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QUALITATIVE STUDY OF THE USE OF TRADITIONAL HEALING BY ASTHMATIC NAVAJO FAMILIES

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Abstract: Despite increasing prevalence of asthma among American Indians and/or Alaska Natives, little is known about their use of traditional healing in its management. A convenience sample of 24 Navajo families with asthmatic members (n=35) was interviewed between June 1997 and September 1998. While 46% of families had previously used traditional healing, only 29% sought traditional healing for asthma. Use of traditional healing was unrelated to use of biomedical therapies, hospitalizations, or emergency services. Practical factors and questions about the nature and origins of asthma were the primary considerations determining use of traditional medicine. Little conflict between traditional healing and biomedical treatment was reported. The use of traditional healing for asthma is influenced by beliefs about the disease and factors specific to the individual, including their local social, economic, and cultural context.

As evidence has accumulated that effective self-management reduces frequency of asthma exacerbations and costs of medical care (National Asthma Education and Prevention Program [NAEPP], 1997) asthma patients and their families have assumed an increasingly important and independent role in their own treatment. At the same time, the use of complementary or alternative medicine (CAM) has become widespread and more accepted, particularly for chronic conditions such as asthma (Andrews et al., 1998; Davis, Gold, Hackman, Stern, & Gershwin, 1998; Eisenberg et al., 1993; Elder, Gilchrist, & Minz, 1997; Hackman, Stern, & Gershwin, 1996). This trend has raised questions about the concurrent use of multiple medical systems and the extent to which they constitute competing alternatives to biomedical therapies. A lack of qualitative accounts, however, has limited

the extent to which patterns of use and any potential conflicts can be understood in their local social, cultural, and economic context. In addition, the use of traditional healing for asthma in populations characterized by the presence of both biomedicine and indigenous healing systems has been little studied.

This study examines use of traditional or indigenous medicine among a population of American Indian asthmatics. In the United States, asthma-related morbidity and mortality is increasing most rapidly among minority populations (Mannino et al., 1998). Although early studies found a low prevalence of asthma among American Indians and/or Alaska Natives, recent figures suggest that asthma is increasing among these populations as well. For example, asthma-related hospitalizations among the Navajo increased between 1979 and 1989, particularly in children aged 1-4 (Hisnanick, Coddington, & Gergen, 1994). Despite its growing importance in this population, little is known about how Navajos select among possible treatment options, and how the use of traditional healing impacts medication use and asthma management. This is of particular interest given the wide range of alternative healing systems available to the Navajo, including the Native American Church, Christian faith healing, and Navajo traditional healing, as well as biomedical care provided by the Indian Health Service (Csordas, 1999; Csordas, 2000; Levy, 1983; Lewton & Bydone, 2000; Milne & Howard, 2000).

This study focused on the use of Navajo traditional healing, which has been extensively described in both the anthropological and medical literature (Coulehan, 1980; Kluckhohn & Leighton, 1974; Porvaznik, 1967; Reichard, 1990; Wyman, 1936; Wyman & Kluckhohn, 1938). Briefly, traditional healing addresses the afflictions resulting from a loss of harmony brought about by "general etiologies," such as spiritual violations or unfortunate events or encounters (Porvaznik, 1967). The concept of general etiologies is used to suggest that an etiological agent does not necessarily lead to the development of the same disease in each individual or each instance. Diseases are traditionally identified with reference to their causes rather than their symptoms, and are thought to follow a personal, rather than a natural, history (Levy, 1983; Milne & Howard, 2000). Traditional treatment usually begins with a visit to a diagnostician, such as a hand-trembler, to determine the cause of the illness (Milne & Howard, 2000; Wyman, 1936). With the guidance of a medicine man or singer, the individual and his or her family work backwards to identify the contaminating event or behavior causing the illness, and attempt to restore harmony through ceremonies (Milne & Howard, 2000; Wyman, 1936). By removing obstacles to healing, traditional ceremonies allow the body to recover on its own, returning to its natural state of harmony and health (Coulehan, 1980). In a cross-sectional study of 300 Navajo adults presenting to an IHS facility, approximately two-thirds had consulted a traditional healer at least once in their lifetime, and 39% had used a Native healer during the last year (Kim & Kwok, 1998). Rates of use of traditional healing for Navajo children are unknown.

Although previous studies have examined barriers to seeking traditional healing among the Navajo (Kim & Kwok, 1998), little research has examined qualitatively the factors Navajo and their families consider when deciding whether or not to consult a traditional healer. Kim and Kwok (1998) report that while the type of complaint significantly impacted the decision to use a Native traditional healer, neither satisfaction with biomedical care, nor patient ratings of their own compliance, correlated with use of Native healers (Kim & Kwok, 1998). This study explores in detail the factors influential in the decision to use traditional healing when biomedical alternatives exist, including the decision not to use traditional medicine. In addition, this study highlights the importance of patient expectations of their various health care providers, and how such expectations are calculated and revised in light of course of the disease, or effective management of symptoms.

Methods

In order to learn about the use of traditional healing by Navajo asthmatics, in-depth, open-ended interviews were conducted between June 1997 and August 1998 with a convenience sample of 24 Navajo families having asthmatic members. Subjects either responded to a letter after being identified by health care providers, or responded to a clinic flier or newspaper or radio advertisement requesting interviews with Navajo asthmatics.

Each family was interviewed once for approximately one hour. Interviews took place in the family home or at an office at Diné College in Shiprock, NM. Since several families contained more than one asthmatic member, information was obtained on a total of 35 individuals with asthma. Interviews were conducted with the parents when the asthmatic was young, although the child often participated as well. Participating families were paid $20. Fourteen interviews (58%) were conducted with individuals who were themselves asthmatic, while the remainder were conducted with non-asthmatic parents of asthmatic children.

Native Navajo speakers were available to assist with the interview; however, no families requested them, nor was their use ever deemed necessary. All interviews were conducted in English (with the exception of occasional terms) by the first author, a doctoral candidate in anthropology at the University of Arizona, where he has received extensive training in ethnographic methods and the Native cultures of the Southwest.

Although the interviewer utilized an outline to ensure that all points were covered, the interview was conversational in nature. While the order of topics differed, the interviewer posed similarly worded questions to each family, who were encouraged to respond in their own words and in as much detail as they wished. We asked participants to describe any use of traditional healing in the past, both for asthma as well as for other illness, and to consider the factors that influence their decision to use traditional healers. Other questions explored the expectations of traditional healing held by

patients and families, and the benefits, if any, that had occurred as a result of undergoing traditional healing. Finally, participants were asked to describe current biomedical management of asthma, including medication-taking and care seeking behavior for asthma exacerbations, and to describe personal ideas about etiology, pathophysiology, and therapeutic activity of asthma medications.

Interviews were tape recorded and transcribed verbatim. Navajo terms were translated. Transcripts were indexed by topic and analyzed using the qualitative software package NUD*IST. In addition, discrete data from each interview were abstracted to Statistical Package for the Social Sciences (SPSS), to facilitate calculation of percentages. Throughout the course of the research project, one of the authors (Morgan), a Native Navajo speaker and teacher of Diné philosophy, served as a linguistic and cultural reference and helped to make sense of the interview material.

Permission for the project was obtained from the University of Arizona Human Subjects Committee and the Navajo Nation Health Research Review Board, who also approved the publication of the results of the study.

Results

Traditional Healing for Asthma

Table 1 summarizes the demographic characteristics of the sample by the level of use of traditional healing. The median age of the 35 asthmatics was 10 years (mean = 17.5, range 3-74 years). Slightly more than half of the sample was female (57%). While most of the asthmatics (54.3%, 45.8% of the families), had used a traditional healer at some time in their life, only 28.6% consulted a traditional healer for their asthma. Asthmatics who consulted a traditional healer tended to be older than those who did not, but the difference was not statistically significant. Almost one-half (47.8%) of children aged 16 and under had been taken to a traditional healer at some point in the past, but only 26.1% had consulted a traditional healer for asthma. There was no gender difference in the use of a traditional healer.

Four ceremonies were prescribed for treatment of asthma: the Shooting (na'at'ooyee) or Lightning Way (hóchxó'ííjí); the Navajo Wind Way (Diné binílch'ijí); the Evil Spirit Way (hóchxó'íjí); and the Mountain Top Way (dzilk'ijí). These ceremonials treat diseases caused by lightning or wind, and were performed historically for individuals with lung, chest, and throat difficulties (Wyman & Kluckhohn, 1938). They vary in length from short invocations to nine-night ceremonies, and typically progress through stages of prayer, blessing and singing, as well as the creation of sand paintings. In some cases, a series of ceremonies spaced several months to one year apart were deemed necessary.

Table 1
Demographic Characteristics of the Study Group by Level of Use of
Traditional Healing (N=35)

	Used traditional healing for asthma	Used traditional healing for other	Never used traditional healing	Overall
Age				
Median years of age	12	11	9	10
Number (percent) under 16 years of age	6 (26.1%)	5 (21.7%)	12 (52.2%)	23 (65.7%)
Gender				
Female	4 (20%)	7 (35%)	9 (45%)	20 (57%)
Male	6 (40%)	2 (13.3%)	7 (46.7%)	15 (43%)
Total	10 (28.6%)	9 (25.7%)	16 (45.7%)	35

All seven families who participated in ceremonies for asthma reported that the ceremonies relieved asthma symptoms, usually resulting in a decline in the frequency of attacks. As the mother of an asthmatic boy explained, "I think the ceremony has really helped him. Because just this fall he hasn't had all of those constant attacks." Often, the benefits were attributed to a decrease in vulnerability of the asthmatic. One mother described how traditional treatment had helped protect her son: "He would usually get real sick if he went into a different environment...it would instantly trigger a sickness in his chest. But now, I don't think he is as vulnerable." However, in all cases the benefits were only temporary, ranging in duration from one month to one year. When symptoms reappeared, families who returned to traditional healers were told that additional ceremonies would be necessary to ensure that all relevant causes had been addressed.

In addition to ceremonies, nine families (37.5%) reported that medicinal herbs could be used to treat asthma symptoms. Many stressed the fact that the availability of medicinal herbs at the local outdoor market belied the need to handle them with the appropriate respect, and emphasized the importance of enlisting a traditional healer to lead and supervise herbal treatment. Two asthmatics (5.7%) had used traditional herbs to treat the disease. After developing an allergic reaction to the herb, one woman returned to using her prescription asthma medication.

The Decision to Use Traditional Healing for Asthma

Perceived cause of asthma influenced the use of traditional healers to a limited extent. Forty percent of families who cited traditional disease etiologies—including exposure to lightning, pregnancy violations, and the loss of traditional ways of life—as the cause of asthma, consulted a Native healer for the disease, compared with 25% of families reporting non-traditional causes.

The majority of families seeking traditional healing reported expectations that ceremonies would both relieve symptoms and resolve the underlying problems giving rise to asthma. These families sought traditional healing in order to "get well" and "be cured". By contrast, biomedical therapies were reported to only suppress symptoms of asthma that would likely reappear. One respondent stated: "I don't think it would come back with traditional [healing]." When asked, "*And what about with the doctor medication*?" she replied, "It may come back, on and off, like what it's doing with my girls now. I think they'll have problems with it in the future."

However, not all families expected the benefits of traditional healing to be either immediately evident, permanent, or dramatic. Rather than seeking a cure for asthma in traditional healing, this group expected incremental or temporary benefits. To be satisfied with traditional healing, one woman told us, a person needs to assume it will "help you for a certain length of time." It was common to hear such families positively emphasize improvement in their asthma rather than its resolution following ceremonies. As one mother said, "It was real bad and then all of a sudden it just slowed down, you know. My asthma kind of slowed down." For families in this group, being able to reduce the use of asthma medications was an important marker of the success of traditional healing.

An important factor in the decision to use traditional healing was the potential for ceremonies to be of benefit, even if they did not relieve symptoms, by enhancing other aspects of personal (often social or economic) well-being and addressing imbalance that might cause other illnesses (Milne & Howard, 2000). When asked whether traditional healing might help in a different way than biomedicine, one participant replied: "I think so. Like mentally and spiritually. You know, the medicine man tells you that you have these problems, and when you go to a physician they don't diagnose those things. So to me it is important to do prayers, protection ceremonies and all these things." Many Navajo families—whether or not they engaged in traditional healing or cited traditional causes—emphasized the value of a fundamental principal of traditional Navajo teaching, "thinking good thoughts," as an important quality and benefit of traditional healing in the treatment of asthma (Carrese & Rhodes, 1995).

The efficacy of biomedical treatments was typically evaluated against more exacting expectations. Asthma medications were expected to provide prompt, dramatic relief from symptoms. One mother compared the slow

effects of traditional healing to the immediate relief of bronchodilators. "It takes awhile. Whereas the albuterol it comes on quick because it's a chemical." Participants reported learning to expect their asthma medications to "work within about five to ten minutes after taking it." One mother described the inhaler as, "instant relief to open up the lungs," while another confirmed, "That's basically about how the inhaler works. Automatically once you use your inhaler you feel better." When expectations of immediate relief were not met, concern led parents to seek medical attention:

> But sometimes, even though you give them the medication it doesn't seem to go away quickly. It takes a long period of time for it to go away. That's when you have to bring them back in and have them get checked again because they are not improving.

The inability of biomedical treatments to cure the disease also provoked disappointment and frustration. One mother criticized her asthma medications for, "just making it go away temporarily...I wish they would find something that would make it go away." Another described becoming discouraged after learning about new asthma medications that still cannot cure her daughter's asthma:

> I hear on TV that this is good for asthma, and I ask the doctor about it. I say, "Well, is that one good for her? Is it something to help cure her asthma?" That's what I'm trying to look for. I would like to know, will there be a medication or something that will completely cure her? Sometimes I get to the point where I just don't want her to take the medicines.

Finally, some asthmatics were disillusioned with their asthma medications after long-term use had not led to a cure. "I've been taking these [medications] for a long time," one told us. "If they helped to cure it, I wouldn't be taking them today."

Perceived severity of disease was also considered when determining whether to use traditional healing. It was common to hear a family who had not sought traditional healing state that they "might try it" depending on how "bad" things became. The majority of respondents reported that they would be more likely to seek traditional healing for asthma if they thought the disease had become severe, or if the treatments prescribed by IHS doctors were ineffective in relieving symptoms. The prescription of routine, preventive medication was taken as a sign that the disease had worsened. "I think it's gotten worse," one asthmatic told us, "because I'm taking more medication and I'm taking it more times a day then I used to." Only one-third of those asthmatics that reported a decline in the frequency or severity of symptoms

sought traditional healing for the disease. Participants who viewed asthma as severe reported that more than one ceremony would probably be necessary to achieve a cure. One mother who reported, "I had to have a lot of ceremonies done for him," attributed it to the severity of her son's asthma, which she described as, "really serious and really scary."

The majority of families characterized the decision to use traditional medicine as provisional, subject to repeated evaluation based on the course of the disease and the experience of undergoing traditional treatment, as well as personal economic circumstances. In general, families identified two types of factors limiting their use of traditional healing, what we term practical constraints and ideological considerations (Table 2). No restriction was placed on the number or type of factors families could report. Families reported a median of two limiting factors per family (range 0-5, mean 1.95). Fourteen families (58.3%) cited at least one practical constraint, while seventeen families (70.8%) cited at least one ideological consideration. Ten families (41.6%) cited both. Overall, ideological considerations were reported slightly more frequently than practical constraints (25 times compared to 22 times). The relative importance of these factors differed somewhat based on whether or not the family used a healer at all, either for asthma or other diseases.

Table 2
Reasons Reported by Families (N=24) for not Participating in or Limiting Use of Traditional Healing.

	Used traditional healer for asthma (n=7)	Used traditional healer for other (n= 4)	Never used traditional healer (n=13)	Total (percent)
Practical constraints				
Expense	5	1	2	8 (33.3)
Lack of traditional healers	1	3	2	6 (25)
Medicine man referred to doctor	1	1	0	2 (8.3)
Logistic requirements of ceremonies	1	1	0	2 (8.3)
Allergies to sacred pollens	2	0	0	2 (8.3)
Age of kids	1	0	0	1 (4.1)
Location of residence	0	1	0	1 (4.1)
Ideological considerations				
Generational divergence	2	1	3	6 (25)
Lack of belief	1	2	2	5 (20.8)
Lack of traditional knowledge or language	0	3	2	5 (20.8)
Personal identity or religious affiliation	0	0	5	5 (20.8)
Not applicable to asthma	1	2	1	4 (16.6)

Practical Constraints

One-third of the sample reported that the expense of holding ceremonies was an important consideration and had limited their use of traditional healing. Longer ceremonies, such as the Shooting or Lightning Way, can cost anywhere between $750 and $3000-4000 to perform, including indirect expenses such as the cost of food and supplies as well substantial investments of time. As one family explained, "If we have the money, you know, we will take them to a medicine man and get ourselves some help." Another mother told us, "There's the money, and the time...You know, it's kind of hard when you're a single parent and you have a budget."

The logistic requirements of holding ceremonies also presented a significant hurdle to some participants. An older respondent interested in having a ceremony performed had neither the necessary *hogan* nor a supportive family able to assist the medicine man with his procedures or to cook and take care of guests and healers. In addition, participation of the extended family is an important component of traditional healing. As one woman described it:

> I think the way [the medicine man] explained it to us, was, "It's a family type thing where everybody in your family has to have something done. It's all inter-related." So, even if she has something done for her by herself, it wouldn't help her as much as if all my sisters and brothers and their kids had something done.

If these requirements could not be met, temporary relief of symptoms might be achieved by "sitting in" on a ceremony in which another person was the principal patient. One family reported doing so.

Six families (25%) reported difficulties in locating and selecting a traditional healer. For this group, the lack of personal familiarity with traditional healers made the selection of an appropriately trained healer problematic. For example, when asked whether she had used traditional healing, one participant replied, "Not yet, but I've been tempted to try it. It's just that I don't know which one to trust."

Other parents reported that, due to their age, asthmatic children could not be expected to participate in ceremonies or understand them sufficiently for traditional healing to be efficacious. Finally, two families reported allergic reactions to the sacred pollens used in traditional ceremonies (Freeman, 1994).

Conflicting Philosophies and Ideological Considerations

According to traditional Navajo teaching, there are no incurable illnesses: if the ceremony is performed correctly and all causes are identified and addressed, a cure is assured. In addition, hereditary explanations for disease, which are common in biomedicine, are absent in traditional Navajo healing. Rather, it is believed that every child is born healthy, unless the parents have violated traditional teachings or been exposed to something harmful during pregnancy. Families that considered asthma to be a chronic, life-long problem, found it illogical to seek a 'cure' for the disease from a traditional healer. One woman told us:

> It's hard to explain it to my parents. My parents don't understand English. I tried to explain to them what I have and then they think it could be cured. What can I say? It can't be cured . . . I tried to explain it to them, but they don't understand. They believe in traditional. They want me to go to a medicine man to be cured *like that*, but I tell them, "It can't be cured."

Four families who decided to forgo traditional healing had determined that asthma was not amenable to traditional therapy because it originated in other non-Navajo populations with distinct social settings and ways of life. As one woman said, "Well, let me put it this way. Asthma, to me, would be a White-man's illness." When asked to explain, she responded, "Because you can treat it this way. You have the inhalers for it. And all the stuff that will go with it." Another respondent observed that the first group of Navajo to be sent away to boarding schools was the first one to experience such diseases. She explained, "To the Navajo it seems like they came back with those diseases. And their children are, nowadays, getting diabetes, being diagnosed with asthma. And so it's just almost natural for them to be pointing fingers."

Five families (20.8%) in our sample who had never used a traditional healer reported either that they did not consider themselves to be 'traditional' or were affiliated with another religion. Overall, individuals in our sample tended to identify themselves either as traditional or not, based on how they had been raised. For example, one mother told us, "I was brought up in a Christian home, so I've never tried any of the traditional ways." Other families avoided or limited the use of traditional healing on the grounds that it was a way of life—more closely associated with the preceding generation—from which they had separated. As one woman explained, "When my grandpa was alive he was a medicine man, and when I would cough he gave me some kind of root to chew on. It worked. But after he died, you know, it sort of just drifted away." Indeed, grandparents often encouraged parents to seek help for their asthmatic child(ren) from a traditional healer. "When the

kids were coughing, grandma would want to do something traditional, saying that, 'It's the effects of the wind'", one mother recalled. In fact, grandparents sometimes took their asthmatic grandchildren to traditional healers when the child was visiting. "They had this grandfather...I guess he used to do ceremonies related to breathing and the wind and things like that. And he did ceremonies for each one of them." But most parents reported that they were not persuaded to use traditional medicine by such efforts and often resisted pressure from their elders. As one mother told us, "Their grandma doesn't follow through with that, because I haven't said, 'Let's go ahead,' or whatever". Another mother recalled how she would "explain to Grandma, aunties, or anybody that's there, that, you know, you don't like it because of these effects."

Others expressed concern that the unchanging nature of traditional remedies left them ineffective against a "new" disease like asthma. "The high blood pressure, the sugar, and the asthma," one mother told us, "I don't think these can be healed by medicine men." One family described the perennial evolution of biomedical medications as evidence of its ability to address a "modern disease" like asthma. By contrast, the same progression of therapies was seen by another family as a sign that biomedicine had "no real handle on the disease", and caused concern that their son, whose asthma medications were frequently changed, was receiving experimental drugs.

Finally, awareness of the unquestioning belief and understanding required for the success of ceremonies was a significant consideration in the decision to use traditional healing. Several families noted that there was no point in having a traditional ceremony if the family did not believe in the "old ways," or if they did not speak Navajo, the language in which ceremonies are conducted. One mother told us, "It probably wouldn't help my daughter because she doesn't know anything about Navajo traditions."

Coexistence of Traditional and Western Medicine

There was no relationship between the type of asthma medications used (see Table 3) and the use of traditional healing. Asthma-related emergency visits and hospitalizations were common: 66% of asthmatics had multiple urgent-care visits and 35.7% had multiple admissions. There was also no relationship between frequency of urgent-care visits or hospitalizations, and use of traditional healing. However, two families reported that they had been urged to seek immediate medical attention by a traditional healer who had been consulted during an acute exacerbation.

Concern about potential harmful effects of prescribed asthma medication was commonly expressed but did not systematically influence the decision to use traditional medicine. While several respondents noted that their prescribed asthma medications had helped to control the disease, many families remained dissatisfied with biomedical treatment options, often citing concern about side effects.[1] Only two families reported no side effects

Table 3
Current Asthma Medication Use (N=35)

Asthma Medication	Number of asthmatics (percent)
Bronchodilators	34 (97.1)
Inhaled Steroids	8 (22.8)
Other Anti-inflammatories	2 (5.7)
Oral steroids *	1 (2.9)
Nebulizers	3 (12.5)

* 12 asthmatics (34.2%) reported past use of oral steroids.

from anti-asthma medications (median 2, range 0-4). Nevertheless, an evaluation of the potential for dependency on asthma medication, and consideration of whether continued use of asthma medication would prevent the body from recovering on its own, were important elements of the decision to use traditional medicine. One mother described weighing her observation that "People who've been on Cromolyn for years don't get better" when deciding whether to consult a traditional healer for her son.

It was often noted that successful traditional healing requires careful consideration of individual belief in and commitment to traditional healing, and a decision about whether or not to continue taking doctor medications during traditional treatment.

> You have to believe wholeheartedly that the ceremony is gonna take care of you and that it's gonna help you. If you have doubt...and you think you can completely quit the medication, then what happens when you have an attack? You throw away your inhaler or whatever, and then all of a sudden you really need it.

Most respondents reported that continuing to take prescribed medications while undergoing traditional treatment would not necessarily signify that the patient did not believe in the efficacy of traditional healing. "As the old people say, you have to make things work out, so, if you have to have the Western society working along with the traditional, then that's the way it's got to be." Nevertheless, one family stopped taking asthma medications while undergoing traditional treatment in order to indicate their total belief in the power of the traditional system. Another family discontinued some but not all medications. Others maintained that since they wished to continue to use all of their "doctor" medications they would not participate in traditional therapy.

Discussion

Previous research has suggested that Navajo often seek traditional healing for chronic complaints (Kim & Kwok, 1998). This study indicates that specific beliefs about each illness may influence the decision to use traditional healers, and that a minority of Navajo families seek traditional healing for asthma. In addition, the decision to use traditional healing is periodically reevaluated, in light of economic circumstances, expectations and evaluation of efficacy, and the real and projected course of disease. The lack of understanding of Navajo language and teachings by young asthmatics was cited as an important reason for avoiding the use of traditional healing in the treatment of asthma. One-third of the sample identified the cost of ceremonies as a significant factor limiting their use. Kim and Kwok (1998) reported that the average cost per visit to a Native healer was $388, and the average annual cost of Native healer use amounted to approximately one-fifth of a patient's reported annual income.

The proportion of the sample of Navajo asthmatics using traditional healers is consistent with a prior report from another part of the reservation (Kim & Kwok, 1998) as well as a report from an urban Native American health center (Marbella, Harris, Dier, Ignace & Ignace, 1998). Our results, however, suggest that use of traditional healing for children—which neither of these prior studies examined—may be slightly less common.

The majority of families who used traditional healing did not report a conflict between the use of traditional healing and the treatment provided by Indian Health Service physicians. Instead, families described the two systems as complementary, and suggested that traditional healing and biomedicine addressed different aspects of the illness or person. Similarly, Kim and Kwok (1998) report that conflict between the instructions of medical providers and traditional healers occurred infrequently, and that when faced with conflicting advice, the majority of patients stated that they attempted to follow both sets of advice.

Nevertheless, the benefits expected of biomedical and traditional healing differed significantly. In particular, biomedicine is sought to provide symptomatic relief during acute exacerbations, while traditional medicine is expected to heal the underlying spiritual imbalance, to restore or fortify mental well-being, and even to minimize the perceived negative effects of biomedical regimens. Among those families who had used traditional healing for asthma, all reported some relief of symptoms. Although those who used traditional healing did not differ from non-users in use of biomedical therapies or use of emergency services or hospitalizations, the rates of use of such services was high.

The number of families citing the complexity, length, and effort required for traditional healing may reflect the infiltration of a wider cultural preference for the more rapid and less demanding treatments promised by pharmaceuticals. Several reports have described how the experience of

increasing demands on personal time and greater impatience with symptoms drives demand for quick, palliative treatment, increasing medication use (Nichter & Vuckovic, 1994; Vuckovic, 1999; Vuckovic & Nichter, 1997). Still, Navajo asthmatics in our study group often weighed the intense but temporary requirements of traditional healing against the prolonged daily commitment to pharmaceutical regimens (and their real and perceived side-effects). It is possible that, in the Navajo setting, the availability of biomedical treatment and the expectation that it can rapidly resolve symptoms—and the extent to which such therapy is principally an individual approach to health organized around the taking of medicines (Nichter & Vuckovic, 1994)—has diminished popular interest in traditional healing. However, increasing participation by Navajo in alternative forms of healing that emphasize social interaction, such as Christian faith healing and the Native American Church, suggest that the picture is likely more complex (Csordas, 1999; Csordas, 2000; Lewton & Bydone, 2000; Milne & Howard, 2000). Nevertheless, the extent to which the rise of pharmaceutical therapy and these alternative forms of healing may diminish the importance of conceptual frameworks which previously guided health behavior remains an important question for future research (Nichter & Vuckovic, 1994)

Limitations

As all families who participated in the study contained patients being treated for asthma, the sample is biased towards those who seek biomedical care, and does not address the traditional healing behavior of those who do not. Additional research with such individuals might provide different insights into the role of traditional healing. Although tribal members receive health care at no cost from regional medical facilities operated by the U.S. Indian Health Service, geographic barriers to health care remain significant. As a result, because the study was conducted in the Shiprock area on the periphery of the Reservation, it is possible that the treatment decisions of these families do not accurately reflect the health care seeking practices of Navajo who live in interior areas of the reservation.

Since the results of this study are derived from a relatively small convenience sample, they may not be representative of the treatment decisions of all Navajo. Although we report percentages to show the distribution of a belief or behavior within our sample, these figures should not be taken to imply their existence or prevalence in the broader Navajo population. Instead, our findings offer a view of how one group of Navajo individuals think about and decide to use traditional healing. Finally, this study did not investigate the use of Native American Church healing or Navajo Christian faith healing in the management of asthma.

Conclusions

Qualitative research with Navajo asthmatics has revealed a variety of factors underlie the decision to use traditional healing in the management of asthma. Although our investigation identifies some areas of ideological conflict between traditional healing and biomedicine, it appears that practical and logistic issues (such as economics) may also play an important role in decision-making about use of traditional healing for a number of families. Our results demonstrate a health care seeking process characterized not only by critical evaluation of traditional medicine, but also by scrutiny of the illness itself and reflection upon local epidemiological and social history.

The increase in chronic diseases such as asthma may change patterns of use of traditional medicine by altering expectations about the efficacy and benefits of ceremonial treatment. Our results suggest that as awareness of the nature of asthma continues to grow, popular receptivity to 'cures' is altered in two distinct ways. Some Navajo look toward traditional healing less for a cure and more to enhance well-being and quality of life. Another group, however—less willing to manage the disease over the long-term—searches for permanent solutions to their chronic problems in their traditional ceremonials.

Knowledge of the patterns of use of traditional healing for chronic diseases such as asthma remains important for practitioners serving the Navajo population, particularly for those attempting to improve patient satisfaction with biomedical care by integrating elements or cultural values of traditional healing systems. For example, although the efficacy of traditional healing is tied to the participation of a wide network of family members, our study suggests that this represents a significant practical constraint.

As a growing number of American Indian and/or Alaska Natives turn to private health care providers—both biomedical as well as complementary and alternative—patterns of use of traditional healing are likely to respond to the increasing complexity of the medical marketplace (Rhoades, 2002). Although no scientific studies exist, our experience suggests that Reservation-based Navajo are experiencing an increase in the regional availability of non-Native forms of complementary and alternative medicine (CAM), such as chiropracty. Knowledge of how therapy decisions are made within a pluralistic health care setting, such as the Navajo reservation, will become increasingly important as a range of treatment options become available to a wider audience (Eisenberg, 1997).

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Authors' Notes

The authors would like to acknowledge that the transliteration of the Navajo words used in this article is not wholly accurate because the software used by this publication does not permit a precise rendering.

Footnote

[1]In a study of the clinical implications of the perception of asthma medication among Navajo asthmatics, Van Sickle and Wright (2001) report widespread hesitancy to take prescribed medication due in part to concern about dependency. This attitude often led to delays in the use of asthma medications during attacks, or specific attempts to wean themselves or their children from asthma medications.

PSYCHOLOGICAL EFFECTS OF TECHNOLOGICAL/HUMAN-CAUSED ENVIRONMENTAL DISASTERS: EXAMINATION OF THE NAVAJO AND URANIUM

Carol A. Markstrom, Ph.D. and Perry H. Charley

Abstract: Disasters can be defined as catastrophic events that challenge the normal range of human coping ability. The technological/human-caused disaster, a classification of interest in this article, is attributable to human error or misjudgment. Lower socioeconomic status and race intersect in the heightened risk for technological/human-caused disasters among people of color. The experience of the Navajo with the uranium industry is argued to specifically be this type of a disaster with associated long-standing psychological impacts. The history of the Navajo with uranium mining and milling is reviewed with a discussion of the arduous efforts for compensation. The psychological impacts of this long-standing disaster among the Navajo are organized around major themes of: (a) human losses and bereavement, (b) environmental losses and contamination, (c) feelings of betrayal by government and mining and milling companies, (d) fears about current and future effects, (e) prolonged duration of psychological effects, (f) anxiety and depression, and (g) complicating factors of poverty and racism. The paper concludes with suggestions for culturally-appropriate education and intervention.

There has been a proliferation of articles about disasters in the psychological and psychiatric literatures in recent years. Less apparent in these literatures is that certain groups are at greater risk for victimization by technological/human-caused disasters. In the intersection of socioeconomic status (SES) and race, people of color are especially vulnerable to contaminating conditions that compromise health and well-being (Bullard, 1993). The term environmental racism is applied to this phenomenon. Long-standing discriminatory practices that have suppressed the power of

marginalized groups in society, limit the ability of these groups to prevent potentially dangerous technological practices from occurring within their domains. The same discriminatory conditions that led to such vulnerability contribute to restricted access to appropriate physical and mental health care to deal with the aftermath of technological/human-caused disasters.

To delve into these issues more fully and to illustrate the effects of a technological/human-caused environmental disaster on a group in society subjected to historical racism, the experience of the Navajo with uranium mining and milling is discussed utilizing existing literature as a basis. According to 2000 Census data, 269,202 individuals identify as solely Navajo (U.S. Department of Commerce, 2002), and approximately two-thirds of that number reside on the Navajo Nation (U.S. Census Bureau, 2000a). The Navajo reservation is located in the Four Corners region of the U.S. and encompasses 24,096 square miles in New Mexico, Arizona, and Utah including off-reservation trust land (U.S. Census Bureau, 2000a).

This article begins with various conceptualizations of disasters with special emphasis on the technological/human-caused classification. The common psychological effects of disasters are briefly reviewed. To fully portray the experience of the Navajo, a summary of the history of uranium mining and milling on and around the Navajo Nation is presented. The strenuous efforts for compensation are reviewed because they have been a major source of stress for families. The nature of this disaster is discussed according to impacts on the way of life and psychological well being of the Navajo people. The article concludes with suggestions for culturally appropriate healing and recovery measures.

Conceptualizations of Disasters

Disasters can be conceptualized on a continuum of deliberateness from "natural" on one end to "purposely perpetuated" on the other end with the "technological/human-caused" classification between the two ends (Green, 1996). A natural disaster occurs outside of the realm of human control, for example, a hurricane or a tornado. A technological or human-caused disaster is attributable to human error or misjudgment—the intent is not to cause disease, death, or disruption of lives. In contrast, a purposely-perpetuated disaster is caused by a perpetrator(s) with the specific intent of human destruction (e.g., September 11 tragedy). The technological/human-caused classification is somewhat problematic because victims may experience a mixture of benefits with adverse side effects. For instance, the introduction of an industry may provide employment and much needed income to depressed local economies, but such advantages are diminished by potentially hazardous working conditions and environmental contamination. This issue certainly pertained to the Navajo in respect to uranium and is discussed more fully in a later section.

Sturgeon (1993) stated that, "the common theme of disasters is that they are so catastrophic and overwhelming that they go beyond anything that individuals involved with normally have to cope with. As a result, their psychological capacity to function is stretched beyond the limits of endurance" (p. 421). What is known about disasters, in general, is that adverse psychological outcomes can be predicted from them (McFarlane, 1995). The most damaging effects of disasters can be the psychological scars of the trauma, most evident in diminished sense of safety and impaired social relations (McFarlane, 1995). Adverse psychological outcomes of disasters include anxiety, depression, somatic complaints, and relationship problems (Green & Lindy, 1994), substance abuse (Fullerton & Ursano, 1997), and negative affect such as increased levels of anger, alienation, mistrust of others, loneliness, and isolation (Jerusalem, Kaniasty, Lehman, Ritter, & Turnbull, 1995).

Posttraumatic stress disorder (PTSD) is a common diagnosis in respect to disasters and frequently occurs in conjunction with other disorders, such as anxiety and depression (Green & Lindy, 1994). Gender differences are apparent with PTSD. Women are more likely to experience anxiety and depression. Alternatively, men are more apt to experience alcohol abuse, physical or somatic complaints, and symptoms of hostility or acting-out (Green, 1996; Green & Lindy, 1994). A threat to one's survival is at the core of PTSD—whether it be a threat to oneself, family, or friends, or home, or even learning about serious injury or harm to a significant other(s) (Fullerton & Ursano, 1997; McCarroll, Ursano, & Fullerton, 1997). According to DSM-IV-TR (American Psychiatric Association, 2000), diagnosis of PTSD is made when there has been: (a) a traumatic event, (b) a re-experience of the event, (c) avoidance of stimuli associated with the trauma, (d) increased arousal, (e) duration of symptoms more than one month, and (f) impairment in social, occupational, or some other form of functioning. The severity, nature, and duration of the disaster or trauma are the best predictors of PTSD. As will be shown, all are relevant to the Navajo in their experience with uranium mining and milling.

Effects of PTSD can be acute or chronic, and chronic effects have been shown to endure for decades. For instance, with respect to the Buffalo Creek dam disaster in West Virginia, Green (1995) found symptoms of PTSD still evident 14 years later and Honig, Grace, Lindy, Newman, and Titchener (1999) reported symptoms of PTSD 20 years later among those who were children and adolescents at the time of the dam break. Many POWs from the Korean conflict were still diagnosed with PTSD after nearly half a century (Page, Engdahl, & Eberly, 1997). Additionally, an association has been found between PTSD and long-term serious physical health outcomes among victims of severe environmental stress (Boscarino, 1997). It has been suggested that with technological/human-caused disasters, some of the survivors may not return to normal levels of psychological functioning for a long period of time or at all (Green, 1996; Green & Lindy, 1994: Honig et al., 1999). Long

duration of psychological effects certainly applied to the case of Navajo victims of the uranium disaster and is one area addressed. Before this and related aspects of the uranium disaster are summarized, the historical context of the uranium industry among the Navajo is reviewed.

Overview of the Navajo and Uranium

History of Mining in Four Corners Area

The escalation of uranium mining during the Cold War in the Four Corners region of the United States was motivated by the need for atomic weaponry (U.S. Department of Energy, 1995). Although the intent was not to disrupt life among the Navajo, other Natives, and non-Natives, this occurred nonetheless. The story begins with the discovery of carnotite deposits in 1918 by John Wade, an Anglo trader from Sweetwater, Arizona (Eichstaedt, 1994). Carnotite is a mineral that contains both uranium and vanadium and is located in the northern and western Carizzo Mountains of the Four Corners area of the Navajo Nation.

In 1992, when Niels Bohr of Denmark received the Nobel Prize for his work in changing the world's picture of the atom, the potential of this massive power was unrealized. In January 1939, Bohr came to the United States with the news that German scientists were experimenting with the properties of the heavy element uranium, believing it retained fissionable properties. Within days, the government confirmed the information and worked to develop nuclear fission and a practical way to produce nuclear power before the Third Reich could do so (Hawkhill Associates, Inc., 1990).

Mining for uranium commenced in 1948 as a result of the Atomic Energy Commission's (AEC) uranium procurement program. Between 1948 and 1966, some 60 properties (at its height, 103 properties) were mined in the Carrizo Mountains (Chenoweth, 1985). Mining activities were begun in several other areas of the Navajo Nation (Chenoweth & Mallen, 1960). To process the ore from these properties, four mills were built on the Navajo Nation (see Table 1 and Figure 1).

Conditions in Mines/Mills

The Office of the Navajo Uranium Workers (T. Martinez, personal communication, August, 2001) maintains data on the number of Navajo people who worked in the uranium industry. Their records registered 2,200 Navajo miners and 400 millers. The actual numbers of Navajo miners and millers may be as high as 3,000 and 1,000, respectively, as estimated in Dawson and Madsen (1995). Work in the underground mines was very hazardous, primitive, and labor intensive (Churchill & LaDuke, 1992; Eichstaedt, 1994).

Table 1
Extent of Uranium Mining and Milling on Navajo Nation

Location	Dates	Mines Number of Properties
Carrizo Mountains	1948-1966	103
Lukachukai Mountains	1950-1968	53
Sanostee	1952-1970	16
Monument Valley	1942-1969	37
Black Mesa	1954-1968	15
Cameron	1950-1963	100
Bidahochi	1954-1959	1

Location	Dates	Mills Companies
Tuba City	1956-1966	Rare Metals Corporation of America
	1962-1966	Rare Metals merged with El Paso Natural Gas
Shiprock	1954-1963	Kerr McGee Oil Industry, Inc.
	1963-1968	Vanadium Corporation of America (VCA) and Foote Mineral Company (successor to VCA)
Mexican Hat	1957-1963	Texas-Zinc Mineral Corporation
	1963-1965	Atlas Corporation
Monument Valley	1955-1968	VCA and Foote Mineral Company

Proper protective clothing and safety measures were not provided nor enforced. Ventilation to control fugitive dust and radon progenies were non-existent. It was common practice to force the workers back into the mines immediately after blasting activities, subjecting the Navajo miners to heavy dust, smoke, radon activity, and unstable rocks from the ceilings. Complaints resulted in firing of individuals. Accident rates were high, frequently resulting in loss of hearing, vision, and/or limbs. Miners carried their lunches into the mines and ate in the mines, as well as drank the water that dripped from the walls and ceilings of the underground mines (Eichstaedt, 1994).

Figure 1
Abandoned Uranium Mines Project: Arizona, New Mexico, Utah--Navajo Lands
U.S. Army Corps of Engineers and U.S. Environmental Protection Agency
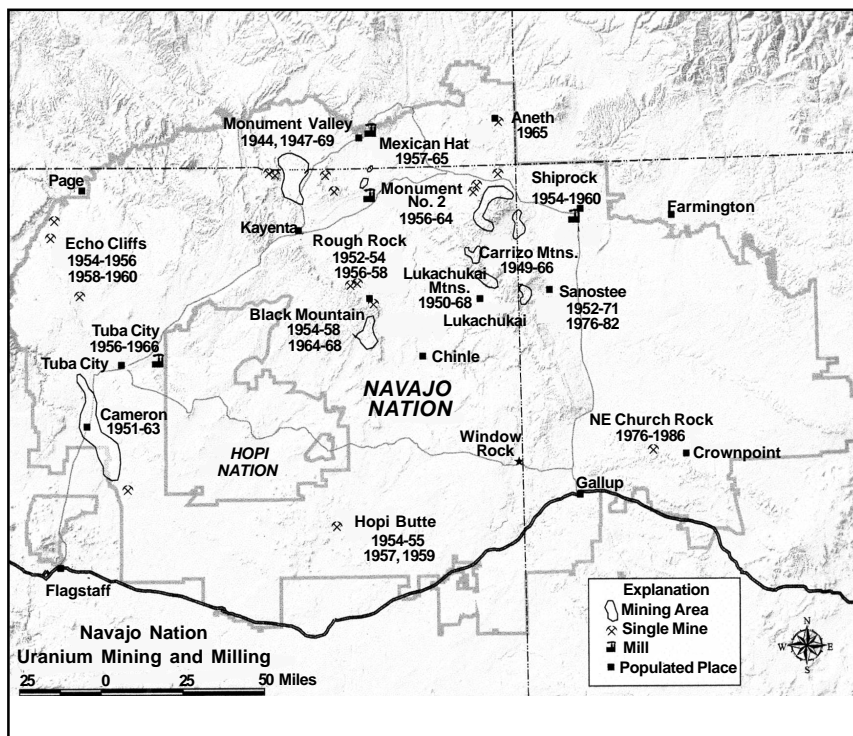
The following statement from Joe Ray Harvey[1] as quoted in Brugge, Benally, Harrison, Austin-Garrison, and Fasthorse-Begay (1997) illustrated some of these conditions:

> When I first began to work, I worked for Kerr-McGee. Yes, it was like that, no air (ventilation); there was a lack of air when we worked. There was just lots of smoke and a powder smell after the blasting... The ventilation tubes did not go into the areas where we worked. (p. 38)

Milling activities were not any different or safer. Millers were subject to radioactive dust from the crushing operations and to sulfuric acids, sodium chlorate, and solvents from the leaching and extraction operations. Personal protective equipment was not used or readily available. The nature of the

conditions are illustrated in the following statements by informants from Dawson and Madsen's (1995) case study of American Indian mill workers:

> It was messy and disorganized. It was also very dusty. I had an instant headache while working there. Also much coughing. In the first four years, they didn't provide masks. I breathed much dust and even coughed up the dust. I also had it in my eyes, and it irritated my eyes. I also had sores on my feet. It was hot and I had to wear an acid protector suit. Yellowcake would get into the suit. (p. 23)

> The whole building was enclosed. Very stuffy. Can smell the boiling acid and ammonia. We had to handle this stuff (yellowcake) with our bare hands. When I worked in the yellowcake, I only wore a respirator. The dust was there all the time, especially when the yellowcake was being barreled. Now I see those who worked in the nuclear area wear special clothing, but we didn't. (pp. 23-24)

Effects on the Health of Uranium Workers

Uranium workers were exposed to high external radiation, radon gas, and high silica dust containing an underdetermined amount of radiation. RaA and RaC are two energetic alpha emitters of radon gas that interact with and damage body cells. They can be inhaled or transported through water droplets that are ingested. Daughters of radon will decay in the lungs, likewise emitting alpha particles besides gamma and beta. The amount of this dust-borne radioactivity present in mine atmosphere depends on ventilation, air turbulence, and other factors (Eichstaedt, 1994).

The absence of protective measures resulted in high levels of exposure to radioactivity in miners and millers. Summarizing data from the National Institute of Occupational Safety and Health (NIOSH), Eichstaedt (1994) reported that uranium miners were five times more likely to develop lung cancer than the general population. Indeed, more than 75% cases of lung cancer among Navajo males were found in the miners (Gottlieb & Husen, 1982), and Navajo people have a low incidence of smoking (Dawson, Madsen, & Spykerman, 1997; Gilliland, Hunt, Pardilla, & Key, 2000; Mulloy, James, Mohs, & Kornfeld, 2001). In summarizing several studies, Mulloy et al. (2001) concluded that, "exposure to dust, gases, exhaust, and fumes can result in nonmalignant or malignant respiratory disease in underground miners" (p. 306). In addition to lung cancer, other respiratory diseases included silicosis, pulmonary fibrosis, emphysema, obstructive lung disease, silico-tuberculosis, and pneumoconiosis (Mulloy et al., 2001).

At the onset of uranium mining in the 1940s, many of the hazardous human consequences of uranium were known, but the tendency of the U.S. government was to minimize the relevance of the European studies to mining in the U.S. (Robinson, 1998). Further, no government agency assumed responsibility to establish and enforce mine safety regulations (U.S. Department of Energy, 1995). In August, 1949, the Public Health Service (PHS), under the U.S. Surgeon General, undertook the first study of miners and made a fateful decision. It was determined that individual miners would not be told of potential hazards from radiation in the mines for fear of causing alarm (U.S. Department of Energy, 1995). Instead of warning the miners, an exculpatory "study" of radiation effects on uranium miners was undertaken in which causal relations were confirmed between cumulative airborne radiation exposure and risk of respiratory cancer. Eventually these findings contributed to the development of protective legislation for miners and millers (PL-91-596, PL-91-173, and PL-95-164) (Lundin, Wagner, Hyg, & Archer, 1971; National Institute of Occupational Safety and Health, 1987). However, for the many Navajo people previously involved in the uranium industry, these protections came too late. The U.S. government had a trust obligation (Snyder Act of 1921) to Native Americans that included relief of stress and conservation of health. These basic principals were violated through the failure to inform Navajo and other American Indians of the hazardous working conditions in uranium mines and mills.

Legal Efforts for Compensation

In the early 1960s, efforts were initiated from Red Valley and Cove, Arizona to obtain compensation for families of deceased uranium miners who had died of lung cancer and other respiratory diseases. The first attempt to compensate uranium miners was in 1973, by the late Senator Joseph M. Montoya (D., NM) (Eichstaedt, 1994). For the next twenty years, until October 1990, numerous efforts were taken by congressional leaders to enact legislation to compensate uranium miners, millers, and surviving family members. In September 1979, Stewart L. Udall, former Secretary of the Interior and a former Arizona Congressman (D.), filed 185 claims against the U.S. government. Udall's lawsuit started a long legal battle through the courts.

A key factor of the government's counterargument was that the government was exempt from blame because it had exercised its "discretionary function" according to the Federal Torts Claims Act. The discretionary function used by the government allowed it to make certain decisions to carry out programs despite possible health risks and consequences. In the appeals process, the courts chose to interpret the exception for the benefit of the government (Eichstaedt, 1994). During its October, 1987 term, the U.S. Supreme Court upheld the earlier lower courts'

decision on behalf of the government, but added that remedy was warranted and that Congress was the appropriate source.

With this, efforts for compensation were renewed. After three more years of congressional hearings and the initiation of several additional legislative bills, on October 15, 1990, President George Bush signed into law H.R.2372, entitled the Radiation Exposure Compensation Act of 1990 (RECA), Public Law 101-426. Shortly after its passage, claimants realized that RECA had some serious flaws. The RECA administrator, the U.S. Department of Justice, refused to recognize traditional customs that may not have been recorded on state records, such as validation of marriages, use of ceremonial tobacco, use of original documents to support work history and medical conditions, and similar requirements. These shortcomings eventually led to RECA's revision in 2000. After another setback, due to bankrupt RECA funds and subsequent issuance of IOUs by the Federal Government, in July 2001 the U.S. Senate approved a spending bill that included $84 million to pay the IOUs and President George W. Bush's signature followed. Further amendments occurred November 2, 2002 with President Bush's signing of the Justice Department's FY2002 Authorization bill. Prior to this amendment, uranium miners were required to prove exposure to at least 40 working levels (WLs) of radiation, while uranium millers and ore transporters were required to demonstrate employment in a mill or as an ore transporter for one full year. With the amendment, uranium miners can qualify for benefits by meeting either the 40 WL exposure standard or the one-year employment standard. The road to compensation continues to be rocky for many claimants, however. The U.S. General Accounting Office reported on April 15, 2003 that the RECA program is expected to run short of funding during the years 2003 through 2007 due to an increase in the number of claimants in the wake of revisions to RECA. Delays in compensation are anticipated. The uranium issue continues to be at the forefront of consciousness among Navajos. Grassroots groups are sending a message of *leetso dóodá* (no uranium mining in Navajo Country), and are actively engaged in intiatives to educate and inform the public, as well as lobby at Navajo Nation, state, and federal levels of government.

Psychological Consequences of Uranium Disaster

Due to the unintentional, but damaging environmental and health impacts of uranium mining and milling among the Navajo people, we classify it as a technological/human-caused environmental disaster. The psychological impacts of this kind of disaster can be more serious than natural disasters (Green, 1996). Natural disasters are clearly evident to all people and, in response, an "altruistic or therapeutic community" emerges to help cope with the aftermath (Jerusalem et al., 1995). Such a benefit was not available to the Navajo. The following themes of the uranium disaster give insight to the psychological repercussions: (a) human losses and bereavement, (b)

environmental losses and contamination, (c) feelings of betrayal by government and mining and milling companies, (d) fear about current and future effects, (e) prolonged duration of psychological effects, (f) anxiety and depression, and (g) psychological impacts and exacerbating conditions of poverty and minority status.

Human Losses and Bereavement

Mortality risk of Navajo uranium miners was examined according to vital statistics from the years 1960 to 1990 (Roscoe, Deddens, Salvan, & Schnorr, 1995). In examination of data from 303 of 757 miners that had died, elevated risk of mortality due to uranium-linked diseases of lung cancer, pneumoconiosis, and other respiratory diseases was reported. The loss of life among the Navajo had a profound impact as illustrated in the following quote by Joe Ray Harvey as he speaks of the Cove Community's shared experience of grief (Brugge et al., 1997):

> There is a general sickness today, with all people. There are no elderly men in Cove because they were mostly miners and have died, but there are many widows. No men! People are still suffering today, especially the widows. (p. 54)

Loss of a family member, while stressful and emotionally painful, is a normal experience. However, when loss is compounded by exacerbating circumstances of disasters, bereavement can become traumatic. Trauma and loss are treated as two separate entities, but certainly can overlap in cases of disaster and form traumatic bereavement (Raphael & Martinek, 1997). Not only must individuals deal with the trauma, but also are engaged in the grieving process. Hence, traumatic bereavement is characterized by an ongoing preoccupation with the traumatic experience accompanied by an inability to progress through the grief process (Raphael & Martinek, 1997). The risk for traumatic bereavement among victims of the uranium disaster may be intensified by: (a) the degree of suffering of the ill family member, (b) the premature nature of the death, (c) the knowledge that the death was due to preventable, human-caused circumstances, (d) the reluctance of any social entity to take responsibility for the disaster, (e) the number of other people in the community affected by uranium mining/milling, and (f) the reduction in household income due to illness or death of the breadwinner.

Environmental Losses and Contamination

Environmental losses are called secondary losses, because they are widespread and affect all members of the community, whether or not they worked in the uranium mines and mills. Such secondary losses increase the number of victims of disasters and deplete much needed coping resources

and social support (Jerusalem et al., 1995). The hundreds of abandoned uranium mines and four inactive uranium mills on the Navajo Nation evidence the gravity of the environmental devastation. These sites continue to degrade the local environment, contaminating soil, plant life, and water, as well as the livestock that depend on clean food and water sources. Radioactive mine waste and protore were left to cause further dispersion of contaminates. In 1989 and 1990, the Navajo Abandoned Mine Lands (AML) Reclamation Department documented and prioritized 1,150 abandoned and un-reclaimed uranium mines according to their degree of physical and radiological hazards.

For the Navajo, their lifestyles, traditions, and cultural practices demand a positive interaction with the forces of nature. That is, to be in harmony and balance with one's self and with nature. In this sense, a primary goal of the Navajo is to "walk in harmony" (hózhó násháádóó). This critical tie with the environment was severely disrupted from the advent of past mining practices. For instance, areas once used to gather herbs for ceremonial and medicinal properties were impacted. Areas considered sacred and linked to explicit oral traditions became desecrated from contamination.

The Navajo peoples' spiritual tie to the land overlaps with basic subsistence functions. The land provides water and vegetation for animals, and humans consume the animals, vegetation, and water. The pattern is apparent—environmental contamination has multiple routes to enter into the biological realms of humans. The Navajo expressed concerns on all of these accounts (Woody, Jack, & Bizahaloni, 1981). Consider the following observations by impacted Navajo informants (Brugge et al., 1997):

> Anna Aloysious: To this day low radiation is spreading its disease among us. They had piled up uranium ore beside the road that they never took care of completely when they left. They really did nothing in that way. They thought of us Navajos as nothing. That's how I think about it and it really hurts my heart and mind. (p. 28)

> Dan N. Benally: It is true that waste was dumped off the hillsides and the water carried it into the main washes. Meat from these animals is consumed, and contamination continues to affect humans. Forty-three of the people I worked with have died now. Some time ago, I counted this. There are just a few of us still around. (p. 26)

Physical contamination also occurred through the use of open mines for livestock pens and shelter. Radioactive stones and protore obtained from abandoned mines were used for construction of homes and other domestic purposes. A recent U.S. EPA survey of water quality on unregulated water sources used for livestock and domestic usage indicated anomalous

contamination from arsenic, lead, and total uranium. Of great concern was the 1979 flashflood from the rupture of the United Nuclear Corporations (UNC) Church Rock, NM dam that sent radioactive water from a tailings pond down the Rio Puerco. The most severely affected were 1,700 people, mostly Navajo. Children were playing in the contaminated water and, later, only a small segment of the population was tested for thorium, a major contaminant from the spill (Woody et al., 1981). This incident was the largest nuclear accident in the United States, but certainly not as well publicized as the Three Mile Island incident (Grinde & Johansen, 1995).

The psychological impacts associated with environmental losses can be significant. For instance, it was noted that subsequent to the Exxon Valdez oil spill, Native people had higher rates of major depression, generalized anxiety, and PTSD than non-Native people (Manson, 1997). Native people subsisted on game, fish, plants, and berries that were destroyed or damaged by the spill. Similarly, the Navajo are afraid of what effects may occur from the water they drink and the animals they consume. As summarized in Woody et al. (1981):

> The residents (of the Church Rock community) accused the companies of dwelling in 'money, money, money' while they live in fear and are faced with questions. Where to get the next water? How to get it? Where to graze the sheep? Whether their children should work for the company? Whether they are breathing radiation and who to ask for help? (pp. 82-83)

In short, lifestyles have changed due to fears of the radiation effects in farming and ranching, and it has been necessary to move herds to less desirable grazing locations.

Feelings of Betrayal By Government and Mining and Milling Companies

In addition to significant and multiple losses experienced by the Navajo impacted by the uranium disaster, feelings of betrayal occurred because it was known that the adverse impacts were human-caused and preventable. As stated by Jerusalem et al. (1995), "community stressors are rarely caused by the very individuals who are forced to cope with them" (p. 117). Certainly there were employment and income benefits of uranium mining and milling for the Navajo Nation. However, workers were not informed of the potential for loss of life and environmental contamination. Dawson (1992) reported that a feeling of being betrayed by their employers was a common response by Navajo informants. Woody et al. (1981) stated that people perceived they had been cheated, but did not know where to go for assistance. Negative affect can be intensified by the knowledge that a disaster could have been

prevented (Sturgeon, 1993). The following comments from Brugge et al. (1997) are revealing:

> Mary Frank: They did not say it was harmful, they probably kept it a secret from us. Anglos kept that secret—with this I think. I am very concerned because I was left alone. (p. 46)

> Frank Floyd: Are we disposable to the government? These are some of our thoughts this uranium brings out to the front... (p. 8)

> Helen Johnson: The real sad thing about it was that they were never straight about what the hell this radiation was or would do to the health of these innocent people. White men (U.S. Government and mining companies) are not honest people. ... In the treaty of 1868 it mentioned that the Federal Government would protect the health of the Navajo people. Yet they didn't do so... (p. 36)

Betrayal also can be related to the lack of compensation from the companies and government, as described earlier and illustrated in this comment:

> Paul Nakaidenae: All should be compensated, I think. We really suffered, so why is it that miners file claims and get no compensation? They have children who all are in need. (p. 27)

Fear About Current and Future Effects

There are some commonalities between the Chernobyl nuclear disaster and the uranium disaster. For victims of the Chernobyl disaster, there were three major concerns (Giel, 1998): (a) the effects of current radiation on health and whether or not current health problems were linked to the radioactivity in the environment, (b) the impact of radioactivity on the health of children, and (c) safety with respect to collecting plants in the forests, working with the land, and general food safety. In addition to current concerns of the Navajo about safety in air, water, soil, and livestock, there is anxiety about the uncertainty of and anticipation of health effects on oneself and family. The following quotes reflect these concerns (Brugge et al., 1997):

Greg Lapahe: Today our health is in jeopardy. My children
are like that. They are experiencing difficulties health wise
and are suffering. So, something called tumors are affecting
them. Where are the diseases coming from? Uranium is
the only culprit. (p. 20)

Minnie Tsosie: Three of my daughters are affected. They've
been told that their uterus was affected. Two had their
uterus removed. The other, they are still tracking her illness
and she said the doctors are trying to blame the uranium.
She was asked if her father worked in the uranium mines.
(p. 50)

People's fear for their offspring may not be unfounded. A study
conducted among the mining population in the Shiprock, New Mexico area
demonstrated trends that lend limited support for the hypothesis of adverse
genetic outcomes from radiation exposure (Shields, Wiese, Skipper, Charley,
& Benally, 1992). Recent efforts have been initiated through the Saccomanno
Research Institute (Grand Junction), Diné College (Shiprock Campus), the
University of New Mexico Cancer Research Center, and Lovelace Research
Center to conduct a more detailed DNA damage-ecological risk assessment.
It is expected that what the Navajo people have feared will be empirically
supported, that is, chromosomal-genetic damages have resulted from
prolonged exposure to the uranium environmental hazards.

Prolonged Duration of Psychological Effects

The duration of the effects of the uranium disaster is significant
because concern about the working conditions in the uranium mines were
voiced as early as 1949 and the first cases of lung cancer were reported in
the 1960s (Eichstaedt, 1994). In our estimation, there are four factors that
keep the uranium disaster at the forefront for the Navajo people. First,
efforts to obtain compensation by miners and millers and their families have
been long-standing. Second, the environmental contamination and clean-up
efforts have been seemingly endless with no assurance of resolution in the
near future. Third, there is a great deal of uncertainty and ambiguity
surrounding common concerns for the health and well being of the dependents
of mine and mill workers. Fourth, there are recent efforts to resume uranium
mining on Navajo trust land. Current technology and extraction methods are
safer than in earlier days of uranium mining. However, based on past
experiences, some people are alarmed by this prospect.

In short, the tragic aspects of this disaster have endured for four
decades and have served to keep the issue alive in the hearts and minds of
the Navajo. The continual reminders may serve to increase arousal and

diminish the potential for recovery. The fact that psychological disorders, such as PTSD, can endure for decades becomes especially meaningful in light of the set of circumstances just described.

Anxiety and Depression

Clearly, the uranium disaster heightened a state of transition already present in the lives of the Navajo due to broader influences from the U.S. culture that influenced changing lifestyles and values. The impacts from uranium mining and milling brought additional stress due to many of the factors previously described. Lifestyles were disrupted due to illness, loss of the primary income earner in the family, and environmental contamination that changed traditional styles of living. Changes increase stress that can lead to heightened risk for psychological disorders. However, the psychological impact of the uranium disaster has not been widely addressed in research or intervention. Of available reports, qualitative methodology was used that relied on self-report data obtained through interviews. Woody et al. (1981) examined two Navajo communities impacted by uranium mining. All respondents acknowledged deep psychological stress and despair due to trauma from the changes in their lives subsequent to their experiences with uranium. Anxiety was readily apparent throughout the comments made by respondents, and the authors' speculated that this anxiety contributed to a higher degree of alcoholism on the reservation. The most prevalent theme of Woody et al. (1981), as summarized in the following quote, was that stress was induced from change due to exposure to uranium:

> The Navajo people are not opposed to change. However, there is often great stress related to change, especially when the people feel things have 'gotten out of control' and that they do not have control over their destiny. This seems to be the current situation in the communities on which this study was based. (p. 124)

In more recent work conducted by Dawson and Madsen (1995) among American Indian (including Navajo) uranium mill-workers, 39 of 81 respondents reported anxiety, depression, or both. These emotional responses were attributed to their own health problems, the health of other mill-workers, and the death of other mill-workers due to exposure to uranium.

Exacerbating Conditions: Poverty and Racism

It is imperative to recognize that the disastrous effects of uranium mining and milling are among many stressors experienced by the Navajo. When victims of technological/human caused disasters are already marginalized due to poverty and/or racism, the impacts are compounded.

Choney, Berryhill-Paapke, and Robbins (1995) observed that embedded in the American Psychiatric Association's description of PTSD is the consideration of threat to personal integrity. Certainly, insult to personal integrity of American Indians occurred through forced acculturation, racism, and discrimination. These and other experiences of persons from colonized groups are part of the ongoing process of historical trauma and result in a spiritual injury called "the soul wound" (Duran, Duran, & Brave Heart, 1998). Manson (1997) cited the greater experience of trauma by ethnically diverse persons, and attributed this occurrence to greater stress. In particular, the complex relationship between SES, ethnicity, PTSD, and substance abuse give some indication why some groups more than others have adverse outcomes from trauma (Manson, 1997). Poverty and discrimination due to ethnic minority status are ongoing stressors that become aggravated with additional trauma. In short, PTSD and substance abuse may not be linked to one single trigger, but are confounded through multiple stressors.

Poverty is the single most debilitating mental and physical health factor affecting individuals of any racial group, and its undesirable outcomes are well-documented in the literature (e.g., Dadds, 1995; McLoyd, 1998; Routh, 1994). In the U.S., disparities in SES according to race are readily apparent (Huston, 1994; McLoyd, 1998; Taylor, 1997), and the low SES of the Navajo is documented in various indices. According to the U.S. Census Bureau (2000b), 40.8% of families with related children under the age of 18 lived below the poverty line compared to 13.6% for the nation (U.S. Census Bureau, 2000c). The Navajo median household income was $21,136 compared to the U.S. average of $41,994 (U.S. Census Bureau, 2000b, 2000c, respectively). Associated with lower income, is the high unemployment rate of 58% among the Navajo, according to the Bureau of Indian Affairs (BIA) (1997) Labor Force Report of Navajo people living on or around the reservation and considered part of the BIA Indian Service Population.

In addition to the stress associated with lower SES, the experience of racism due to inequality and restricted access to resources is a further aggravation that can lead to adverse health outcomes for ethnically diverse persons (Clark, Anderson, Clark, & Williams, 1999). Clark et al. (1999) argued that both psychological and physiological reactions to racism can lead to various adverse health outcomes, such as depression and susceptibility to physical illness.

As noted earlier, environmental racism is evident and, at a global level, traditional societies and third world countries have been more greatly affected by environmental disasters (deVries, 1995). In the U.S., there is evidence of greater risk of exposure to environmental toxins for ethnically diverse populations (Pellizzari, Perritt, & Clayton, 1999; Pirkle et al., 1998; Weintraub, 1997) and for those of lower SES (Bellinger & Matthews, 1998; Brody et al., 1994; Schmidt, 1999). More specific to the Navajo and other Native nations, Churchill and LaDuke (1992) used the term "radioactive colonialism" in reference to a new form of North American colonialism directed

toward technologically-oriented resource extraction on Indian reservations. The stimulus for this practice is the disproportionately higher amounts of uranium, oil, gas, coal, and important minerals that are located on reservations. The irony is that these lands were not known to be resource-rich at the time reservation lands were allotted to tribes. Indeed, in many cases, seemingly the least inhabitable lands were designated for reservations.

Culturally-Appropriate Intervention

We have described the specific dynamics of a technological/human-caused disaster as it psychologically impacted the Navajo. The more pressing needs of the uranium disaster, namely, environmental cleanup and compensation, have played roles in psychological healing and recovery. However, more directed efforts toward emotional recovery are required. Three aspects of psychological intervention are addressed: (a) the role of education, (b) Diné (Navajo) conceptions of uranium, and (c) culturally-specific forms of healing.

Education to Promote Understanding and Reduce Stress

Increased stress and other consequences of the uranium disaster reverberate through multiple levels of the individual, family, community, and environment. Jerusalem et al. (1995) offered a classification system for assessing community stress according to the degree of community awareness. Currently among the Navajo there is a high degree of community awareness concerning the impact of uranium mining along with community efforts to cope with the problem and its aftermath, especially with respect to the treatment of environmental contamination and compensation issues. Contamination has been, and continues to be, addressed by many organizations, such as the U.S. EPA, Navajo EPA, Navajo AML Reclamation, U.S. Army Corps of Engineers, U.S. Geological Survey, and U.S. Department of Energy.

The Uranium Education Program (UEP) at Diné College, supported by funding from the National Institute of Environmental Health Sciences and other agencies, has maintained a mission to inform people about and protect people from the risk and contamination still present in the environment. Efforts of the UEP have included: (a) helping teachers develop curricula on the subject; (b) developing and distributing educational materials on environmental impacts, including water safety; (c) holding public meetings at local chapter houses to inform and educate members of the Navajo Nation; (d) pursuing community-based risk assessments [DNA damage studies] and ecological risk assessments; (e) assisting U.S. EPA and Navajo EPA with issues of contaminated structures built with radioactive waste material from the nearby abandoned uranium mines; and (f) participating in activities related to abandoned mill sites and attempts to clean-up ground water contamination.

In considering education and intervention with any cultural group, language issues must be addressed. There has not been a Navajo vocabulary for terms such as uranium and radiological effects. For instance, at the time of the disastrous Church Rock, New Mexico dam break, many Navajo victims did not have a clear understanding of what occurred or of the possible dangers. Language barriers contributed to the lack of accurate information (Woody et al., 1981). More recently, the Uranium Education Program developed a Navajo-English glossary to describe the uranium phenomenon. Such an effort is essential to educate Navajo speakers on uranium (leetso) and how to protect oneself from radioactivity (bideezla'na'alkidgo).

Through proper education, unfounded fears can be dispelled and anxiety levels will subsequently be lowered. Yet, appropriate cautions for safety must be maintained. Education can be a tool in emotional recovery and healing efforts. As part of education and intervention, it is essential to understand the Diné conception of uranium. Specifically, the cultural meaning of a traumatic event may be the most critical aspect determining the impact of a disaster (McFarlane, 1995).

Diné Conception of Uranium

According to Navajo traditional teacher Frank Morgan (2001), the subject of uranium should be approached with an understanding of its place in the natural order and the properties it possesses. Uranium is a heavy yellow metal and has been regarded as the antithesis to the sacred corn pollen that is used to bless the lives of Navajo. The following oral interpretation of this distinction by an informant of Eichstaedt (1994) is quite revealing:

> In one of the stories the Navajos tell about their origin, the Dineh (the people) emerged from the third world into the fourth and present world and were given a choice. They were told to choose between two yellow powders. One was yellow dust from the rocks, and the other was corn pollen. The Dineh chose corn pollen, and the gods nodded in assent. They also issued a warning. Having chosen the corn pollen, the Navajos were to leave the yellow dust in the ground. If it was ever removed, it would bring evil. (p. 47)

The Navajo view the *earth* according to four related elements of atmosphere, land, water, and sunlight/fire (Woody et al., 1981). The *earth* is viewed as the female counterpart of the male *sky*, and their relationship is reflected in the sphere of human existence. An ultimate goal of the Navajo is for balance and harmony between humans and nature (Csordas, 1999; Eichstaedt, 1994; Woody et al., 1981). Mining is regarded as a disruption in the balance of *earth* and *sky* and is disrespectful to the *earth* (Eichstaedt,

1994). It is believed that such a disturbance is the source of much stress experienced by the Navajo people that ultimately led to disease, death, and upheaval in their lives (Eichstaedt, 1994; Morgan, 2001; Woody et al., 1981). The fears and anxiety people hold in response to the uranium disaster are sometimes linked to their knowledge of the disruption of the *earth's* elements that are reflected in atmospheric conditions, such as contamination spread through the blowing wind (Woody et al., 1981). Sadly, some of the Navajo elders blamed themselves for disruption of earth and atmosphere by permitting the uranium mining to occur (Woody et al., 1981).

Culturally-Specific Forms of Healing

> ...counseling helped me to express a lot of my feelings, a lot of the grief that I was going through, and that is one of the reasons why I stress that a lot of counseling is needed in these areas.... the victims, I and others, are suffering out there. (p. 40)

The preceding quote by Kathlene Tsosie-Blackie (Brugge et al., 1997) illustrates the suffering of Navajo victims of the uranium disaster as well as a perceived need for intervention. It was observed by McFarlane (1995) that the cultural ascription of meaning to a disaster may be the strongest predictor of impact. It may follow, then, that the most effective coping strategies for dealing with disasters are culturally-specific. However, the risk for societies in transition is that, due to acculturation, traditional strategies for coping with trauma are lost (Chemtob, 1996). The extent to which this issue has influenced Navajo coping with the uranium disaster is unknown. What is known, however, is that the Navajo continue to maintain a regard for the sacred nature of the environment (Griffin-Pierce, 2000) and link their own psychological well being to environmental stability. Hence, the role of environmental restoration in psychological healing should not be underestimated.

Of paramount importance is to approach psychological healing from the impact of the uranium disaster with sensitivity. Communication patterns and various taboos of the Navajo play roles in discussions about death and in the expression of emotions. Cooper (1998) identified communication ethics of the Navajo according to respect, balance, containment, moderation, and reverence. There is great respect for thought and speech processes—responsibility and accountability are implicit in communication. Language is not to be wasted and, when something is spoken, it is regarded as important and meaningful. Pauses and silence in communication are comfortably permitted to allow the speaker the necessary time to prepare their thoughts. Containment, then, becomes a primary tenet of communication of Navajo communication because one does not share everything they know and they

think carefully before speaking their thoughts. A listener is never certain if the speaker has shared all they know or think on a topic.

Moderation and balance also are central principles of Navajo communication, as well as behavior. Hence, speech patterns are not excessive or sensational. The inhibition of strong emotion may lead to unwillingness to discuss the death of a loved one or of one's emotional distress. This is an additional factor that may contribute to the duration of psychological effects from the uranium disaster. Humor is acceptable and can be used to relieve tension and heaviness. Eye contact is avoided to not invade the privacy of others, and is not an evasive strategy.

Of all Navajo taboos, the one most relevant to the uranium disaster is to not speak about death or someone who has died because, by talking of the deceased, their ghost may be called and bring harm to the speaker (Kluckhohn & Leighton, 1948). Of interest, is that in its effort to be more culturally sensitive, the American Psychiatric Association (2000) now recognizes "ghost sickness" in its glossary of culture-bound syndromes. One may feel they are ill because of this ailment, which requires a traditional remedy.

A holistic view of healing dominates the belief system of many Navajo. The interaction between the four domains of spiritual, psychological, emotional, and physical existence are recognized, and harmony between these domains is desired. The spiritual domain permeates all facets of life and needs to be implicit in intervention efforts. Nonetheless, within-group diversity exists among the Navajo, and various belief systems operate in their lives. Csordas (1999) addressed three forms of spiritual or faith-based healing currently practiced among the Navajo: Traditional, Native American Church, and Christianity. All three forms are regarded as resources to the Navajo, and share a common goal that the individual acquire understanding of the philosophy that underlies the cause-and-effect nature of disease and healing. The healer must talk to the patient to facilitate such understanding. Explanations for the causes of illness may not follow western prescriptions of pathology and treatment, but are significant within the Navajo system of beliefs. A further commonality in the three forms of spiritual-based healing is the maintenance of a holistic view of interaction between spiritual and religious beliefs and other domains of existence (Griffin-Pierce, 2000).

The only Navajo indigenous form of healing is embedded in traditional beliefs. The person who adheres to the traditional belief system may have a better response when such a healer is involved (Choney et al., 1995; Manson, 1997). The ultimate goal in this healing is to restore a state of harmony, or hózhó, that was upset by violations of the natural order (e.g., mining). Identifying the nature of the obstacle in the patient's life is of prime importance. In delineating Witherspoon's (1997) distinction between blessing, curing, and purifying rituals used by Navajo, Cooper (1998) observed that cures serve to bring harmony between the patient and his or her environment (broadly defined) and bring healing in mental, physical, and environmental

domains. Cures rely on both thought and speech (including singing), which are thought to have powerful capacities for restoration (Cooper, 1998). In the process of healing, a diagnostician, also known as a hand trembler or crystal gazer, ascertains the nature of the illness and recommends a route for recovery. A singer will conduct a ceremony using chants and prayers to restore the patient to hózhó. Healing ceremonies may be several days in length and require elaborate rituals, such as sand paintings, singing, or chanting, and the use of holy objects (Conners & Donellan, 1998).

A second form of healing practiced among contemporary Navajo is the Native American Church, a pan-Indian movement that originated among Plains Indians around the turn of the previous century. The use of sacramental peyote and the sweat lodge are key tools in this approach. A philosophy of self-esteem predominates as the patient connects to the sacred through the use of peyote (Csordas, 1999). Christian faith healing represents the third form of healing and is found in both Protestant and Catholic faiths. In this approach the issue is one of moral identity and is based on a therapeutic principle of conversion. A unique form of Navajo Christianity has emerged led by Navajo pastors of independent congregations. Navajo people may overlap in their use of these three healing resources, especially the traditional practices and the Native American Church, but all three forms of healing are tools in emotional recovery.

Summary

In this article a specific technological/human-caused environmental disaster was detailed according to its history and the inter-related environmental and psychological impacts on the Navajo people. An attempt was made to understand this occurrence in light of Navajo culture and beliefs. While the experience of the Navajo with uranium was highlighted, the approach taken in this paper can be generalized to other groups in society. For example, chemical dumping and subsequent soil and water contamination has affected the traditional hunting, fishing, and agricultural ways of life of the Akwesasne Mohawks in both Canada and the U.S. (Grinde & Johansen, 1995). There is concern for health and way of life of the Inuit due to contamination of fish and marine life in the no longer pristine arctic. Psychological disorders are more common when people face significant changes in lifestyles and experience diminished feelings of safety and security. How people interpret the unsolicited changes are best understood in the complex of cultural beliefs, values, and practices. As well, steps for healing and recovery reside within these same cultural principles.

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Author's Note

Dedicated to the memory of Elouise R. "Wee-Zee" Charley. March 18, 1973 – December 19, 1997.

Footnote

[1]Brugge et al. (1997) specified that in reproducing from *Memories Come To Us in the Rain and the Wind* credit be given to the Navajo Uranium Miner Oral History and Photography Project and to the interviewees.

THE IMPLICATIONS OF CULTURAL ORIENTATION FOR SUBSTANCE USE AMONG AMERICAN INDIANS

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Abstract: American Indians were interviewed about their participation in traditional culture and their substance use behaviors. Analyses indicated that cultural orientation differed by age and employment status. Bicultural or less Indian oriented individuals were more likely to misuse alcohol than their more Indian oriented counterparts. The implications of cultural orientation for substance use behaviors are discussed. The need for more precise conceptualization and measurement of acculturation is recommended.

American Indians have a long and tumultuous history with alcohol. Prior to the introduction of alcohol by European travelers, traders, and settlers in North America, American Indians had little experience with intoxicating beverages (Beauvais, 1998). Historical accounts suggest that American Indians were pressured to drink by Europeans to seal trade agreements or acknowledge special occasions (May, 1989). Some researchers suggest that American Indians who prized the experience of altered states of consciousness turned to alcohol use to induce dream seeking. Historians also suggest that following forced movement onto reservations and alienation from traditional work, many American Indians drank to relieve boredom and despair (Mail & Johnson, 1993). Settlers soon became weary of American Indian drinking and passed colonial laws prohibiting the sale of alcohol to them. Prohibition was enforced until 1953, although many tribes retain dry policies to this day. Throughout this unfortunate history, drinking became part of the way of life for many American Indians.

Ethnographic and epidemiological studies of American Indians continue to highlight patterns of excessive alcohol use and its destruction to individuals, families, and communities. Although many American Indians abstain completely from drinking alcohol, those who do drink tend to have

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more problems associated with their use than non-American Indian drinkers. American Indian drinkers are more likely to drink large quantities, suffer blackouts, and experience a higher proportion of alcohol-related problems than non-American Indian drinkers (May, 1994). Substance use disorders, diagnosed by the extent and duration of symptoms that impair social, psychological, employment, and recreational functioning and cause physical harm, are unusually high among American Indians. Research suggests that one-quarter to one-third of adult American Indians have a past year substance use problem, and as many as three-quarters of males and 40% of females may experience a lifetime substance use disorder (Bray, Dalberth, Herman-Stahl, Walker, & Sanchez, 1999; Herman-Stahl & Chong, 2002; Kinzie et al., 1992; Leung, Kinzie, Boehnlein, & Shore, 1993; Manson, Shore, Baron, Ackerson, & Neligh, 1992). These prevalence rates are approximately three times higher than that of the general adult population as found in national epidemiologic studies (Kessler et al., 1994; Regier et al., 1988).

Many American Indian people strongly believe that their abrupt detachment from traditional culture is at the root of their problems with alcohol (Beauvais, 1998; May, 1982). Culture refers to the "...framework, beliefs, expressive symbols, and values in terms of which individuals define their world, express their feelings, and make judgments...It is the fabric of meaning in terms of which human beings interpret their existence and guide their actions" (O'Nell & Mitchell, 1996, p. 566). Losing touch with these important traditions, rituals, and values may have alienated American Indians from their usual forms of coping and behavioral expectations (LaFromboise, 1988; May, 1982; Oetting & Beauvais, 1990-91). Moreover, as traditional means of achieving family honor and well being disappeared, many individuals lost the ability to be successful in the traditional way of life (O'Nell & Mitchell, 1996).

Indeed, research suggests that constructs related to the extent to which ethnic minorities identify with and participate in their own traditional culture and/or other cultures (including the dominant culture) are important for psychological well being (Aponte & Barnes, 1995; Castro, Proescholdbell, Abeita, & Rodriquez, 1999; James, Kim, & Armijo, 2000; Marin, 1992; Phinney, 1990; Roosa, Dumka, Gonzales, & Knight, 2002; Vega, Zimmerman, Gil, Warheit, & Apospori, 1993). It is from this evidence that constructs related to cultural identification have begun to receive attention in research on substance use and abuse among ethnic minority adolescents and adults, including American Indians (De La Rosa, Vega, & Radisch, 2000).

Relevant constructs include acculturation, ethnic identity, enculturation, cultural orientation, biculturalism, and ethnic identification. *Acculturation* has traditionally been conceived as a process of assimilation into the majority culture (Aponte & Barnes, 1995); *ethnic identity* is the part of an individual's social identity stemming from attachment to a cultural group (Zimmerman, Ramierez-Valles, Washienko, Walter, & Dyer, 1996); *enculturation* is the process by which individuals identify with their own minority

culture (Zimmerman, et al., 1996); *cultural orientation* refers to the independent identification with both the minority and majority culture (Oetting & Beauvais, 1990-91); *biculturalism* is the extent to which individuals are oriented towards both their own and the majority culture (Birman, 1998); and *ethnic identification* is the action of associating oneself with an ethnic or cultural group and the degree of connectedness one feels with this group (Bates, Beauvais, & Trimble, 1997). Similar to other researchers (Castro et al., 1999; Oetting & Beauvais, 1990-91; Roosa, et al., 2002), we use the term "cultural orientation" in this article to denote an individual's identification with and participation in his/her own culture as well as the dominant culture. Cultural orientation is a multidimensional, multidirectional process through which identification to the traditional and dominant culture occurs independently yet simultaneously (Oetting & Beauvais, 1990-91; Roosa et al., 2002).

Issues of cultural orientation may be particularly complex for American Indians. First, unlike some ethnic groups who voluntarily immigrated, American Indians experienced the effects of a majority culture that forced its beliefs, values, and practices on them and removed them from their ancestral lands (Aponte & Barnes, 1995). Second, many American Indians reside on geographically remote reservations that are isolated from mainstream culture. Third, American Indians have faced institutionalized policies that have demeaned their culture and disrupted the normative process of passing on their heritage (e.g., boarding schools). Finally, American Indians live under unique circumstances of having politically sovereign land yet being largely dependent on the federal government.

Research investigating the link between cultural orientation and substance use among American Indians is scant and inconsistent. Anthropological studies have shown support for the hypothesis that the high rates of alcohol use among American Indians is due, in part, to the break-up of traditional culture (Whittaker, 1963). However, this theory has not been consistently borne out in empirical analysis. In a study of drinking patterns of American Indians affiliated with diverse tribes, traditionalism was no longer significant when family history of drinking, psychological stress, and gender were added to the predictive model (Weisner, Weibel-Orlando, & Long, 1984). In a ten-year longitudinal study of American Indian alcoholics, Westermeyer and Neider (1985) found that cultural affiliation was strongly linked with substance use, depressive symptoms, and legal problems at baseline but not at follow-up. Moreover, in a study of adolescent American Indians, ethnic identity did not predict alcohol involvement either directly or indirectly; rather, alcohol use was associated with peer alcohol involvement and family sanctions (Bates et al., 1997). Research by Oetting and Beauvais (1990-91) on orthogonal cultural identification indicated that bicultural youth or youth with strong ties to either Anglo or Indian culture fared better in terms of socio-emotional adjustment than youth who were marginalized from both cultures (Oetting, Swaim, & Chiarella, 1998). However, their findings on cultural

identification and substance use were inconclusive: One study showed that bicultural adolescents were less likely to use drugs, while results from a second study indicated no relationship (Oetting & Beauvais, 1990-91).

Given inconsistencies in research findings and the fact that many programs incorporate traditionalism and cultural identity as important protective factors for the prevention and treatment of substance abuse among American Indians, more research is needed to elucidate the links between cultural orientation and substance use. Our study goes beyond unidemensional measures of acculturation, such as language fluency, to encompass a broader scope of culturally-relevant indicators including friendship patterns, time spent on reservation, participation in traditional ceremonies, and devotion to learning about and being concerned with traditional culture. This study also contributes to existing research by examining the association between cultural orientation and multiple measures of alcohol misuse including heavy drinking, extended drinking (i.e., going on benders), poly drug use, and alcohol abuse and dependence. Moreover, this study incorporates measures of illicit drug use to assess whether the role of cultural orientation varies with respect to alcohol versus illicit drug use outcomes.

Methods

Data for this study were collected as part of a special initiative under the State Systems Development Program, Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration to improve the data quality and resource allocation decisions for the provision of state substance abuse treatment services.

Sampling

The study population included all adult (aged 18 years or older) American Indians residing on reservations in South Dakota as well as in Rapid City. The sampling frame was stratified by the nine reservations in the state plus Rapid City. A simple random sample of 500 housing units identified through the Department of Housing and Urban Development (HUD) or relevant tribal agencies was selected from within each of the ten strata. A total of 3,481 eligible housing units were identified for the study. Of the eligible housing units, completed interviews were obtained from 2,588 adults, resulting in an overall response rate of 74.3%. Reasons for ineligibility included vacant housing, not a housing unit, non-Indian household, subject was physically or mentally unable to participate, and language barriers. Because we wanted to focus on issues specific to on-reservation American Indians, we excluded the Rapid City sub-sample (n=139). The final sample size was 2,449.

Instruments

Data were collected using a questionnaire designed by the National Technical Center for Substance Abuse Needs Assessment at Harvard University as required by CSAT. Respondents were asked about their socio-demographic characteristics, health, insurance coverage, alcohol and illicit drug use, and substance abuse treatment need and history.

Cultural Orientation

To assess cultural orientation, eight questions were asked regarding language fluency (reading and writing), ethnic pride, time spent on the reservation, ethnicity of friends, participation in traditional activities, and time spent thinking and learning about American Indian culture. These items were modified from an original instrument comprised of 20 items intended to measure acculturation level among Hispanics (Cuellar, Harris, & Jasso, 1980). This instrument has not been tested for measure equivalence for use with American Indian populations. However, items in this measure represent the typical components of cultural orientation relevant for American Indians (or other ethnicities), including behavioral participation, affiliative patterns, and self-identification as an American Indian (Trimble, 1991). Six of the eight items were based on a five-point Likert scale [e.g., "At home, I speak: 1) only my Native language; 2) my Native language more of the time than English; 3) Both my Native language and English about the same amount of the time; 4) English more of the time than my Native language; and 5) only English"]. The additional two items were based on a four-point likert-type scale. Taking the mean score across all eight items for each respondent created an overall scale measuring cultural orientation. The overall mean was trichotomized so that mean scores within the range of 1.0 to 2.3 (20.1% of sample) were considered "more Indian oriented," mean scale scores between 2.5 and 3.3 (64.8% of sample) were considered "bicultural," and mean scale scores between 3.4 and 5.0 (15.1% of sample) were classified as "less Indian oriented." The internal consistency of this cultural orientation scale as measured by Cronbach's alpha coefficient was .68.

Alcohol and Illicit Drug Use

Several measures were used to assess alcohol consumption in the past year including any alcohol use, heavy alcohol use, and extended alcohol use. Heavy alcohol use was defined as consumption of five or more drinks (four or more drinks for women) in a 24-hour period at least once a week in the past year. Different consumption levels for defining heavy drinking were employed for men and women to account for potential differences in body mass, for women's higher susceptibility to the physiological consequences of alcohol (Deal & Gavaler, 1994) and women's greater likelihood to underestimate the quantity of alcohol they consume (Sobell, Cunningham, & Sobell, 1996). Extended alcohol use was defined as drinking for two or more days without sobering up.

Respondents were asked about their past year use of illicit drugs. Any illicit drug use was defined as any non-medical and nonreligious use of marijuana or hashish, hallucinogens, cocaine in any form (including crack), heroin or other opiates, inhalants, or stimulants at least once in the past 12 months. Non-medical use was defined as use without a doctor's prescription, use in greater amounts than what a doctor prescribed, or use for some other non-medical reason, such as to get high. Nonreligious use refers to use outside a religious ceremony.

Substance Abuse and Dependence

Individuals were screened into the diagnostic portion of the interview if they reported alcohol or illicit drug use within the past year. Diagnoses of substance abuse or dependence were made using a modified version of the Substance Abuse Module of the Diagnostic Interview Schedule (DIS-SAM) (Robins, Cottler, & Babor, 1990) using criteria from the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM III-R) (American Psychiatric Association, 1987).[1] This instrument has shown adequate reliability and validity in minority populations and has been successfully used with American Indians (Manson et al., 1992). To be considered *dependent* on a given substance, persons needed to have had a minimum of three out of nine symptoms of dependence at any point in their lifetime. Some of these symptoms need to have persisted for at least one month or to have occurred over a longer period of time. The DSM III-R (1987) category of psychoactive substance abuse was applied to those who did not meet the definition of dependence but had at least one of the following symptoms: (a) continued use despite persistent or recurrent social, occupational, psychological, or physical problems caused or exacerbated by substance use; or (b) recurrent use in physically hazardous situations. In the analyses, diagnoses of substance abuse and dependence were combined.

Data Collection

After conducting a pilot test, Computer Assisted Personal Interviewing (CAPI) was implemented from November 1996 through August 1997. Data collection was coordinated by the Aberdeen Area Tribal Chairman's Health Board (AATCHB), an umbrella organization designed to bring together the Indian nations in the Aberdeen Area to address matters of American Indian health. Interviewers underwent four days of intensive training. All interviewers and supervisors were American Indians from the participating reservations.

To increase awareness and support for the main study, tribal coordinators implemented a media campaign to advertise the study on radio stations, in flyers, and in newspapers. In addition, interviewers mailed a lead letter to households about a week before they anticipated making their

first contact. Interviewers then made a personal visit to the household where they spoke to an adult and introduced the study. If the adult agreed to complete the screening interview, the interviewer constructed a roster of the first names (or some other unique identifier) of adults aged 18 years or older in the household using a laptop computer. The CAPI program on the laptop was used to randomly select one adult in the household for an interview.

If the selected household member was present, the interviewer proceeded with the survey. If the selected adult was not available, the interviewer arranged a time to return when the selected person would likely be at home. Prior to attempting an interview, interviewers described the nature of the information to be requested and procedures to be followed, informed household members about the voluntary nature of the survey and their rights as respondents, explained confidentiality procedures and protections, and described how the data would be used to benefit the tribe.

Respondents were given a financial incentive for completing an interview. The amount of the incentive was usually $10, but varied in some cases depending on preferences of tribal leaders. Some tribes expected respondents to do the interview without incentives and to use the money for other purposes to help the reservations. Other tribal leaders chose to pay respondents for their time to conduct the interview.

Analysis

Data were weighted to reflect the probability of an individual's inclusion in the sample, and weights were adjusted to compensate for different response rates and coverage within gender and age groups.

Univariate and bivariate analyses were conducted on sample characteristics and the association between cultural orientation and the prevalence of substance use and abuse. Multivariate logistic regression analyses were performed to examine the relationship between cultural orientation and substance misuse outcomes, controlling for the socio-demographic characteristics of age, gender, education, and employment. All statistical analyses were performed using Survey Data Analysis (SUDAAN). The SUDAAN software fully accounts for the complex features of the sample design including stratification and unequal weights (Shah, Barnwell, & Bieler, 1997).

Results

Univariate and Bivariate Results

Sample Characteristics

Table 1 summarizes key characteristics of the study sample. The majority (60%) of the survey respondents (un-weighted) were female, and the age groups most represented by the sample were 25 to 44 year olds (47%) and 45 to 64 year olds (30%). Over 70% of the respondents reported at least a high school education, and 44% of the respondents were working full-time at the time of the interview. Using the cultural orientation measure described earlier, two-thirds of the respondents were classified as bicultural, 20% as more American Indian oriented and 15% as less American Indian oriented.

Demographic Differences in Cultural Orientation

Chi-square measures of association were calculated to assess variations in cultural orientation among different socio-demographic groups. Table 2 presents cultural orientation by gender, age, education, and employment. The distribution across the cultural orientation categories was found to be similar for males and females. Cultural orientation also did not differ significantly by educational attainment. In contrast, statistically significant differences in cultural orientation were observed for age and employment status. Older American Indians were more likely to be more American Indian oriented and less likely to be bicultural, whereas younger respondents were more likely to be classified as bicultural. Those who were employed part-time or fell within the "other" employment category (e.g., disabled, retired, homemaker) were more likely to be American Indian oriented.

Past Year Substance Use by Cultural Orientation

Chi-square measures of association were calculated to access differences in substance use behaviors by cultural orientation. Table 3 presents these results. Rates of past year substance use were consistently highest among bicultural and less American Indian oriented respondents, and this pattern was statistically significant across all alcohol, illicit drug, and poly-drug use measures. In addition, past year rates of alcohol use disorders (either alone or in combination with drug abuse/dependence) were highest among bicultural and less American Indian oriented respondents.

Logistic Regression Results

Table 4 presents the odds ratios and 95% confidence intervals resulting from the multivariate logistic regression analyses. These analyses were conducted to further assess the nature of the association between

cultural orientation and three measures of problematic substance use while controlling for selected demographic characteristics. To limit the scope of the paper, we focused the multivariate regressions solely on measures of heavy drinking, alcohol abuse and/or dependence, and drug abuse and/or dependence, which are the most commonly used classifications of substance misuse.

Table 1
Sample Characteristics

Socio-Demographic Characteristic	Number of Respondents	Unweighted Percentage	Weighted Percentage
Gender			
Male	977	39.9	48.3
Female	1,472	60.1	51.7
Age (in years)			
18-24	297	11.4	16.3
25-44	1,161	47.4	51.7
45-64	727	29.7	23.7
65+	282	11.5	8.3
Education			
Less than high school	621	25.4	23.7
High school education	896	36.6	36.0
Some college	507	20.7	21.9
College graduate or higher	424	17.3	18.4
Employment Status			
Full-time	1,058	43.6	43.3
Part-time	226	9.3	9.3
Unemployed	340	14.0	14.6
Other[a]	805	33.1	32.9
Cultural Orientation			
More American Indian oriented	492	20.1	23.1
Bicultural	1,588	64.8	64.0
Less American Indian oriented	369	15.1	12.9

[a] Other includes retired, disabled, homemaker, student, or "other."

Table 2
Cultural Orientation by Selected Demographic Characteristics

Characteristic	More American Indian Oriented (%)	Bicultural (%)	Less American Indian Oriented (%)	X^2	p-value
Gender				0.02	NS
Male	23.0	64.2	12.8		
Female	23.2	63.9	13.0		
Age (in years)				67.5	p < .001
18-24	11.5	73.0	15.6		
25-44	19.3	66.7	14.0		
45-64	59.3	30.0	10.7		
65+	50.1	42.9	7.0		
Education				9.6	NS
Less than high school	23.2	63.7	13.1		
High school education	20.9	64.0	15.1		
Some college	20.7	67.9	11.4		
College grad or higher	29.9	60.1	10.1		
Employment Status				45.8	p < .001
Full-time	19.3	67.4	13.3		
Part-time	22.5	70.9	6.6		
Unemployed	13.1	71.5	15.3		
Other[a]	32.0	54.7	13.3		

[a]Other includes retired, disabled, homemaker, student, or "other."

Significant "predictors" of heavy drinking in the multivariate regression analyses were age, gender, educational attainment, employment, and cultural orientation. Heavy drinkers were more likely to be young, male, unemployed, and have less than a high school education. Individuals aged 18 to 24 years and 25 to 44 years were 9.0 and 7.1 times (respectively) more likely to be heavy drinkers than adults aged 65 years and older. Males were 1.6 times more likely to be heavy drinkers compared to females, and individuals with a high school diploma or less were almost two times as likely to be heavy drinkers than those with more than a high school education. The unemployed or "other" employment group, were 3.4 and 2.1 times (respectively) as likely to drink heavily as those with full-time employment. After controlling for all of these demographic variables, cultural orientation was significantly associated with heavy drinking: less American Indian oriented

individuals were more than 4 times and bicultural individuals almost 3 times as likely to be heavy drinkers as compared to more American Indian oriented adults.

Results from the alcohol abuse and dependence model were similar to those of the heavy drinking model. Young to middle-age adults were approximately 9 times more likely to have an alcohol use disorder than adults aged 65 years and older. Males were almost twice as likely to have an alcohol use disorder than females, and unemployed persons were 5.2 times more likely to have problems with alcohol abuse or dependence than those who were employed full-time. Bicultural adults were two times more likely

Table 3
Past Year Alcohol and Illicit Drug Use, Abuse, and Dependence, by Cultural Orientation

Type of Substance Use, Abuse, and Dependence	More American Indian Oriented (%)	Bicultural (%)	Less American Indian Oriented (%)	Overall (%)	X^2	p-value
Alcohol Use						
Any alcohol use	20.4	51.1	58.6	45.0	102.9	p < .001
Heavy alcohol use[a]	11.2	28.8	39.9	26.2	58.9	p < .001
Extended drinking	10.9	23.6	22.5	20.5	23.9	p < .001
Illicit Drug Use						
Any illicit drug use[b]	12.2	26.9	27.9	23.6	29.8	p < .001
Any illicit drug use excluding marijuana	3.9	10.7	13.5	9.5	15.8	p < .001
Marijuana use	11.3	24.7	25.2	21.7	26.5	p < .001
Polydrug Use						
Heavy alcohol use and use of 1 or more illicit drugs	19.2	42.7	50.3	38.2	65.3	p < .001
Use of 2 or more illicit drugs	3.8	9.0	10.9	8.0	10.3	p < .001
Substance Abuse and Dependence						
Alcohol	11.9	25.5	21.1	21.8	24.9	p < .001
Illicit drug	5.7	11.6	10.6	10.1	7.5	p < .05
Alcohol and/or Illicit drugs	15.5	30.6	26.3	26.6	24.8	p < .001

[a] Heavy drinking = drinking five or more drinks (four or more drinks for women) in a 24-hour period at least once a week or on 4 or more days in the past month.

[b] Illicit drug use = nonmedical/nonceremonial use of marijuana, hallucinogens, inhalants, cocaine/crack, opiates, or stimulants.

than more American Indian oriented individuals to have an alcohol use problem, although there was no significant difference between more and less American Indian oriented adults. Educational attainment was not a significant correlate of alcohol problems once the other socio-demographic variables were controlled for.

Table 4

Adjusted Odds Ratios (OR) and 95% Confidence Intervals (CI): Correlates of Past Year Substance Use

Independent Variables	Heavy Drinking OR (CI)	Alcohol Abuse and/or Dependence OR (CI)	Illicit Drug Abuse and/or Dependence OR (CI)
Age (in years)			
18-24	9.02*(4.46-18.22)	9.63*(4.36-21.25)	15.22*(6.16-37.63)
25-44	7.08*(3.77-13.31)	9.06*(4.41-18.60)	7.12*(2.99-16.94)
45-64	2.89*(1.54-5.42)	3.96*(2.12-9.13)	_____
65+ (reference group)[a]	_____	_____	
Gender			
Male	1.62*(1.20-2.19)	1.89*(1.37-2.61)	2.06*(1.25-3.39)
Female (reference group)	_____	_____	_____
Education			
Less than high school	1.89*(1.23-2.89)	1.46(0.93-2.28)	0.89(0.46-1.73)
High school degree	1.76*(1.22-2.54)	1.40(0.96-2.05)	1.07(0.60-1.92)
More than high school degree (reference group)	_____	_____	_____
Employment Status			
Full-time (reference group)	_____	_____	_____
Part-time	0.84(0.48-1.49)	2.03*(1.16-3.54)	057(0.21-1.56)
Unemployed	3.35*(2.18-5.17)	5.20*(3.29-8.23)	2.42*(1.30-4.52)
Other[b]	2.08*(1.40-3.08)	3.08*(1.98-4.80)	2.51*(1.34-4.69)
Cultural Orientation			
More American Indian oriented (reference group)	_____	_____	_____
Bicultural	2.88*(1.85-4.47)	2.30*(1.48-3.59)	1.57(0.80-3.11)
Less American Indian oriented	4.38*(2.56-7.49)	1.59(0.89-2.84)	1.24(0.51-2.99)

[a]For the illicit drug abuse/dependence model, adults aged 45 to 64 years were used as the reference group, because there were no adults aged 65 years and older who had a drug abuse problem.

[b]other includes retired, disabled, homemaker, student, or "other."

*$p < .05$

The pattern of results differed when illicit drug abuse/dependence was the outcome variable in the logistic regression model. In this analysis, only age, gender, and employment status were significantly associated with drug abuse. Young adults (aged 18 to 24 years) were 15.2 times more likely to have a drug use problem than adults aged 45 to 64, and males were approximately two times more likely to have a drug use problem than females. The unemployed or those in the "other" employment category were approximately 2.5 times more likely to have a drug abuse problem than those who were employed full-time. Educational attainment and cultural orientation were not significantly associated with illicit drug abuse or dependence in the logistic regression model. Additional regression models were run (not shown) to determine whether age or gender moderated the relationship between cultural orientation and substance misuse. Interaction terms were added to the models described above; however, no significant effects were found.

Conclusion

Our findings indicate that cultural orientation does have relevance for American Indian substance use behavior. Low orientation to the American Indian culture and biculturalism were associated with higher levels of multiple types of substance misuse including heavy and extended drinking, illicit drug use, poly-drug use, and alcohol abuse and dependence. Even after controlling for age, gender, education, and employment, cultural orientation was found to be a significant correlate of past year heavy drinking and alcohol abuse and dependence. Bicultural individuals were almost three times as likely to drink heavily and 2.3 times as likely to have an alcohol use disorder as compared to individuals with a high American Indian (or traditional) cultural orientation. Moreover, American Indians with a low orientation toward traditional culture were more than 4.4 times as likely to be heavy drinkers compared to more American Indian oriented adults (although low American Indian orientation was not significantly associated with an increased risk for alcohol abuse or dependence).

Interestingly, the relationship between cultural orientation and substance use differed for alcohol versus illicit drug use. When demographic variables were controlled for, cultural orientation was no longer significantly associated with drug abuse and dependence. The lack of findings between cultural orientation and drug abuse could be due to the lower prevalence of drug abuse and dependence in these communities (11% compared to 21% for alcohol abuse or dependence). Or, there may be special significance to the role of alcohol given its deeply embedded historical and social roots. Anthropological and ethnographic research on American Indian populations suggests that drinking behavior is more reflective of context than individual motive or dysfunction (O'Nell & Mitchell, 1996; Spicer, 1997; Topper, 1974). Drinking on reservations is predominantly social and plays an important role

in bringing individuals together. It can be a way to express positive feelings towards others and engender companionship. Drinking also occurs in critical social contexts where important values such as kinship, hospitality, and reciprocity are carried out. While it can be an important social lubricant, its ubiquitousness is also recognized by American Indians as a symbol of cultural degradation and loss (Spicer, 2001). Thus, alcohol use is a double-edged sword fueling both socially reinforced and socially destructive behaviors. As succinctly articulated by Spicer (2001), "There is a profound contradiction between the social connectedness found in the drinking group and the social fragmentation that often accompanies drunkenness..." (p. 311-312).

Given alcohol's prominence in American Indian communities, cognitions and values that help individuals to distinguish between controlled versus destructive drinking may be critical for modulating use. As such, cultural traditions may provide individuals with role demands and rewards beyond the immediate social reinforcements of alcohol use which help individuals to monitor their behavior. Expectations for taking on traditionally defined responsibilities may orient behavior around the cycles and values of Native culture, helping one to sidestep the vicious cycle of alcohol misuse. Participation in ceremonial or sacred activities may provide an important alternative to recreational drinking, and may elicit healing and hope among those affected by alcohol-related problems. Moreover, feelings of ethnic pride may provide American Indians with sources of strength to avoid and overcome substance misuse (LaFromboise & Rowe, 1983; May & Moran, 1995).

Our finding that biculturalism was associated with alcohol misuse conflicts with theory and research that attest to the importance of strong affiliation and competence in both the majority and minority culture (Birman, 1998). Biculturalism has been suggested as the most adaptive form of acculturation, because it allows individuals to draw upon multiple sources of strengths and knowledge to succeed in multiple contexts (Szapocznik & Kurtines, 1980). Our results suggest that the association between biculturalism and health behaviors may differ for adult American Indians living on reservations.

Much of the research on biculturalism has been conducted with populations that have migrated to the United States and that reside within and are integrated into the dominant culture (although marginally in some cases). Biculturalism may be adaptive for individuals living in more integrated communities, but perhaps biculturalism is less effective for those residing in more ethnically homogeneous communities, particularly those relatively isolated from mainstream culture (e.g., reservations). Moreover, for American Indians living on reservations, identification with two cultures may lead to increased acculturative stress that results when individuals attempt to incorporate multiple perspectives and incongruities. Attempting to achieve competence and success in both the American Indian and Anglo world may lead to dissonance if what is valued and rewarded in one culture is inconsistent

with that of another culture. For instance, American Indian values of tranquility, responsibility, and cooperation may come into conflict with the Anglo culture's emphasis on material prosperity and autonomy (LaFromboise, 1988). Living in both worlds may be isolating for American Indians who are not sure quite where they fit in, and interfacing with the dominant culture may increase their exposure to racial prejudice and discrimination.

In addition, much of the literature attesting to the positive influence of biculturalism has been conducted with adolescents. There may be developmental shifts such that during adolescence when identity development is the crucial task, exploration and competence in both the majority and minority culture may be most adaptive. Alternatively, when identity is more solidified, biculturalism may be less salient and adaptive for addressing adult role demands, particularly in the context of reservation life.

Our finding on the negative influence of biculturalism also may relate to the way in which cultural orientation was measured in this study. Although, our measure moves beyond simplistic proxies often used to capture cultural orientation such as language or food preference to include social interactions, ethnic pride, and interest and participation in cultural activities, it does not capture the complex process of independent identification with both the traditional and mainstream culture (De La Rosa et al., 2000). Due to the nature of the items on our scale, it is unclear to what degree we truly captured biculturalism. Half of the items on the scale included response options that infer involvement in two worlds (e.g., reading and speaking English and the Native language, association with American Indian friends as well as friends of other ethnicities). The operationalization of culturalism for other items; however, reflected a moderate involvement or commitment to participation and reflection on American Indian issues (e.g., participating in traditional cultural activities sometimes).

In general, it is likely that the eight items contained in our measure of cultural orientation did not capture the full breadth and depth of this construct. More emphasis on the identification of specific cultural practices, values, and beliefs unique to American Indians that comprise enculturation would be useful (Moran, Fleming, Somervell, & Manson, 1999). The measure also could benefit from inclusion of items reflective of higher order acculturative shifts in behavioral patterns and worldviews (Marin, 1992). Additionally, more work is needed in developing measures that consider the multifaceted and multidirectional nature of cultural orientation for American Indians. For example, the response options for our cultural orientation items did not allow us to distinguish between those who are low on American Indian orientation versus those who are marginalized from both cultures. This distinction may have important implications, because prior research on acculturation suggests that those with low orientation to both the majority and minority culture have the lowest level of adjustment (Oetting & Beauvais, 1990-91). Finally, recall that the measure of internal consistency of our cultural orientation scale was marginal at .68, suggesting that the cultural orientation items were only

somewhat rather than highly correlated with each other. Clearly, more research is needed to determine the constructs most highly representative of what it means to be bicultural in American Indian communities as well as how to measure and operationalize these constructs in statistical analyses.

There are other limitations to our study. Due to confidentiality concerns among Tribal Nations, we did not explore potential variation across tribes. There is a great deal of cultural, geographic, and economic diversity among Tribal Nations. Substance use behaviors may be affected by a number of contextual or cultural characteristics including the historical context of alcohol introduction; tribal history of political and economic oppression; migration; tribal perspectives on substance use (e.g., ceremonial use, vision quests) as well as community attitudes, norms, and policies regarding alcohol (Beauvais, 1998; Weisner et al., 1984). A more in-depth ethnographic or qualitative study of tribes' historical experience and cultural context would be useful to link distinct characteristics and experiences to substance misuse. Our data were collected from American Indians within one state, and although they represent multiple tribes, the results from this study cannot be generalized to other American Indians. Moreover, our analyses were limited to on-reservation American Indians only. The significance of cultural orientation, particularly for American Indians more intermingled into heterogeneous society is an important topic for further study. Additionally, although 74% of contacted individuals agreed to participate, it is important to acknowledge the potential non-response bias.

In this investigation, we explored cultural orientation solely in relation to substance use behaviors. Because data on substance use and cultural orientation were collected during the same time period, we are not able to speak to the causal relationship between them. It is plausible, for example, that those who misuse substances stop participating in and valuing traditions and ceremonies. Additionally, although multiple indicators of substance misuse were used, more prominence was placed on clinically diagnosable disorders. Using diagnostic criteria are important for standardization across research studies; however, consideration needs to be given to whether these criteria are equivalent in American Indian populations. Research does suggest that the Diagnostic and Statistical Manual for Mental Disorders has relevance and can be used effectively in American Indian populations (Manson, Walker, & Kivlahan, 1987). However, alternative definitions of problematic drinking including consequences of drinking behaviors that violate cultural values or culturally patterned expectations should be considered (O'Nell & Mitchell, 1996). Moreover, the inclusion of other psychological and health outcomes are needed in future studies. Specifically, research that investigates the way in which cultural orientation may foster resiliency is critical.

Despite these limitations, this study helps to advance our understanding of the link between cultural orientation and health behaviors and highlights the importance of traditional culture in protecting American Indians from substance use disorders. Deepening involvement in traditional

rituals and practices and returning to more traditional beliefs may provide American Indians with important resources for coping with the stress of reservation life. Incorporation of traditional healing methods (e.g., talking circles, sweat lodges) may enhance the effectiveness of substance abuse treatment services and an emphasis on cultural preservation and positive ethnic identity development may be important for substance abuse prevention programs. Because of the strong theoretical rationale for biculturalism and prior empirical findings on its potential benefits, we do not want to dismiss the importance of biculturalism for adult American Indians. More research is needed to clarify the contexts and role demands for which biculturalism is adaptive versus ineffective. Additional research is needed to further conceptualize cultural orientation among American Indians, delineate the specific aspects of cultural orientation that are most protective, understand how these aspects may differ on and off reservation, and determine how to promote these protective factors in substance abuse prevention and treatment programs.

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Author's Note

Footnote

[1]At the time these data were collected, computerized diagnostic algorithms were only available for DSM III-R. Comparisons of the overall prevalence of substance use disorders between DSM III-R and DSM IV are very similar, although the proportion of individuals with a substance abuse diagnosis is generally higher under DSM IV criteria (Chong & Herman-Stahl, 2002; Grant, 1993).

ASPECTS OF COMMUNITY HEALING: EXPERIENCES OF THE SAULT SAINTE MARIE TRIBE OF CHIPPEWA INDIANS

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Abstract: Modern American Indian tribal communities are working toward addressing serious social concerns like poverty and destruction of social structure. These are the legacy of historical oppression, boarding schools, systematic loss of culture and disappearing original territorial lands. The Sault tribe and other tribes in general, deal with behavioral patterns resulting from loss of identity, spirituality and culture, serious alcohol abuse, and domestic violence. They also experience vocational stresses, identity loss, cultural isolation, and other distress patterns evident in the dysfunctional behavior of community and/or tribal members. The prospect of community healing, from internalized oppression and "ethnostress" and reaching a stronger spiritual, cultural-base is a long-term, multi-faceted, human liberation that touches on key American Indian issues.

Experiences of the Sault Sainte Marie Tribe of Chippewa with Aspects of Community Healing

While there is growing attention to the importance of "healing the past" in American Indian communities, it is still a subject that is more readily understood and acknowledged than it is written about or researched. There is more detail on the subjects of "oppression" and "healing" in Bobiwash's discussion of the importance of individual experiences in tribal traditions (Bobiwash, 1999), and Rupert Collister's (2001) paper on lifelong learning strategies. Collister discussed victimization, "globalization," educational differences, world view, and "the people who are suffering as a result of these policies" (p. 1). The Canadian government recently sponsored an extensive report of the healing process in communities with "Mapping the Healing Journey" (Solicitor General Canada and the Aboriginal Healing

Foundation, 2002). The final report outlines the "…debilitating shocks and trauma that left whole nations reeling and broken" (p. 9). The report further points out that while the literature about healing is emerging, "…almost everything has been tried when it comes to healing modalities. Basically almost everything works for someone, and nothing works for everyone. It is clear that specific modalities are less important than the context in which they take place" (p. 46). Warry (1998) discussed that the community healing movement and the cultural renaissance have grown hand-in-hand, and that "…the healing process involves not just family and community but also multiple community systems in a process of planned change and institution building" (p. 256). Rogers (2001) defines healing as "to become whole" (p. 1513). He further described healing as "…bringing balance or harmony to one's life. Healing is a personal or family cleansing of unresolved grief, loss, historical trauma, shame and fear" (p. 1513).

The common perception of North American Indians, by American Indian and non-American Indian alike, is some past and ancient idyllic pre-industrial existence which is a romanticized and partial picture that never really existed. The past is typically portrayed as pastoral scenes, "living off the land" surface cultural life, or in contrast, atrocities and brutal warfare. We've all seen these capsulated images and explanations depicted in TV and movies, western and romance novels, and antiquated history books. Because little else of substance is seen or known, that mistaken picture is often relayed to American Indians as the picture of who they are or were. As a result American Indian cultures are marginalized and reduced to stoic images of mass-produced trinkets, colorful decorations, feathers and beads, wall-decoration pipes, headdresses, and pottery, all for sale. Tragically American Indian people have been dehumanized by these false characterizations, which have fostered identity confusion and disruption of an understanding of their place in the world (Antone, Miller, & Myers, 1986). While some American Indian people have been forced to abandon their heritage, others purposefully sought to leave family, community identity, and ties behind. If the choice to abandon identity was related to economics, "to pass" or get along, the effects are just as culturally devastating as if the cause were forced removal or the boarding school experience. The disastrous results of this kind of long-term genocidal thinking and action has resulted in American Indian communities reflecting a very high, easy to identify, myriad of social ills, governance issues, and less easily understood divisiveness, or "narrowing of culture" (Antone, et al., 1986, p. 16). The losses in human potential, pain and anguish, over a long and cumulative period of time are immeasurable. This is the backdrop for healing of the community in Sault Sainte Marie, Michigan.

The Sault Sainte Marie tribe of Chippewa Indians, recognized in 1974, has developed rapidly, demonstrating the massive growth and the accompanying financial success that gaming and hard work brings to tribal communities. The Sault tribe is the largest in the Upper Peninsula of Michigan, and offers hiring and retention preference for tribal members and American

Indian households. The Sault tribal service area covers seven counties in the Eastern Upper Peninsula of Michigan. Rich in vast forests and flanked by Lake Superior and Lake Huron, the area is home to many natural wonders. Sault (pronounced Soo) Sainte Marie (French, meaning the Rapids of St. Mary's) is one of the oldest settlements in the United States. It is referred to as "Bawaating," one of the gathering places on the migration around the Great Lakes. Some say Bawaating (Ba-Wa-TING) has been the summer cultural center for American Indians for thousands of years. Considered a rural community, the Soo has a high percentage of American Indian residents who are largely assimilated into the economic, historical, and social life of the area. As in many other American Indian communities, along with many innovations and progressive activities, modern-day Bawaating has high percentages of violence, child abuse, alcoholism, and family dysfunction (Antone, 2000). Also significant in the Soo are high assimilation factors such as few language-speakers, mounting health and mental health concerns, a reduced sense of community, and dwindling ethnic identity. The impact of these issues or "historical oppression" has recently become accepted to be reflective of the presence of "ethnostress" or "loss of joyful identity" (Antone, et al., 1986, p. 7). At the same time, tribal members and the community at large benefit from the higher income and services availability reflective of better employment opportunities and a higher standard of living. An ongoing concern for many years has been that the increase in the standard of living, although mitigating some of the poverty factors, did not appreciably reduce the impact of oppression of the community (see Appendix A).

In 1999 the Sault Tribe of Chippewa Indians introduced a federal project in the form of a cooperative agreement with the Department of Justice named: Safe Kids, Safe Streets (SKSS), Building Strong Native American Families. The Safe Kids, Safe Streets project is designed to address systems reform aimed at reduction in child abuse and resulting in reduced juvenile delinquency (Safe Kids, Safe Streets, 2003). This project is significant in that it was funded and administered through a collaboration of Department of Justice Programs, including the Office of Juvenile Justice and Delinquency Programs (OJJDP), Executive Office for Weed and Seed, and the Office on Violence Against Women. A small local group initiated low-key, grass-roots cultural discussions as a result of the local, multi-tasked SKSS initiative. Initial discussion focused on hope for more collaboration among programs and a stronger inclusion of spiritual values in slowly developing tribal programs. The issues discussed were similar to those that have been voiced within the community as concerns for many years. This group proved to be different than previous discussion groups because they continued to meet under the SKSS umbrella and kept the discussion going. The group envisioned a need for incorporation of Anishnabe culture into programs, and ultimately for healing in the community.

The discussions continued slowly. A larger group was loosely formed utilizing a talking circle format to discuss how to structure the process, who

might direct it, and what might be expected from such a process (see Appendix B). The rise of this grass-roots effort toward community healing in Bawaating, as a planned community development process, has been welcomed by those who have become aware if it during the 18 months of development. The process of reaching consensus on direction included prayers and ceremonies, consulting elders, and many talking circles to specifically and painstakingly articulate expectations (see Appendix C). Commitments from trainees were sought for participation in the process. A lengthy and well-developed presentation was made to the governing body of the tribe, the Board of Directors, and they solidified support for the development of the process and for bringing the Community Healing Process to the Bawaating area (see Appendix D).

It should be noted that the issues and activities undertaken in the Community Healing Process structure are lengthy and this article is not intended to be comprehensive enough to adequately detail the full experience of community healing in Bawaating or any American Indian community. While many issues and subjects of community healing training are worthy of note, the following three are being discussed here: (a) assimilation factors in the indigenous community, (b) the reintroduction of clan identity and structure into community, and (c) the importance of sense of belonging to healing and "joyful identity."

Community Healing Process

Understanding and addressing internalized oppression or "ethnostress" is critical to recovery in American Indian communities. Any American Indian community with the tenacity and motivation to address healing change must address ethnostress, or the "loss of joyful native identity" (Antone, et al., 1986, p. 7). It is crucial to go through each of four stages of community development which includes awareness, struggle, building, and preservation. Ethnostress is a term coined by Bob Antone of Tribal Sovereignty Associates, who was the consultant selected to train and facilitate community healing in the Bawaating area. Mr. Antone has worked extensively in the U.S. and Canada for many years. He was very careful in trying to understand our community and to make recommendations for the changes that we envisioned (B. Antone, personal notes, 1999).

The curriculum brought to the community by Mr. Antone, entitled "What Was Never Told," provides a common ground for understanding and awareness (Antone & Dumont, 1997). It is the first of four phases in long-term community healing. Participants would be given a starting place for building common knowledge and then trainees would in turn share this information with others, causing a ripple of discussion and experiences to begin throughout the community. The Community Healing Process was structured to first provide training to individuals who would commit to share and teach the information they obtained three days a month for six months.

Trainees would then share the information within their spheres of influence including family, work, circles, groups, clients, students, and workers.

During these planning discussions, held in a talking circle format with ceremonial smudging and prayer before each session, consensus was made that the focus be to attempt to undo ethnostress in the form of the loss of community that has been experienced in this locale. Six months of talking circles brought the community to the point of readiness for the next step, i.e., to determine how they would learn about the process, who would teach them, and who from within the community would lead the process (see Appendix E). After a discussion with key tribal leaders, it was concluded that the community was heading in the direction it wanted to go. Mr. Bob Antone of Tribal Sovereignty Associates was invited to present on community healing and to facilitate a discussion regarding the direction for the process. As he entered into the community and listened to our thoughts, explanations, and needs he began tailoring a localized plan for the Community Healing Process. A trust level was established with him. Pipe carriers and elders, listening and asking questions, were among the wide variety of community members who contributed to development at this phase. In the interim the study group continued to discuss the healing process, and a steering group was formed. When Mr. Antone's report and recommendation were received, providing a blueprint for development, the study group met again. Several participants took the responsibility for summarizing the report for presentation to the steering group. The consensus was that the steering group liked Mr. Antone's style and the course he was recommending. A critical step was going back to the pipe carriers and elders, asking their opinions, and finding they were supportive.

Another critical step was to clearly articulate the purpose, benefits, expectations, and vision to the steering group, the Board of Directors, and to the potential participants as well. The steering group developed clear expectations that those who committed to the training would form a resource for leadership for further development within the community (see Appendix E). The steering group engaged assistance from tribal staff and community members, and made an outstanding presentation to the tribal Board of Directors outlining the elements of the Community Healing Process. The presentation included Tribal Division/Department Directors/Managers discussing how their programs fit into the vision of the healing process, as well as personal testimonials from tribal members about their hopes for the process (see Appendix D). The Board of Directors unanimously passed a strongly worded resolution about the importance of community healing to the Bawaating community. This governmental support was another crucial element in the development of the Community Healing Process.

It is important to note that the Community Healing Process is not "linear" in construction. It relies on "wheel" or circular concepts that are basic to the American Indian experience. The lessons and activities are built on American Indian thought processes and theoretical constructs. The

methods are creative, engaging, imbued with "American Indian thinking," and based on American Indian culture. The first part of training is considered to be the start of disseminating critical base-line information. Completion of Part One of the training is the beginning, or bringing-forth the community knowledge that is the start of healing (Antone, 2000).

Sault Tribe contracted with Mr. Bob Antone, of the Oneida Nation, and Mr. Jim Dumont, an Ojibway, both from Canada, to conduct the training for Bawaating. A great deal of credit for the success of the learning experience was in the creativity, spirituality, and humor brought to us by Mr. Antone and Mr. Dumont. They were a masterful team alternating as facilitators, presenters, and teachers, and also modelers of sharing, feeling, and connecting. The training participants were kept on task, allowed closure, and pushed to the next exercise as part of the process, all modeled with the kindness and generosity that is Mr. Antone's and Mr. Dumont's style. During training the participants were allowed a safe place to express their individual creativity, use their imagination, and shed healing tears. The giving and receiving brought out closeness that only commitment and sharing on a deeper level can bring. Participants report feeling awed by the unfolding prospect of previously separate individuals being pulled together into a core group who were spiritually and culturally connected.

In order to accommodate tribal employees and non-employees, the group agreed to train all day Thursday, Friday afternoon and evening, and all day Saturday. Employees of the tribe donated their Friday nights and Saturdays and were released from work for 1.5 days each month. Donating time in order to receive the training was viewed as a measure of commitment to the process. The many tribal staff involved made the commitment for personal participation without question.

It was considered important that participants commit to the duration of training, and that they be frank about any barriers to participation that may surface. A group of "barrier busters" made up of participants then worked on the issues to remove the barriers. Barriers identified included travel expenses, childcare, accommodations for three days of training, feeding the participants, availability of sound equipment, and work-related issues. Tribal employees' supervisors signed approval or signed approved cultural leave (a tribal employment benefit).

Logistically, the greatest barrier proved to be childcare. Potential trainees desired that their children be in a safe and stimulating environment throughout the training. In response to this need, volunteers surfaced to coordinate and provide childcare for the duration of the training. Volunteers and staff from the tribe's Youth Education Program pitched in to make a comfortable place for the children at Big Bear Community Recreation Center on Friday nights and Saturdays, offering supervision and activities. Additionally, the Sault Tribe's Childcare Assistance Program provided food for the children during the time their parents were in training.

Other barriers were handled using problem solving by steering committee members, supervisors, and participants. Training sessions were scheduled to be held at the Sault Tribe's ceremonial building, a large multi-use community facility with a kitchen.

It was believed that an important aspect in the care for participants was the provision of food during their training sessions. More than just the convenience of allowing participants to remain on site, or the fact that it might be difficult to accommodate that many diners in town, was the cultural concept that sharing food, sharing sustenance, and eating together was another avenue to bond person-to-person. The prayer that is offered when preparing and serving the food is as important as the prayer that is offered when appreciating it, the bounty from the earth, and the provider (J. Dumont, personal notes, 2002). To this end several tribal departments—Housing, Youth Education, Children's Mental Health, SKSS, Community Health, Tribal Culture Department, and Intertribal Council—each sponsored meals for a session of training. This was another example of collaboration within the tribe in support of the process. With barriers addressed, participants signed and committed, Board of Directors' supports in place, locations, trainers, and texts identified, the training began.

It should be noted that our expectation was for a low number of participants to actually complete the training. The length and intensity of training were expected to result in a high dropout rate. Indeed, some participants were not able to sustain the commitment for a variety of reasons. Individual readiness to deal with the deep and painful issues discussed during any healing process is a strong variable. Amazingly, the process actually fared much better than expected for the first round of training, with 32 persons considered successful in completing training. An unanticipated outcome was the training participants becoming a close-knit core group.

Elements of the total training presented during the Community Healing Training Process were: (a) awareness of the impact of oppression on feelings, physical, emotional, and spiritual life; (b) recapturing accomplishments of American Indian people; (c) American Indian world view; (d) assimilation factors; (e) clan teachings, including roles of clans; (e) creation story; (f) historical myths; (g) policies and language of oppression; (h) contributions of American Indians; (i) myths of "discovery; (j) impact of invasion; (k) American Indian identity/culture clashes; (l) systematic genocide; (m) community building elements: awareness, struggle, build, preserve; (n) finding that joy in the center of everyone; (o) self-growth activities; (p) balance, self-sufficiency, harmony; (q) developing Anishnabe intelligence [multi-faculty response on all levels]; and (r) importance of economic creation: framework and thinking of people (Antone & Dumont, 1997).

A tremendous amount of material was shared and absorbed. Participants bonded in clan groups and were asked to report frequently about how the information was being perceived and retained. Participants reported feeling drained after each session, sometimes from the intensity of the

material, the deep sharing among participants, or the magnitude of the process. In evaluations of the overall training, participants reported greatly increased knowledge of traditional values and way of life, having made strong bonds, and ongoing commitment to the process. There was an eagerness to learn more, to be able to share more as the process continued into the remaining three phases.

Outside In: Assimilation Factors in the Community

A common, cross-community factor in American Indian communities is both the reality and perception of assimilation to the "dominant culture" (Antone, et al., 1986, p. 23). Also important are the ways in which assimilation is manifested. A major aspect of community healing includes an honest assessment of Bawaating community wellness. Perceptions from community members concerning their personal wellness and the general "wellness of the community" often are shown to be at divergent levels. Bob Antone presented a chart of assimilation factors on aboriginal health that has been in use extensively in the Canada First Nations training and was adapted for our use (Antone, 2000). These assessments of assimilation factors fall within several categories including: (a) physical health, (b) mental health, (c) emotional health, (d) spiritual health, (e) whole person health, and (f) health care systems. Within each of these factors are defined "indicators of wellness" that can be assessed for: (a) assimilation to unhealthy situations, (b) high impact, (c) impact, and (d) aboriginal holistic health. The following listing outlines the indicators within each factor.

1. Physical health: aging, body weight, mobility/activity.
2. Mental health: memory, thinking, learning.
3. Emotional health: feelings, relating, pride.
4. Spiritual health: futuring, inner signs, cultural connection.
5. Whole Person health: food, identity, lifestyle, extended family.
6. Health care systems: health care service, personnel, management, social health, political health, educational health, language, economic health, environmental health.

Respondents reviewed each of the charts with their respective definitions individually, once for assessment of their personal assimilation and again for their perception of community wellness. This information was then shared in small clan groups. Reports were shared with the entire group.

The findings were interesting in that generally individuals considered themselves less assimilated or at-risk than they perceived their community to be suffering from assimilation. When individuals had a high confidence in their personal lack of assimilation, they tended to be less pessimistic regarding the wellness of the community as a whole. If we chose to do this exercise

again it might be beneficial to be more specific about data collection within the small groups, for we are unable to give an overall numerical analysis because groups collected the data divergently.

Interestingly, several participants of Bawaating's Community Healing Process training were familiar with Colorado State University's Tri-Ethnic Center for Prevention Research's Community Readiness Model (Edwards, Jumper-Thurman, Plested, Oetting, & Swanson, 2000) and recognized key similarities with Mr. Antone's "assimilation factors." The Tri-Ethnic Center's Community Readiness Model that had already been utilized by Sault Tribe's SKSS project to assess readiness for child abuse/neglect reform, is a theoretical model developed to answer questions about how ready a community is to address an issue and to implement prevention and intervention strategies. Included are descriptors of the stages outlining how a community deals with a problem or issues using group processes and group characteristics—community climate, existing efforts, resources, community knowledge of efforts, and leadership. Stages in community readiness are no awareness, denial, vague awareness, preplanning, preparation, initiation, stabilization, confirmation/expansion, and professionalization. Assessment is performed using key informant interviewing research techniques. This procedure has been tested and reliability has been established and documented (Thurman, Plested, Edwards, & Oetting, 1998). The Community Readiness Model also provides suggestions for interventions once the determination is made as to where a specific community is functioning in the readiness continuum.

Participants were enthusiastic about having the initial community wellness indicators developed and presented by Mr. Antone to utilize as potential local outcomes for wellness/recovery/community healing efforts in American Indian communities. As a result of connecting community readiness and Mr. Antone, we are exploring ways we can utilize the localized readiness model strategies effectively. This is a good start on building usable practical strategies. More study and development is needed in order to discover ways of incorporating the assimilation factors into wellness outcomes for our community.

Inside Out: Importance of Sense of Belonging to Healing and Identity

Very little new information need be added to documented accounts of the damage that results when people have a sense of being shut out from community, home, and family. From pre-school up, feelings and experiences of isolation, fear, self-doubt, loss, and factionalism manifest when a sense of belonging is denied (Antone, 2000). Yet this very dynamic is present and continues to do damage in American Indian communities. Bob Antone, our facilitator, has stated specifically that "when you deny someone their sense of belonging, you are committing an act of violence on them" (B. Antone,

personal notes, 2002). That is a powerful condemnation of business as usual and provokes even the complacent to stop the personal violence. Participants learned to place high value on the process of encouraging and allowing the community to become safer for people to heal and grow, by making them comfortable to express their feelings, pain, and tears.

Another element of ethnostress, "The Hostage Syndrome" refers to the confusion a person experiences when he/she adapts to the point of view of his "oppressor" (Antone, et al., 1986, p. 16). Something akin to this element is what makes the tomahawk chop and other depreciation of American Indian images and spirituality seem to be acceptable. How can American Indian people build pride in their identity when stereotypes are the norm and only the "under glass" image (meaning separate from experience, non-dynamic, and viewed from afar or "outside") of American Indian people is erroneously accepted (Re-Building First Nations Communities, 1998)? How can American Indian people get to a different place when these stereotypes are promoted in the media, sports at all levels, arts, and business? Young American Indian people have great difficulty separating the notion that stereotypes and racial epithets are considered to be okay. Some justify their actions by calling them tributes to the fine qualities of American Indian people. In reality, when perceptions of right and wrong are clouded, we lose a piece of identity. Along with strong influences from the dominant culture about some other aspects of life including cultural/spiritual identity, the confusion is perpetuated and passed along to the next generation (Re-Building First Nations Communities, 1998). The struggle to develop one's own unique cultural identity and world view often takes a back seat to getting an education, earning a living, and starting a family. It's a long and persistent struggle to balance materialistic values and personal ambition with diametrically opposed cultural values. It is no mystery that young people struggle and often give up and turn to the dominant way of life just to get by in the mainstream, more materialistic culture (B. Antone, personal notes, 2002; J. Dumont, personal notes, 2002).

In order for community healing to develop, there needs to be a sense of safety within the community. It must be a place where it is safe to disclose, to work on our own personal healing, and where people feel connected to each other (B. Antone, personal notes, 2001). For this to occur, it must be a conscious process. Care and maintaining of community is not an accident, and cannot be haphazard. It is deliberate. This goes beyond just knowing your neighbors and includes an internal sense of whole acceptance and dropping of barriers like fear and distrust. Equally important is the external safety not to feel judgment from others, or the necessity to "convert to belong." Critical to reclaiming American Indian cultural identity is the need of hearing, experiencing, understanding, and reclaiming the American Indian story of creation and the sense of belonging that derives from it (Re-Building First Nations Communities, 1998). The impact of hearing one's own creation story, no matter the tribe or race, and learning one's place in the

world cannot be understated as a factor in reclaiming one's identity and acquiring an all important sense of belonging.

Reclamation of Clan Identity

The clan structure is virtually lost in Bawaating, as is perhaps the case in other highly assimilated tribal communities. The loss of clan teachings, bundles, and ceremonies has had a tragic impact on community structure, governance, education, and social structure. Clan identity strikes at the very core of issues around one's place in the community, occupation, life orientation to the world, family, relationships, and even whom one chooses to marry (Dumont, 1999).

Expressed by participants as one of the strongest positive features of the Bawaating Community Healing Process were the teachings and activities around the reclamation of clan identity, clan inventory, camaraderie among clans (similar to the feeling of "making relatives"), and acknowledgement of contributions to the community by the clans.

Among the first tasks in Community Healing Process training, was dividing loosely into clan groups for the purpose of small group discussions of the didactic materials and lessons. These clans include Bears, Crane and Loon, Bird including Eagle, Water including Turtle, and a combination of Wolf, Caribou, Deer, and Thunder clans called Hoofed Clan. This breakdown was based roughly on the clan designations already known to participants (Benton-Banai, 1979). There was keen interest in the clan groups and it stimulated many participants to discuss the issue of clan's and identity with family members in order to identify their true clans, or to go to the elders or spiritual leaders for clan identification. Eventually we received more detailed information on the seven original Anishnabe clans (J. Dumont, personal notes, 2000). Bonding in these small groupings was phenomenal, and amazingly the effects continue even after the training sessions. Groups discussed invasion of ancestral lands by outside forces and developed inventories of what we still have present in our community today. We reflected on the impact of the teachings we were given on society and on ourselves as individuals.

Understanding and accepting one's role in a community has a drastic impact on identity and self esteem. To know one's role, know the expectations of the community, have confidence in it, and obtain both the acceptance and appreciation of one's place in society is a crucial passage to adulthood that has been missing for many years with many people. Actual clan families are often large and extended, and sometimes complicated familial structures in American Indian communities (Dumont, 1999). Children are lucky to have the benefit of extended clan family who are often close-knit, supportive, and communicative. It has become clear to many participants that another step for healing our community is dissemination of the information and facilitation

of the reclamation of clans on a larger scale community-wide. Clan teachings are not completely lost. Youth can be assisted with training, as can even some elders who have missed out on these lessons in the last few generations.

Conclusion

Our Community Healing Process has accomplished the goals of laying groundwork for awareness, common knowledge, and understanding. Steps toward greater tolerance and even heightened action toward reclaiming community values, systems reform, and sustaining changes have been introduced.

Participants committed to share information within their homes, families, circles, and spheres of influence in the ways best suited to their skills and knowledge. To date, sharing circles have started discussing with specific health groups the impact of wellness on physical, mental, emotional, and spiritual feelings. These groups have reported being tremendously productive for cancer survivors, diabetic support groups, and others. Additionally, structured training sessions on excerpts of the material are being prepared for various employee groupings, non-American Indian service providers, and a presentation on community development from the cultural healing perspective is being prepared for the tribal Strategic Planning Committee. Plans are also being developed to make a summary presentation to the tribal Board of Directors.

It should be noted that Bawaating's Community Healing Process is unobtrusively operating on several levels. Preparations are being made for the next sessions, elements are being considered for inclusion in grant plans, etc., and less openly in the variety of commitments each participant took with them from training. Participants report being stronger spiritually, emotionally, and certainly mentally since incorporating the vast knowledge they were exposed to. Our community is changed as a result of these experiences. Every person who participated took some understanding away with them, whether they were a participant completing training or a visitor to a session. Lingering issues are broadly acquiring the requisite language proficiency to impart these levels of growth and experience, engaging interest from other community members in exploring their own readiness for such a process, and imparting the importance and potential of this healing process within programs and to those who will contribute funding. Interestingly, despite the leadership Safe Kids, Safe Streets, and Anishnabek Community and Family Services bring to the Community Healing Process, no one person, no one program, agency, or group is thought to own this process. It belongs to the community.

The results include many individual commitments, major pledges of support and funding, donations of time, and powerful expressions of care and concern for the community. The community takes pride and pleasure in the good direction being chosen. With completion of the first part of training,

we as a community are at a beginning in understanding, laying groundwork, and building on what is good that has not been lost. Each part of the prescription for the Community Healing Process that we have committed to is important. Every element of training and each topic are vital to individuals, families, governance, and development in Bawaating. It has been a long process to get to this place, yet this is just the beginning.

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Authors' Notes

Appendix A
Why are we doing this?

1.   We want to reduce the context of violence in the community.

2.   We want a greater sense of identity: Who we are and what we bring to each other. Just doing that will bring a measure of healing to the whole community.

3.   We want more people to have increased self-worth. We want to recognize and increase the awareness of the truth that wherever we are, we're good people. We want to commit to being Anishnabek wherever we go.

4.   We want recognition that the past has had an impact on us, the way we are today, the way we look at ourselves and the way people look at us. We want to understand the impact of ethnostress. We want an understanding of how or why things have been the way they've been, and learn to do things differently than we have in the past.

5.   We want a reduction in pain our people feel, even when they can't explain it. We want an increase in health for all the people, mentally, emotionally, and spiritually.

6.   We want to decrease the isolation from one another, increase the sense of family, identify who makes up the community, and *allow everyone a sense of belonging*. We want this sense of community to include all of our relatives. We want recognition of diversity in the community.

7.   We want to honor everyone's sense of belonging, not to deny anyone that very important need. *We want to end causing people pain from feeling turned away from community.*

8.   We want to recognize the resentment and mistrust that are present in the community. We have looked to the strength of the elders, but we are wearing them out. Some people are not able to express their feelings at all because of pain or their life experiences. We need to be sure all are included in healing and we can't *assume* others are in the same comfort level with dealing with pain. We have to ensure that people feel safe to bring up their pain during the healing process.

9.   We want finally some *spending on PEACE.* We don't want to continue just healing the symptoms of hurt and division in the community. We want to go back to the root causes and truly heal them. It WILL happen through this process.

10. There are basic differences in philosophy and principles all around us. The act of survival has changed us as a people. *We are in danger of losing our basic identity.* We have to understand why we don't believe in ourselves anymore.

11. We have to go back and start building the community as a safe place to express ourselves, without infighting or self-doubt.

Developed jointly by the Community Healing Process Committee 11/8/00.

Appendix B
Purpose of Training:

Identified trainees will be central to the community healing process.

Trainees will learn cultural, social, healing information to be passed along to the community in a variety of methods.

Trainees will learn the context of non-violence and healing.

Trainees will also participate in skills building on meeting facilitation, listening to others necessary to the process.

Trainees will commit to completing training and to make significant efforts to sustain community healing for the next generation.

Appendix C
What Will the Community Have Gained from the Training?

1.   This sharing will start the conversation about the overall process of community healing. *This is not the end of the process, it is the beginning.*
2.   Community members, employees, cultural leaders, and program administrators will work together and will be represented in the training group. The dialogue leading to real communication will start and we will begin to truly remove the barriers to communication and collaboration.
3.   Training will allow for recognizing and sharing of our strengths as individuals and as a people. We will be supportive of individual gifts to the community. We will celebrate the strength of the circle.
4.   People will be supportive in the opportunities to look at lifestyles, choices, personal issues, relationships, and start to explore their personal view and world view.
5.   People will be free to choose a path out of their pain.
6.   There may be turmoil for a while as these long time pains and barriers are at last put to rest in a new way, in a supportive environment.
7.   Good things in life take time.

Developed jointly by the Community Healing Process Committee on 11/07/00.

Appendix D
Benefits of Training:

- It is an honor to be selected for training; there will be some sort of
- recognition upon completion of training.
- The committee will work with potential trainees to help remove individual barriers to participation, i.e., childcare, transportation, time off, etc.
- Trainees will be able to advance their personal knowledge of cultural issues.
- The skills building process is very beneficial for the trainee.
- Trainees will have an enhanced ability to help/contribute to community.
- There will be an increase of *safety* in the community.
- There will be a decrease of violence in the community, on all levels, all kinds, subtle and overt.
- There will be a decrease in racism, both institutional and internalized.
- We will see a decrease in misconceptions about Native people.
- Training will be a major educational tool for increase in self-esteem, for elders, adults, and children.
- We will see a refreshing increase in cultural knowledge and practice.
- There will naturally follow an increasing cohesion and sense of community.
- We will have an increase in the ability to reflect our own traditions in today's world.
- Presentations will be made to: The whole community, Native and non-Native, and outer areas of Bawaating community.
- Back to a structure of whom we are.
- Common understanding of roles, values, as men, women, families, community members.

Appendix E
Expectations of Trainees:

- This is the first step in a lifelong process. It goes beyond the training time and extends to services in the community.
- This is a commitment to lifestyle changes in the community.
- Trainees will offer training to others. Part of the commitment is to be knowledgeable and share skills and knowledge with others. Trainees will commit to conduct an agreed upon number of training opportunities in the next year in the community, centered on what has been learned in training.
- Trainees will support programs in the tribe/community and look for opportunities to be of service.
- Individuals will implement what they learn in programs/circles/homes/activities.
- Trainees will commit to complete all 6 sessions.
- Trainees will commit to sustaining the process for the community.
- Trainees will be "up front" about potential barriers to participation so that we can look for solutions together and the goal completion of training for as many as possible can be reached.