols.html

Beauvais, F. (1996). Trends in drug use among American Indian students and dropouts, 1975 to 1994. *American Journal of Public Health, 86*, 1594–1598. Retrieved from http://www.ajph.org

Bechtold, D. W. (1994). Indian adolescent suicide: Clinical and developmental considerations. *American Indian and Alaska Native Mental Health Research, 4*(Mono.), 71–80. Retrieved from http://aianp.uchsc.edu/ncaianmhr/journal

Benzies, K., & Mychasiuk, R. (2009). Fostering family resiliency: A review of the key protective factors. *Child & Family Social Work, 14*, 103–114. doi:10.1111/j.1365-2206.2008.00586.x

Black, J. E. (2007). Remembrances of removal: Native resistance to allotment and the unmasking of paternal benevolence. *Southern Communication Journal, 72*, 185–203. doi:10.1080/10417940701316690

Bolls, P. D., Tan, A., & Austin, E. (1997). An exploratory comparison of Native American and Caucasian students' attitudes toward teacher communication behavior and toward school. *Communication Education, 46*, 198–202. doi:10.1080/03634529709379091

Bowker, A. (1992). The American Indian female dropout. *Journal of American Indian Education, 31*, 3–21. Retrieved from http://jaie.asu.edu/vols.html

Bresnahan, M. J., & Flowers, K. (2008). The effects of involvement in sports on attitudes toward Native American sport mascots. *Howard Journal of Communications*, 19, 165–181. doi:10.1080/17513050802567056

Carbaugh, D. (1999). "Just listen": "Listening" and landscape among the Blackfeet. *Western Journal of Communication, 63*, 250–270. doi:10.1080/10570319909374641

Covarrubias, P. (2007). (Un)biased in Western theory: Generative silence in American Indian communication. *Communication Monographs, 74*, 265–271. doi:10.1080/03637750701393071

Cowden, K. (2008). Communicating crisis: Lessons learning in conducting field research among Native American populations. *Journal of the Communication, Speech & Theatre Association of North Dakota, 21*, 33–39. Retrieved from http://www.cstand.org/?page=journal

Davis, S. M., & Reid, R. (1999). Practicing participatory research in American Indian communities. *American Journal of Clinical Nutrition, 69*(4, suppl), 755S–759S. Retrieved from http://www.ajcn.org

Duran B., Duran E., & Brave Heart, M. Y. H. (1998). Native Americans and the trauma of history. In R. Thornton (Ed.), *Studying Native America: Problems and prospects in Native American studies* (pp. 60–76). Madison: University of Wisconsin Press.

Duran, B., Wallerstein, N., & Miller, W. R. (2008). New approaches to alcohol interventions among American Indian and Latino communities: The experience of the Southwest Addictions Research Group. *Alcoholism Treatment Quarterly, 25*, 1–10. doi:1300/f020v25n04_01

Duran E., & Duran B. (1995). *Native American postcolonial psychology*. Albany: State University of New York Press.

Dutta, M. J., & Basnyat, I. (2008). The radio communication project in Nepal: A culture-centered approach to participation. *Health Education & Behavior, 35*, 442–454. doi:10.1177/1090198106287450

English, K. C., Wallerstein, N., Chino, M., Finster, C. E., Rafelito, A., Adeky, S., & Kennedy, M. (2004). Intermediate outcomes of a tribal community public health infrastructure assessment. *Ethnicity & Disease, 14*(3, Suppl.), S63–S71. Retrieved from http://www.ishib.org/ed_index.asp

Fisher, P. A., & Ball, T. J. (2003). Tribal participatory research: Mechanisms of a collaborative model. *American Journal of Community Psychology, 32*, 207–216. doi:10.1023/b:ajcp.0000004742.39858.c5

Frey, L. R., & Carragee, K. M. (2007). Introduction: Communication activism as engaged scholarship. In L. R. Frey & K. M. Carragee (Eds.), *Communication activism* (2 Vols., pp. 1–64). Cresskill, NJ: Hampton Press.

Frey, L. R., Pearce, W. B., Pollock, M. A., Artz, L., & Murphy, B. A. O. (1996). Looking for justice in all the wrong places: On a communication approach to social justice. *Communication Studies, 47*, 110–127. doi:10.1080/10510979609368467

Hall, G. C. (2001). Psychotherapy research with ethnic minorities: Empirical, ethical, and conceptual issues. *Journal of Consulting and Clinical Psychology, 69*, 502–510.

Hawkins, E. H., Cummins, L. H., & Marlatt, G. A. (2004). Preventing substance abuse in American Indian and Alaska Native Youth: Promising strategies for healthier communities. *Psychological Bulletin, 130*, 304–323. doi:10.1037/0033-2909.130.2.304

Hecht, M. L., & Miller-Day, M. (2009). Drug resistance strategies project: Using narrative theory to enhance adolescents' communication competence. In L. R. Frey & K. N. Cissna (Eds.), *Routledge handbook of applied communication research* (pp. 535–557). New York: Routledge.

Ishisaka, H. (1978). American Indians and foster care: Cultural factors and separation. *Child Welfare, 57*, 299–308.

Kalbfleisch, P. J. (2009). Effective health communication in native populations in North America. *Journal of Language and Social Psychology, 28*, 158–173. doi:10.1177/0261927x08330607

Lin, R. (1987). A profile of reservation high school girls. *Journal of American Indian Education, 26*(2), 18–28. Retrieved from http://jaie.asu.edu

Lindamer, L. A., Lebowitz, B., Hough, R. L., Garcia, P., Aguirre, A., Halpain, M. C., … Halstead, S. (2009). Establishing an implementation network: Lessons learned from community-based participatory research. *Implementation Science, 4*, Article 17. doi:10.1186/1748-5908-4-17

McDermott, V. M., Oetzel, J. G., & White, K. (2008). Ethical paradoxes in community-based participatory research. In H. M. Zoller & M. J. Dutta-Bergman (Eds.), *Emerging perspectives in health communication: Meaning, culture, and power* (pp. 182–202). New York: Routledge.

Merskin, D. (1998). Sending up signals: A survey of Native American media use and representation in the mass media. *Howard Journal of Communications, 9*, 333–345. doi:10.1080/106461798246943

Miller, W. R. & Meyers, R. J. (with Hiller-Sturmhofel, S.). (1999). The community-reinforcement approach. *Alcohol Research & Health, 23*, 116–121. Retrieved from http://www.niaaa.nih.gov/Publications/AlcoholResearch

Minkler, M., & Wallerstein, N. (2008). Introduction to CBR: New issues and emphases. In M. Minkler & N. Wallerstein (Eds.), *Community-based participatory research for health: From process to outcomes* (2nd ed., pp. 5–23). San Francisco, CA: Jossey-Bass.

Morris, R., & Wander, P. (1990). Native American rhetoric: Dancing in the shadows of the ghost dance. *Quarterly Journal of Speech, 76*, 164–191. doi:10.1080/00335639009383912

New Mexico Department of Health. (2009). *American Indian health disparities in New Mexico*. Retrieved from http://www.health.state.nm.us/DPP/2009AmericanIndianReportCard.pdf

New Mexico Department of Health, Community Health Assessment Program, Epidemiology and Response Division. (2005). *New Mexico American Indian health status report 2005*. Retrieved from http://www.health.state.nm.us/pdf/health_status_report_final.pdf

Oetting, E. R., & Beauvais, F. (1991). Orthogonal culture identification theory: The cultural identification of minority adolescents. *Substance Use & Misuse, 25*, 655–685. doi:10.3109/10826089109077265

Oetting, E. R., Beauvais, F., & Edwards, R. W. (1988). Alcohol and American Indian youth: Social and psychological correlates and prevention. *Journal of Drug Issues, 18*, 87–101.

Oetting, E. R., Edwards, R. W., & Beauvais, F. (1989). Drugs and Native-American youth. *Drugs & Society, 3*, 5–38. doi:10.1300/J023v03n01_01

Oetzel, J. G. (2005). Intercultural work group communication theory. In W. B. Gudykunst (Ed.), *Theorizing about intercultural communication* (pp. 351–371). Thousand Oaks, CA: Sage.

Oetzel, J., Duran, B., Jiang, Y., & Lucero, J. (2007). Alcohol and American Indian youth: Social and psychological correlates and prevention. *Journal of Health Communication, 12*, 187–206. doi:10.1080/10810730601152771

O'Nell, T. D., & Mitchell, C. M. (1996). Alcohol use among Native American adolescents: The role of culture in pathological drinking. *Social Science Medicine, 42*, 565–578. doi:10.1016/0277-9536(95)001573-3

Rappaport J. (1987). Terms of empowerment/exemplars of prevention: Toward a theory for community psychology. *American Journal of Community Psychology, 15*, 121–148. doi:10.1007/bf00919275

Rogers, R. A. (2009). "Your guess is as good as any": Indeterminacy, dialogue, and dissemination in interpretations of Native American rock art. *Journal of International and Intercultural Communication, 2*, 44–65. doi:10.1080/17513050802567056

Stohl, C., & Cheney, G. (2001). Participatory processes/paradoxical practices: Communication and the dilemmas of organizational democracy. *Management Communication Quarterly, 14*, 349–407. doi:10.1177/0893318901143001

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion, 10*, 282–298.

Sunwolf. (1999). The pedagogical and persuasive effects of Native American lesson stories, Sufi wisdom tales, and African dilemma tales. *Howard Journal of Communications, 10*, 47–71. doi:10.1080/106461799246898

Szlemko, W. J., Wood, J. W., & Thurman, P. J. (2006). Native Americans and alcohol: Past, present, and future. *Journal of General Psychology, 133*, 435–451. doi:10.3200/genp.133.4.435-451

U.S. Department of Health and Human Services, Indian Health Service. (n.d.-a). *Native American Research Centers for Health (NARCH) background*. Retrieved from http://www.ihs.gov/medicalprograms/research/narch.cfm

U.S. Department of Health and Human Services, Indian Health Service. (n.d.-b). *Regional differences in Indian health, 2000–2001*. Retrieved from http://permanent.access.gpo.gov/lps5091/2000-2001/2000-2001.pdf

U.S. Department of Health and Human Services, Indian Health Service. (2003). 2003 *Navajo middle and high school youth risk behavior survey report*. Retrieved from http://www.yrbs.navajo.org

Wallerstein, N. (1999). Power between evaluator and community: Research relationships with New Mexico's healthier communities. *Social Science & Medicine, 49*, 39–53. doi:10.1016/s0277-9635(99)00073-8

Wallerstein, N. B., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Society for Public Health Education, 7*, 312–323. doi:10.1177/1524839906289376

Wallerstein, N., Duran, B., Minkler, M., & Foley, K. (2005). Developing and maintaining partnerships with communities. In B. A. Israel, E. Eng, A. J. Schulz, & E. A. Parker (Eds.), *Methods in community-based participatory research for health* (pp. 31–51). San Francisco, CA: Jossey-Bass.

Wallerstein, N., Oetzel, J., Tafoya, G., Belone, L., & Rae, R. (2008). What predicts outcomes in community based participatory research? In M. Minkler & N. Wallerstein (Eds.), *Community-based participatory research for health: From process to outcomes* (2nd ed., pp. 371–392). San Francisco, CA: Jossey-Bass.

Walters, K. L. & Simoni, J. M. (2002). Reconceptualizing Native women's health: An "indigenist" stress-coping model. *American Journal of Public Health, 92*, 520–524. Doi:10.2105/ajph.92.4.520

Warne, D. (2006). Research and educational approaches to reducing health disparities among American Indians and Alaska Natives. *Journal of Transcultural Nursing, 17*, 266–271. doi:10.1177/1043659606288381

Wendt, R. F. (1998). The sound of one hand clapping: Counterintuitive lessons extracted from paradoxes and double binds in participative organizations. *Management Communication Quarterly, 11*, 323–371. doi:10.1177/0893318998113001

Whitbeck, L. B. (2001, August). *Bii-zin-da-de-da: The listening to one another prevention program*. Workshop presented at the Second National Conference on Drug Abuse Prevention Research: A Progress Update, Washington, DC.

Whitbeck, L. B., Hoyt, D. R., McMorris, B. J., Chen, X., & Stubben, J. D. (2001). Perceived discrimination and early substance abuse among American Indian adolescents. *Journal of Health and Social Behavior, 42*, 405–424. Retrieved from http://www.jstor.org/action/showPublication?journalCode=jhealsocibeha

Whitbeck, L. B., Hoyt, D. R., Stubben, J. D., & LaFromboise, T. (2001). Traditional culture and academic success among American Indian children in the upper Midwest. *Journal of American Indian Education, 40*, 48–60. Retrieved from http://jaie.asu.edu/vols.html