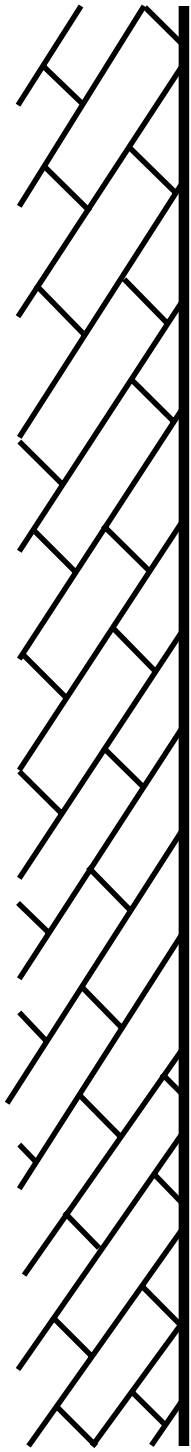

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THE ABERDEEN INDIAN HEALTH SERVICE INFANT MORTALITY STUDY: DESIGN, METHODOLOGY, AND IMPLEMENTATION

Leslie L. Randall, R.N., M.P.H., Christopher Krogh, M.D., M.P.H., Thomas K. Welty, M.D., M.P.H., Marian Willinger, Ph.D., and Solomon Iyasu, M.B.B.S., M.P.H.

Abstract: Of all Indian Health Service areas, the Aberdeen Area has consistently had the highest infant mortality rate. Among some tribes in this area the rate has exceeded 30/1000 live birth and half the infant deaths have been attributed to Sudden Infant Death Syndrome, a rate four to five times higher than the national average. The Indian Health Service, Centers for Disease Control and Prevention, National Institute of Child Health and Human Development, and the Aberdeen Area Tribal Chairmen's Health Board collaborated to investigate these high rates with the goals of refining the ascertainment of the causes of death, improving cause-specific infant mortality rates and identifying factors contributing to the high rates. Ten of the 19 tribes or tribal communities, representing 66% of the area population, participated in a 4-year prospective case-control study of infants who died after discharge from the hospital. Infant care practices and socio-demographic, economic, medical, health care, and environmental factors were examined. The study included parental interviews, death scene investigations, autopsies, neuropathology studies, medical chart abstractions, blood cotinine assays, and a surveillance system for infant deaths. Controls were the previous and subsequent infants born on the case mother's reservation. From December 1, 1992 until November 30, 1996, 72 infant deaths were investigated. This report describes the study methods and the model employed for involving the community and multiple agencies to study the problem of infant mortality among Northern Plains Indians. Data gathered during the investigations are being analyzed and will be published at a later date.

Historical Account

> "As I now place this meat in your mouth, we should all remember how merciful *Wakan-Tanka* is in providing for our wants. In the same manner you must provide for your children!" The Sacred Pipe – Black Elks' account of the Seven Sacred Rites of the Oglala Sioux (Black Elk, 1953, 1989).

The people of the Northern Plains consider the child to be sacred and close to the Great Spirit. They charged the members of the Perinatal Infant Mortality Review (PIMR) Committee, the Infant Mortality Study Steering Committee, and the staff of the study with the job of examining why the babies in the Northern Plains were dying at excessive rates. This paper will examine the methods used to do this.

In 1988, on the advice of tribal representatives, the PIMR Committee wrote to the National Institute of Child Health and Human Development (NICHD) and the Centers for Disease Control and Prevention (CDC) regarding the high infant mortality and Sudden Infant Death Syndrome (SIDS) rates in the Aberdeen Area. This information was shared with the Aberdeen Area Tribal Chairmen's Health Board (AATCHB). Together, the Health Board and the Aberdeen Area Indian Health Service (AAIHS) planned for a study on infant mortality among tribes in the Northern Plains. A steering committee was formed to oversee the study during its design and implementation and included members from the tribal communities, Harvard University, University of Colorado, University of South Dakota, University of North Dakota, Black Hills Laboratory, LCM Pathologists, the NICHD, CDC, and Indian Health Service (IHS). A wide range of health disciplines represented as follows: forensic pathology, pediatric pathology, neuropathology, pediatrics, nursing, family practice, obstetrics, coroners, and epidemiology.

The Aberdeen Area Indian Health Service serves 19 tribal communities with approximately 100,000 American Indian residents in North and South Dakota, Iowa, and Nebraska. From 1990 to 1992 meetings were held with tribal councils and communities to discuss the study protocol. The Principal Investigator (PI) and the staff met with each tribal council independently to discuss the protocol and solicit support for the study through resolutions of support from the tribe. Each tribe was given the complete protocol and the PI or Project Coordinator met with each council to discuss the study and answer any questions. The tribal councils were then asked for resolutions of support. During these meetings, the study design was revised to address concerns by the community. The study coordinator met with the Medicine Wheel Coalition of Medicine Men to ask their advice on the study protocol and to get their input prior to implementation of the study.

Throughout this time, the Massachusetts Sudden Infant Death Syndrome Center was involved in providing support to communities experiencing infant loss. Dr. Mandell, Ms. McClain and Dr. Welty consulted with Sydney Keith, a traditional Lakota leader, to develop and print a brochure specifically for Lakota families who have lost a child to SIDS (Keith, Mandell, McClain, & Karsakov, 1992). The information brochure is unique in regard to the cultural and spiritual values of the American Indians in this area. Dr. Mandell and Ms. McClain also provided training and information seminars. The Massachusetts SIDS Center and study staff supported and participated in several healing ceremonies for the families. A grief support protocol was added to the study protocol and staff trained to provide grief counseling to the parents on the advice of the Massachusetts SIDS Center. Study staff with the assistance of the Massachusetts SIDS Center provided cultural sensitivity training for police staff, county and tribal coroners, and other health professionals. The staff supported and assisted the Healthy Start Programs in several communities in "Wiping of the Tears" ceremonies for the families for the duration of the study. Rosanne English, Director, Pennsylvania SIDS Center, provided Parent Peer Support training at the request of parents in two tribal communities.

During the study, meetings were held with elders of the tribes to address ways to reduce infant mortality on the reservations. The elders actively participated in community meetings coordinated by the study staff with the assistance of the Massachusetts SIDS Center to provide education on infant mortality and SIDS.

In 1992, the proposal for the Aberdeen Area Infant Mortality Study was fully approved by the Aberdeen Area and the National Indian Health Service institutional review boards (IRB). Ten tribal communities (nine tribes and one urban American Indian community) passed resolutions supporting participation in the study.

Background

American Indians and Alaska Natives have historically had substantially higher infant mortality rates than Whites in the United States (Table 1). Among American Indians, the excess mortality is not due to higher death rates among neonates (infants aged 0-28 days) or infants with low-birth-weight (< 2500 g at birth) (Honigfeld & Kaplan, 1987; Kleinman, 1990; Singh & Yu, 1995).

Among infants with normal birth weights (> 2500 g at birth), however, the infant mortality rate is substantially higher among American Indians and Alaska Natives than Whites (8.4 versus 4.0 per 1,000 live births, 1996) (Indian Health Service, 1998; Pezzino & Iyasu, 1996). Furthermore, in 1985-1987, over half the infant deaths among American Indians and Alaska Natives

occurred in infants aged 28 to 365 days, the post-neonatal period, compared with about one-third of all infant deaths among other racial and ethnic groups (Table 1) (Kleinman, 1990). This was also true in 1995, when the total infant mortality rate among American Indians and Alaska Natives was 13.3/1000 live births and the post-neonatal mortality rate was 7.2/1000, compared with 6.3/1000 and 2.2/1000 for Whites respectively (MacDorman & Singh, 1998).

Table 1
Race Specific Infant Mortality Rates, 1985-1987 (per 1,000 live births)

	White	Black	AI/AN
Infant	8.6	18.2	13.3
Neonatal	5.5	12.0	6.1
Post-neonatal	3.1	6.2	7.2

Singh, 1995

AI/AN=American Indians/Alaska Natives

Deaths from SIDS account for a large proportion of post-neonatal deaths among American Indians. NICHD defines SIDS as the sudden death of an infant less than one year of age, which remains unexplained after thorough case investigation, including a complete autopsy, examination of the death scene, and review of the clinical history (Willinger, James, & Catz, 1991). SIDS is the leading reported cause of infant mortality among American Indians and Alaska Natives, whereas for U.S. overall and for U.S. Whites, congenital anomalies are the leading cause (Indian Health Service, 1996). Death rates from congenital anomalies, short gestation, and unspecified low birth weight do not differ substantially between American Indians and White infants whereas SIDS rates among American Indians were almost three times that of Whites (Indian Health Service, 1998; MacDorman & Singh, 1998; Pezzino & Iyasu, 1996).

Among all Indian Health Service (IHS) areas, the Aberdeen Area has consistently had the highest infant mortality rate. The infant mortality rate for 1990-92 was 15.8 per 1,000 and was the highest for all IHS areas. In 1990-1992, the SIDS rate was also highest in the Aberdeen area at 4.6/1000 live births, more than four times the U.S. rate (Indian Health Service, 1996).

Historically, confirmation of the high incidence of SIDS in the Aberdeen Area has been hampered by a low autopsy rate, inadequate death scene investigations, questionable census figures, a highly migratory population, changing definitions of tribes and tribal membership, and turnover among health care providers, suggesting that the SIDS rate for the

Aberdeen Area may have been overestimated. A report in 1990 found that only about 60% of the infant deaths in this area received an autopsy (Oyen, Bulterys, Welty, & Kraus, 1990). In fact, a number of the presumed SIDS deaths reviewed by the Aberdeen Area PIMR Committee prior to the present study did not fit the classic profile of SIDS and remain unexplained.

Because these deaths did not meet the classic profile of SIDS, the initial purpose in this pilot study was to generate specific hypotheses that could then be modified and used subsequently as a model for researching infant mortality among American Indian and Alaska Native populations. As very little is known about potential reasons for the excess infant mortality in American Indian/Alaska Native populations, we decided generating hypotheses was more appropriate than testing hypotheses that have resulted from studies conducted in other populations.

Study Questions and Design

There were three main study questions:

1. What proportion of SIDS deaths reported on death certificates of study community residents meet the NICHD definition?
2. What risk factors for SIDS and for infant deaths occurring after hospital discharge can be identified by interviewing parents and reviewing medical records using a case-control methodology?
3. Are specific pathologic lesions associated with SIDS?

To help answer the study questions, existing surveillance and new research data were evaluated in addition to developing a permanent system for community-based feto-infant death review.

Study Population

The ten American Indian tribal groups that participated in the study comprised two-thirds of the Aberdeen Area Indian Health Service population; four were in North Dakota and six in South Dakota. For each tribal group, appropriate state or tribal-enabling legislation was either in place or enacted during the study to permit investigation of infant deaths by coroners, and the relevant service unit director approved each AAIHS site. As Baines (1992) and Welty (1996) point out, tribal sovereignty needs to be respected, so we included only tribal communities that passed a resolution of support, which ensured that their sovereignty was recognized and respected. A certificate of confidentiality was obtained from the National Institute on Alcohol Abuse and Alcoholism to protect against disclosing the identities of the research participants.

Participant Selection

Cases

The cases for this study were all American Indian infants, who died within 365 days of birth, who had lived on or near reservations or communities participating in the study, and whose death occurred between December 1, 1992, and November 30, 1996 (Table 2). Infants were considered to be American Indian if one of the parents was an enrolled tribal member or was eligible for care at an IHS facility. Infants who died before being discharged from the hospital were excluded. However, infants who had come home from the hospital, became ill, and subsequently died in the hospital were included in the study. The cases were reported to the study staff from public health nurses, medical record department staff, emergency room staff, coroners, and members of the PIMR Committee. Some cases were identified by obituaries in Indian Country Today and local newspapers. All were extensively reviewed by the PIMR.

Table 2
Eligible Deaths in Aberdeen Area Indian Health Service Area by Year of Death

	1992[1]	1993	1994	1995	1996[1]	1997	Total
Deaths[2]	2	25	18	18	9		72
Autopsy[3]	2	19	13	14	8		56
Interview Case[4]	2	19	19	15	9	1	65
Control	0	39	43	37	25		144

[1] start of study December 1, 1992 and end of study November 31, 1996

[2]Obtained from vital statistics reports of North Dakota, South Dakota, Iowa and Nebraska

[3]Autopsies of the 72 deaths

[4]All interviews for both cases and controls including controls where the case wasn't interviewed

The decision to include an infant if born to an American Indian father was part of the protocol because most of the American Indian fathers had close ties to Indian communities. There was only one case where the father was American Indian and the mother non-Indian and in that case there were close ties to the American Indian community and even though we felt it appropriate to include that case, we were unable to locate the family.

Controls

For each eligible case, two control American Indian infants were matched by community and infant age so we could analyze all other variables including mothers' age and child's sex, as possible risk factors for infant mortality and SIDS. Control infants were identified from three sources; (a) the service unit's IHS patient registration system which included all patients receiving care at that service unit, (b) the labor and delivery log, and (c) the public health nurses' log. All three data sources were used to verify which two infants were born closest to the case infant. If the biologic mother was an enrolled member of a participating tribe but was not residing in a reservation community at the time of the case infant's birth, the next-born and previous-born American Indian infants from the service unit serving the tribe in which the mother was enrolled were selected. If any control parent was unavailable or refused to participate, the infant born immediately before or after the next-born infant was selected. When an infant twin died, we did not include the surviving twin as a control because of overmatching, instead selecting the next or previous-born infants as explained above and as Schlesselman (1982) discusses in his book on case control studies. We did, however, include a twin as a control infant when that infant was the closest infant born to a singleton case infant.

Data collection

Existing Data

Both existing and new data were collected for the study. Existing data consisted of birth and death certificates, medical records (including prenatal, postpartum, and pediatric care), emergency medical services reports, autopsy reports, and police reports. Parents of case and control infants signed release forms to permit review of medical records as well as consent forms for interviews and for blood cotinine tests. Reviewing paternal medical records was initially proposed but was not done because obtaining paternal consent was often not feasible.

New Data

New data included the results of a death scene investigation, complete autopsies, cotinine assays, water testing, and parental interviews.

Death Scene Investigation

The death scene investigation form consisted of 233 items to be completed on all unattended deaths by coroners who had been trained in the form's use. Death scene investigation forms were completed consistently in only two tribal communities. Either the Federal Bureau of Investigation (FBI) or Tribal Police investigated all infant deaths since according to the Major Crimes Act of 1885, the FBI has to investigate any suspected crimes on reservations (Pevar, 1992), and unattended or unexpected deaths often fall into the category to be investigated. After police or FBI investigation, all of the SIDS deaths were deemed to be unexpected, not prosecutable. Records were obtained for all of the SIDS deaths from the police, emergency medical technical system, or coroner system. Randall and Randall (1999) discussed ways to address these issues.

During the time of the study, six tribes passed enabling legislation for tribal coroners. In addition, through the support of the study staff, 64 tribal members and two non-tribal individuals who work with tribes have been trained and a coroner manual developed (Randall, 1997; Randall & Randall, 1999).

Autopsy

The study autopsy protocol was more extensive than the routine forensic autopsy. The protocol involved taking microscopic sections; performing toxicology studies, a cotinine assay, and a bacterial blood culture; and measuring electrolytes, blood urea nitrogen and glucose in the vitreous humor. The autopsy and neuropathology protocols were discussed at a meeting with area spiritual leaders particularly for their cultural ramifications and were modified according to the recommendations received. Autopsies were performed primarily by two pathologists taking the lead role in following the protocol. Neuropathologic studies were carried out at Boston Children's Hospital. The protocols were revised to have all specimens destroyed, in a manner consistent with advice from spiritual leaders, within three years after completion of the study.

Cotinine Assay

Blood for the cotinine assay was collected on both cases and controls, the analysis was performed by CDC. A pilot study of available infants at a well-child clinic was utilized to test the system set up to analyze the serum cotinine. Serum cotinine data were obtained for 63 control infants but on only seven case infants. The distances required for travel of the body from the reservations to the site of the autopsy led to hemolysis of the

blood, rendering the samples unsuitable for a cotinine assay in all but the seven cases.

Water Analysis

Some of the tribes specifically requested the analysis of the drinking water in the homes of the infants who died. This request was incorporated into the study protocol and involved measuring selenium (reportedly present in abnormal quantities in some of the water in the Northern Plains), nitrates (which have caused infant deaths in these states), bacteria which are common in well water and are capable of causing fatal infection, lead (effects of various concentrations are not known), and petroleum products (which have reportedly been smelled in the local water). Well water from one home not on a system was tested and the results were negative. Homes on community water systems are tested periodically by the IHS Environmental Office and these tested negative during this time period. Each office sent a report of their tests to our office.

Parental Interview

The parental interview and consent forms had been pilot tested in four steps for ease of use and level of parental understanding prior to final approval by the National IHS IRB and the Aberdeen Area IHS IRB. In accordance with IRB guidelines on pilot testing personal interviews with no more than nine interviews at each step. Our approach was patterned after the outline by Schlesselman (1982) and Burhansstipanov (1996), and was intended to ascertain whether parts of the interview were culturally inappropriate or insensitive. After training for consistency of interviewing process, two nurse interviewers, both with four-year degrees in nursing and one of them with a Masters degree in public health, completed all the parental interviews. The nurses accompanied each other on two to three interviews every three to four months to verify that each was conducting the interview consistently and that they both executed them in the same way. After the interviews, ways were discussed to ensure consistent interview techniques.

The interviews were typically conducted within 2-4 weeks after the death, usually in the parents' home, but sometimes in another place they found acceptable as defined by Burhansstipanov (1996). Out of respect for the families' cultural practices, case parents were not interviewed in the first week after the death. If the case parents refused to be interviewed or could not be located, the medical records were reviewed for classification of death by the Aberdeen Area PIMR Committee. Control interviews were usually carried out within one to four weeks after the death of the index case. Interviews required as little as 45-minutes for foster parents for both cases and controls to as much as two to four hours for case parents and

covered socioeconomic, environmental, and demographic factors; maternal medical history; and the medical history and sleeping habits of the infant.

The interview questionnaire was highly structured; most of the questions were closed-ended but some open-ended questions were included that allowed for discussion. At the end of the interview, study participants were asked whether they felt anything could be done to improve the health of children in the area.

If either case or control infants were being cared for by foster parents when the case infant died, both the foster parents and the biologic parents were interviewed separately. Foster parents were asked the questions on infant care and socioeconomic factors and the biological mother was asked to supply prenatal information. Parents of case and control infants were paid $10 for participation in the study but they were not told that they would be reimbursed prior to the interview and agreeing to participate. Thus payment for participation was not an incentive to participate in the study.

Informed Consent and Confidentiality

The consent forms were reviewed paragraph by paragraph with each participating parent before any questions were asked. Parents were told that neither their participation nor their responses would interfere in any way with the care they received from the Indian Health Service and that they were free to stop the interview at any time. They were given a toll-free number to call the AAIHS IRB chairman, if they had any questions regarding their participation, or if they changed their mind about inclusion in the study.

The interview nurses emphasized that the responses to all questions including those pertaining to alcohol and substance use would remain confidential. The participants were also informed that a federal certificate of confidentiality was issued to ensure that the data collected by the study would remain confidential. A copy was given to each participant. The case parents were also advised that the only exception to maintaining confidentiality would be if the interview revealed possible child abuse, in which case the appropriate authorities would be notified.

Grief Counseling and Health Education

The interviewers counseled case parents about their grief and provided information, as appropriate, on SIDS, the grief of parents, grandparents, fathers, mothers, and siblings; having more children; twin deaths; death anniversaries; and infant mortality. Parents were informed of the SIDS risk reduction messages of the “Back to Sleep” campaign and were briefly instructed on parenting skills, smoking and alcohol cessation, breastfeeding, infant and well child care, maternal care, the effects of stress, effective discipline for American Indian children, nutrition, and child abuse

and prevention. We attempted to make the educational materials as culturally appropriate as possible and contacted other American Indian agencies for their educational materials on American Indian health as several authors have shown to be a necessary part of research (Burhansstipanov, 1996; Schlesselman, 1982).

Data entry and storage

Data were entered and stored at the study site using Epi-Info, version 5 (Dean, Dean, Burton, & Dicker, 1990) and later sent to CDC, whose staff checked for consistency and errors in data entry. Data were stored in locked cabinets and data sets were password-protected; only the data entry person and the project director knew the codes. Data was double entered for 20% of the data.

Data analysis

The IHS, CDC and the NICHD will jointly analyze the data with input from the Aberdeen Area Tribal Chairman's Health Board and the steering committee. Both matched and unmatched analysis, using SAS (SAS Institute, Inc., 1995), is planned. The analysis will examine factors that may increase the risk of infant mortality or SIDS. Risk factors to be analyzed, such as found by Bulterys (1990), Bulterys, Greenland, and Kraus (1990), Kraus and Bulterys (1991), Kleinman (1990), and Hoffman and Hillman (1992), include those previously described in the literature as well as other factors suggested by the study. Information on socio-demographic, economic, medical, health care, environmental, and cultural factors related to infant care practices will all be examined. As the study instruments contain a large number of variables, numerous factors will likely emerge as warranting further study.

Quality Control

Quality assurance for determining cause of death was consistently maintained through review of the deaths by the Aberdeen PIMR Committee and the steering committee at their biannual meetings. The PIMR Committee, which is composed of health professionals and tribal representatives from the Aberdeen Area as well as representatives from police departments, coroner departments, state health departments, universities, and hospitals; reviewed medical records, autopsy reports, death scene investigations and assigned a final diagnosis. All of the agencies involved used this forum to formulate and recommend ways to reduce infant mortality. Members of each committee signed confidentiality statements at the beginning of each mortality review session.

A fourth year medical student, a nurse practitioner, and a nurse were hired to abstract and compare the data on the records forms for consistency and conformity among all of the abstractors. This was done on the medical records abstraction, autopsy, and neuropathology forms. If discrepancies were found, they were reviewed by the co-principal investigators and corrected (Schlesselman, 1982).

Results

The initial study results were described in a report to the tribes produced by the Centers for Disease Control and Prevention with the assistance of NICHD and IHS. Interview completion was 90% for cases and 100% for controls. The cases that were not interviewed had either left the area or were unable to be located. There were 72 infant deaths and two control interviews were completed for all cases for a total of 144 control interviews (Randall, Welty, Iyasu, & Willinger, 1998).

Discussion

The goals of the AAIHS Infant Mortality Study (AAIMS) were to determine the cause of infant death within participating reservations of the Aberdeen Area using defined methods of case ascertainment, and to identify risk factors for sudden infant death. These goals were developed from within the community by tribal members and IHS staff through tribal meetings and the Perinatal Infant Mortality Review (PIMR) process. From study inception until its completion, the achievement of these goals involved a unique collaboration that developed between tribes, federal agencies, private organizations, state health departments, and universities. Such a collaborative effort has not often occurred in American Indian communities.

To facilitate cultural sensitivity, community involvement, and successful, sustained recruitment of participants, the various tribal councils, tribal elders, spiritual leaders, health committees, and tribal communities were involved. The tribal councils and health boards were consulted on the study design, implementation, and evaluation at regularly scheduled formal meetings. In addition tribal representatives were members of the study's Steering Committee. There were discussions of cultural issues related to the autopsy, development of appropriate consent forms and study brochures, and wording of interview questions. Specific concerns raised by tribal members such as water quality and alcohol consumption were addressed in the study.

The social success of the study, according to members of the Aberdeen Area Tribal Chairmen's Health Board, depended upon several factors (personal communication, Charles Murphy, Sept. 22, 1993). First,

we hired members from the tribal groups as staff who helped to connect the research to the community as mentioned by Burhansstipnov (1996) and Brown and Vega (1996). Second, the nurse interviewers, who are American Indian, were familiar with the culture and communities and were empathetic with the parents. These factors explain the high participation rate and the good rapport the study had with the participating tribes. As late as August 1996, additional tribes requested to become part of the study but we had to deny their request since the data collection ended November 30, 1996. Training and support services were provided to all AAIHS tribes regardless of whether they were a part of the study or not. In September 1997, a meeting was held for all tribes within the Aberdeen Area to communicate preliminary findings from the study and to obtain feedback from the tribal members on how this information should be used. A report to the tribes includes input from the meeting, a description of the study, preliminary findings, and recommendations from conference participants (Randall, Welty, Iyasu, & Willinger, 1998).

There were many challenges in accomplishing study goals in the context of serving the needs of the community. A uniform surveillance and death investigation had to be established. The surveillance system was successfully put in place with the help of the IHS Public Health Nurses, IHS Medical Records, and Northern Plains Healthy Start despite the scattered rural health facilities and large distances which are difficult to negotiate under the harsh weather conditions of the Northern Plains. The surveillance system captured all but one of the deaths in the study area within two weeks of occurrence.

The death investigation system was more difficult to establish. Annual formal training sessions were held for coroners, health professionals, and any other individuals involved in the investigation of infant death. The training addressed elements of the investigation, diagnosis, cultural sensitivity, promotion of nonjudgmental understanding of factors that contribute to infant death, improvement of local infant death reviews, improvement of referral systems for families who have experienced the loss of an infant, and the development of case management systems for those families (Randall & Randall, 1999). We attempted to obtain enabling tribal legislation for coroners on all reservations but did not succeed. At the end of the study, tribal coroners were only operating on a regular basis on three reservations. One of the tribal coroners has since been asked to serve as coroner for a neighboring tribe. State coroners, Bureau of Indian Affairs (BIA) law enforcement officials, FBI, or tribal police performed coroner functions in the other communities (Randall, 1997). Police records and emergency medical system reports were used in the cases where death scene investigation reports were not filled out completely. Through this process, a high proportion of sudden unexpected infant deaths had an autopsy and death scene investigation, which has allowed us to confirm a high rate of SIDS in this population.

In addition, a grief support system for those who suffered an infant loss needed to be established. Annual formal training was provided for health professionals in grief counseling and parent peer support groups were established on two reservations. Efforts at establishing and maintaining parent peer support groups are still underway on two reservations. There were initial concerns by some tribal chairs that the parental interviews would upset the families who lost a child. However, the combination of grief counseling, working with tribal programs to provide culturally appropriate rituals for the infant loss, and referring parents for local follow-up when indicated seemed to allay these fears. It was very stressful for the staff that interviewed the 65 parents of the infants who died, and it took an emotional toll. When similar studies are conducted, stress debriefing and/or bereavement counseling should be provided to the staff conducting interviews with next of kin.

The Aberdeen Area Infant Mortality Study is the most extensive to date to examine infant mortality among American Indians. It confirmed that among Northern Plains Indians, the incidence of SIDS is high, with about half of the infant deaths at home attributable to SIDS. With 65 case interviews, we were only three cases short of our original goal of 68. It took four years instead of the planned two because of a decline in infant mortality in the area, and the episodic nature of occurrence of SIDS cases in the region. We had 90% participation rates in the parental interviews, in spite of informing parents of the need to report suspected child abuse to appropriate authorities. The high rates likely reduced response bias (Austin, Hill, Flanders, & Greenburg, 1994; Drews, Kraus, & Greenland, 1990; Schlesselman, 1982). The small number of cases may be considered a limitation of this study. However, the Tasmanian SIDS Case-Control Study provided valuable information regarding the risks in the sleep environment, involved 62 cases, and included response rates slightly lower than our study (Ponsonby, Dwyer, Kasl, & Cochrane, 1995).

Procedures were followed to ensure the quality of the data collected. Quality assurance regarding case diagnosis was maintained through review by the PIMR and AAIMS Steering Committees of each infant death at their biannual meetings. The PIMR Committee constitutes health professionals and tribal representatives from the Aberdeen Area including representatives from the State Health Departments. The PIMR Committee reviewed medical records, autopsy reports, and DSI when available and determined the final diagnosis for every case. Through this process all of the agencies involved generated recommendations and coordinated collaboration on ways to reduce infant mortality as pointed out by Wei, Wroight, Heaton, and Kincaid (1996), see Appendix I. In addition strict quality assurance procedures existed for the abstraction of medical records.

By examining the effects and interaction of the large number of factors in this study we hope to identify associations that will lead to hypotheses regarding the risk for SIDS and overall infant mortality in this

community. The ability to test the effect and interaction of the large numbers of factors is an advantage as described by Armenian and Lillienfeld (1994) in their report on case control studies. Associations and hypotheses that emerge from this study will be examined to provide recommendations for further study and testing. The study results have been presented to tribal groups for review and approval prior to publication. The results may also enable us to develop more specific interventions for the reduction of infant mortality in the Northern Plains Indians.

Leslie L. Randall, R.N., M.P.H., Co-Principal Investigator
Thomas K. Welty, M.D., M.P.H., Co-Principal Investigator
Indian Health Service Headquarters West, National Programs
5300 Homestead Rd., NE
Albuquerque, NM 87110
Email: Leslie.Randall@mail.his.gov or lrandall@email.unc.edu
Email: tewelty@qwest.net

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IMS Committee only: Diane Rowley, M.D., M.P.H., Deputy Chief, DRH, CDC; Marvin Cooley, M.D., UND School of Medicine; Carolyn Drews-Botsch, Ph.D., Epidemiologist, Emory University.

PIMR Committee only: Nancy Vanderbrake, Director, PHN, Rosebud Hospital; Barbara Berry, M.D., Pine Ridge Hospital; Bertha Gipp, R.N., B.S.N., Director, SIDS Program, NDDOH; Marvin Buehner, M.D., All Nations Ob/Gyn Clinic; Deborah Kuehn, R.N., C.N.P., M.S.N., Regional Hospital; Valborg Kvigne, M.A., FAS Surveillance Coordinator, AAIHS/CDC; Ann Wilson, Ph.D., USD School of Medicine; Susan Lance, Ph.D., D.V.M., Epidemiologist, SDDOH; Dan Dailey, R.N., C.N.P., M.S.N., Ft. Yates Hospital; Ellie Zephier, M.P.H., Nutritionist, AAIHS; Peter Magnus, M.D., Clinical Director, Lower Brule Health Clinic; Mary Fox, M.D., Pediatrician, Sioux San Hospital; Cheryl Hefta, R.N., C.N.P., M.S.N., MCH Director, Spirit Lake Clinic; Tim Ryschon, MD, Pediatrician, Rosebud Hospital.

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Appendix I

Reduction of Infant Mortality Recommendations for Parents

BEFORE PREGNANCY:

1. Use family planning to prevent unplanned pregnancies.
2. Stop alcohol, tobacco, and illegal drug use completely BEFORE and DURING pregnancy.
3. Take folic acid prior to pregnancy to prevent neural tube defects.
4. Take parenting classes or read books about how to be good parents.

DURING PREGNANCY:

5. Maintain smoke-free environments for pregnant women, infants, and children.
6. Obtain prenatal care as soon as pregnancy is a possibility and make regular prenatal visits as recommended by the prenatal care provider.
7. Eat healthy foods such as fruits, vegetables, cereals, milk products and bread.

Appendix I (Continued)

DURING PREGNANCY (Continued):

8. Take vitamins and iron every day as directed by your prenatal care provider.

AFTER BABY IS BORN:

9. Breast feed babies for 12 months if possible.
10. Take the baby to the clinic or doctor's office for regular well childcare and immunizations.
11. Buckle infants and children properly in car seats ALWAYS.
12. Place infants to sleep on their BACK.
13. Stop domestic violence, child abuse, and neglect.
14. Take infants with fever to a health care facility for evaluation and treatment.
15. Use smoke detectors in all homes.
16. Avoid overheating baby by too much clothing or too many blankets.
17. Don't take your children in vehicles where the driver has been drinking.
18. Make certain that infant caretakers do not abuse alcohol or drugs.

APPLICATION OF THE CROSS BATTERY APPROACH IN THE ASSESSMENT OF AMERICAN INDIAN CHILDREN: A VIABLE ALTERNATIVE

Gary A. Plank, Ph.D.

Abstract: This article examines current psychometric and testing practices that appear to do a limited job of assessing the intelligence of American Indian individuals. For several reasons, contemporary approaches are found to be inadequate. Unfortunately, these practices are then employed in making educational decisions and placing these same children into Special Education programs. Alternative methods of testing, including the Gf-Gc Cross-Battery Approach, are discussed and evaluated in terms of usefulness in the evaluation of American Indian children and adolescents. The cross-battery method of testing was found to provide more in-depth procedures for bypassing both language and cultural differences among American Indian individuals.

The question of how to appropriately and accurately test the cognitive ability of American Indian children/adolescents, or children limited in English (Limited English Proficient or LEP) is a burning issue both in the Southwest, as well as the rest of the country. Training programs for psychologists, the American Psychological Association (APA), and the National Association of School Psychologists (NASP) require appropriate and culturally sensitive delivery of services (American Psychological Association, 1990; National Association of School Psychologists, 1992, 1997). In particular, when evaluating American Indian individuals, perhaps the primary question should be, "Is it possible to assess the intelligence of American Indian individuals in an unbiased and accurate manner?" While several sources remind us of our responsibility as psychologists and mental health professionals to do just this, few provide us with the pragmatic tools necessary to accomplish this task, including formal training programs (Flanagan, McGrew, & Ortiz, 2000; Ortiz, Ortiz, & Cook-Morales, 1994). The psychologist is warned not to be naïve in these matters because *no* test is either completely unbiased, or "culture free." According to Sattler (1992):

> Probably no test can be created that will entirely eliminate the influence of learning and cultural experiences. The test content and materials, the language in which the questions are phrased, the test directions, the categories for classifying the responses, the scoring criteria, and the validity criteria are all culture bound... in fact, all human experience is affected by the culture, from prenatal development on. (p. 579)

No matter what the promotional ads claim, or what the author fervently proclaims, there is no such test. It would be very convenient if such an assessment tool existed, but it does not. In essence, intelligence is embedded and defined by the specific culture in which it is to be measured (Flanagan & McGrew, 1998; Flanagan, McGrew, & Ortiz, 2000; Sattler, 1992). Cultural influence is very difficult to remove from an intelligence test and unfairly penalizes culturally-different individuals because they do not have the same cultural experience as mainstream individuals (Cervantes, 1988; McShane & Plas, 1982, 1984; Mishra, 1982; Valdes & Figueroa, 1994). For example, Flanagan, McGrew, and Ortiz (2000) report:

> In order for such (test) bias to be controlled, it should be noted that tests of intelligence and cognitive ability developed and normed in the United States will likely measure a lower range of ability in diverse individuals because they apparently fail to sample "cultural content that is part of the cognitive repertoire and processes available to the bicultural individual." Hence, individuals coming from different cultures are often inaccurately assessed and the derived intelligence score is typically suppressed by such tests and poor decisions follow regarding diagnosis of culturally-different children. (p. 299)

A thorough literature review reveals that American Indian children from tribes across North America, score similarly to their Caucasian, Black, and Hispanic counterparts on the Performance Scale from the Wechsler Intelligence Scale for Children (Wechsler, 1991) (WISC, WISC-R, or WISC-III) (McClellan & Walton, 1996; McCullough, Walker, & Diessner, 1985; McShane, 1980; McShane & Plas, 1982, 1984; Naglieri, 1982; St. John, Krichev, & Bauman, 1976; Tanner-Halverson, Burden, & Sabers, 1993; Teeter, Moore, & Peterson, 1982). On the other hand, these same children uniformly score much lower on the Verbal Scale. A twenty-point differential is typically found in the literature by the authors cited above. Interestingly, *all* researchers mentioned above were measuring intelligence by means of the Wechsler scales. However, the question begs to be asked, is this the best tool to be using when measuring the intelligence of American Indian children? There is evidence that the Wechsler scales may not be

the best assessment tool for culturally-different children (Flanagan & Miranda, 1995; Lopez, 1997; McLellan & Walton, 1996; Ochoa, Powell, & Robles-Pina, 1996) and may include item bias for American Indian children (Mishra, 1982).

As an intern in 1994, I was confounded by the intelligence results I was collecting from the American Indian children I assessed using the Wechsler scales. These children's Full Scale scores were typically low and their Verbal Scale scores were sharply lower, normally about 18-20 points, than their Performance Scale scores, just as previous research suggested (McCullough, Walker, & Diessner, 1985; McShane, 1980; McShane & Plas, 1982). Neuropsychologists in the community commonly believed such children were all learning disabled. However, it seemed improbably that *all* of the American Indian children I tested were learning disabled, or cognitively impaired (mentally retarded). My supervisors could not shed light on the situation, thus I turned to Michael Gerner, Ph.D., a school psychologist from Flagstaff, Arizona who has specialized in conducting cognitive assessments with American Indian children and LEP children of all ethnicities. Dr. Gerner and I worked together on a reservation several years earlier. Dr. Gerner suggested several causes for the pattern of intelligence scores I observed among the American Indian children I had tested (M. E. Gerner, personal communication, November 15, 1994). First, he suggested that these were typical patterns found among the American Indian populations, as well as among other LEP children of all nationalities. He suggested that differences of 20 points between scales were common. He advised using tests other than the Wechsler Scales in order to better assess these children. The WISC/WAIS (Wechsler Adult Intelligence Scale) (Wechsler, 1981) were supplemented and sometimes replaced with other tests, like the Stanford-Binet-Fourth Edition (Thorndike, Hagen, & Sattler, 1986), Kaufman Assessment Battery for Children (Kaufman & Kaufman, 1983), and Kaufman Adult Intelligence Test (Kaufman & Kaufman, 1993). These tests were *sometimes* found to be superior to the WISC because there were measures on them that were less verbally and culturally influenced, but there continued to be weaknesses with each separate measurement tool and none seemed to be thoroughly comprehensive.

Further consultation, training, and intense discussions with Dr. Gerner over the past six years have proved to be fruitful in terms of improved assessment of American Indian individuals. The discussions began to center around the question of the adequacy of using *any* one intelligence battery to assess these children (M. E. Gerner, personal communication, January 20, 1997). It became abundantly clear that the answer to this query was an emphatic, "no." No single test battery was sufficient for this type of testing because of complicating issues of language and cultural difference (McGrew & Flanagan, 1998). Our discussions, more and more frequently, began to revolve around the possible use of the Gf-Gc Cross-Battery Approach and its applicability for use with American Indians. In 1996, the

Gf-Gc Cross-Battery Approach began to emerge as a means to operationalize the Cattell-Horn-Carroll Gf-Gc theory (Flanagan & McGrew, 1997). In essence, this is a model of intelligence that has been statistically proven to be valid and has proven, through research, that there are several different types of intelligence, not one or two (Flanagan & McGrew, 1997; McGhee, 1993; McGrew, 1997; Woodcock, 1990).

The movement really began with Woodcock's seminal research involving numerous subtests from seven major intelligence tests (Woodcock, 1990). He analyzed all subtests from the major batteries in order to provide a framework to understand the complexity of human cognitive ability. He did not find a single overall G, or broad intelligence, and he did not discover a verbal and performance factor. Rather, he discovered a wide array of human abilities. This discovery, in turn, has led numerous researchers to begin viewing intelligence much differently than previously held notions and has led the way for the Gf-Gc Cross-Battery Assessment (Flanagan & McGrew, 1997).

As opposed to the common conception of the theory, it is not a two-factor theory involving only fluid intelligence (Gf) and crystallized intelligence (Gc). In addition, it is not a dichotomous method of viewing intelligence. Conversely, the theory views intelligence as being multi-faceted and complex and involving numerous abilities (Horn, 1991; McGrew, 1997; McGrew, Flanagan, Keith, & Vanderwood, 1997; Woodcock, 1990). An involved discourse in the theory under-girding the cross-battery approach will not be attempted in this article, but the interested reader is encouraged to review the Cattell-Horn-Carroll Gf-Gc Theory and Cattell-Horn-Carroll Integrated Model (Flanagan, McGrew, & Ortiz, 2000; Horn, 1991, 1994; Horn & Noll, 1997). Briefly, the Cattell-Horn-Carroll Integrated Model outlines the various types of human cognition that are currently quantifiable. In turn, the cross-battery approach provides an outline of which subtests from various intelligence tests are able to best measure the various types of intelligence.

The Cattell-Horn-Carroll model is described by Carroll (1993) as being, "...a true hierarchical model covering all major domains of intellectual functioning...among available models it appears to offer the most well-founded and reasonable approach to an acceptable theory of the structure of cognitive abilities" (p. 62). This line of research has discovered instead of one or two types of intelligence (e.g., verbal and performance), that there are ten distinct types of intelligence (Flanagan, Genshaft, & Harrison, 1997; Horn, 1991; McGrew, Flanagan, Keith, & Vanderwood, 1997; Woodcock, 1990).

The ten areas identified by the Cattell-Horn-Carroll model and supported by Woodcock's research are Crystallized Intelligence (Gc), Fluid Intelligence (Gf), Short-term Acquisition and Retrieval (Gsm), Visual Intelligence (Gv), Auditory Intelligence (Ga), Long-term Storage and Retrieval (Glr), Cognitive Processing Speed (Gs), Correct Decision Speed (Gt or CDS), Quantitative Knowledge (Gq), and Orthographic Knowledge

(Grw) (Carroll, 1993). Again, an in-depth description of these broad abilities will not be outlined here, but is provided by Carroll (1997) or Horn (1994). However, succinctly, crystallized intelligence (Gc) measures a person's stored knowledge of culture and the ability to effectively apply this knowledge (Flanagan, McGrew, & Ortiz, 2000). This type of skill is primarily verbal or language-based. Fluid intelligence (Gf) as described by Flanagan et al. (2000) "refers to mental operations that an individual may use when faced with a relatively novel task that cannot be performed automatically" (p. 30). Quantitative knowledge (Gq) is the store of acquired mathematical information and ability to manipulate numeric symbols. Grw is reading/writing ability and represents the comprehension of writing and reading. Short-term memory (Gsm) is expressed by an individual's ability to acquire and hold information for brief periods of time, just a few seconds. This is distinguished from long-term storage and retrieval (Glr). Glr requires the fluent retrieval of previously learned information to be recalled and related from long-term storage (Flanagan et al., 2000). Flanagan et al. (2000) conceptualize visual processing or (Gv) as "the ability to generate, perceive, analyze, synthesize, store, retrieve, manipulate, transform, and think with visual pattern and stimuli" (p. 42). Auditory processing (Ga) "are cognitive abilities that depend on sound as input and on the functioning of our hearing apparatus" (Stankov, 1994, p. 157). The mental speed or quickness is also referred to as attentive speediness and is labeled processing speed (Gs). It is "the ability to fluently and automatically perform cognitive tasks, especially when under pressure to maintain focused attention and concentration" (Flanagan, et al., 2000). Similar to Gs, Gt measures the quickness in reaction time. The distinction between Gs and Gt is the time required: While Gs requires two or three minutes of sustained attention, Gt is measured in seconds (Woodcock, 1990). Two of the broad areas are covered in the typical academic achievement test, those being reading/writing (Grw) and quantitative reasoning (Gq). Again, for a full review of these categories and specific subtests that measure each one, the reader is referred to Flanagan and McGrew (1997).

Currently, the only broad area that is not measured in any typically used battery is correct decision speed or Gt. That leaves seven broad cognitive areas that could be assessed. Therefore, intelligence cannot be viewed as one global score or two Wechsler Scales (e.g., verbal or performance): Rather, it is diverse and represents numerous different ways for the individual to process information.

American Indian children perform as well on measures of Gv and Gs as their counterparts across the United States (McCullough, Walker, & Diessner, 1985; McShane & Plas, 1982: Naglieri, 1982). This is the case as long as there are not further processing deficits that may suppress one of these scores, such as a visual-motor integration deficit. Hence, it is often

imperative that the psychologist isolate these types of intelligence, Gv and Gs, apart from other variables in order to most accurately measure the ability of these children. The cross-battery approach allows for just this type of isolation of skills.

Research reveals that the WISC-III does an adequate job of testing two broad cognitive areas, those being Comprehension-Knowledge (Gc) and Visual Processing (Gv) with some of the subtests (McGrew & Flanagan, 1998). On the other hand, it largely ignores, or does not adequately test the other five currently measurable areas of intelligence identified in the Cattell-Horn-Carroll model (Ga, Glr, Gsm, Gs, and Gf). Unfortunately, LEP children generally do not perform well on measures of Gc, for several reasons. These causes include the large influence of language in Gc measurements, different cultural experience, and limited school experience. In such cases, the psychologist is measuring cultural experience or language, not intelligence or ability. Therefore, the school psychologist/clinical psychologist who is using such tests is simply measuring English language proficiency or cultural exposure and these have little to do with intelligence for many American Indian children.

Hence, the Verbal Scale or a Full Scale Score from the WISC-III would exemplify a lowered and unfair measure of a LEP child's ability. This is nothing revolutionary and many school psychologists/clinical psychologists long ago discarded the practice of using the Verbal Scale and Full Scale scores with American Indian individuals. School psychologists began to use the Performance Scale instead, believing that the Performance Scale represented an improved measure of the American Indian child's intelligence because the Verbal Scale was thus discarded and Gc minimized (McCullough, Walker, & Diessner, 1985; McShane & Plas, 1982; Sattler, 1992). Unfortunately, once again, this practice has been found wanting. Research has suggested that the Performance Scale, in whole, does not cleanly measure one type of ability (e.g., Gv), but two, because the Picture Completion and Picture Arrangement subtests on the Performance Scale have been found to be associated with Gc (McGrew, 1997). Therefore, Picture Completion and Picture Arrangement, and not just on the Verbal Scale, of the WISC are solely or partially intertwined with formal learning or experience (Gc). Consequently, the Performance Scale *does not* yield a pure visual processing score (Gv). Research has found that the best two Gv subtests on this scale are Object Assembly and Block Design (Flanagan & McGrew, 1998; McGrew, 1999; Woodcock, 1990). Potentially, the diagnostician using the WISC Performance Scale is measuring not only nonverbal skills, but has lowered the intelligence score by including subtests that are associated with Gc. Therefore, the Performance Scale on the Wechsler scales will consistently represent a lower ability score for many American Indian individuals.

This problem is not confined to the Wechsler scales. Most commonly used batteries have the identical problem (e.g., the Stanford-

Binet and K-ABC). They have not adequately isolated and separated the various forms of intelligence. Why is this so paramount? Because we must ensure that we clearly and distinctly identify a child's ability and not confuse this ability with a cultural or linguistic difference. Otherwise, we run the risk of suppressing these children's intelligence scores. In addition, if the psychologist lets English Language Proficiency (Gc) remain in the intelligence formula for LEP children, the score becomes lowered, biased, and indefensible. In such cases, the ability score will be suppressed and if a discrepancy model is being employed, the discrepancy will likewise also be suppressed. Discrepancy in this case refers to the difference between intelligence and achievement, which is the process that many psychologists use to diagnose learning disabilities. Finally, poor educational decision-making and planning will take place based upon the faulty testing.

Similar to the Wechsler scales, most of our contemporary assessment tools gauge two or three cognitive areas, typically Gc, Gv, and short-term memory (Gsm) (Genshaft & Gerner, 1998). As previously noted, the Cattell-Horn-Carroll Theory identifies *ten* broad and 69 narrow areas. In order to adequately test a broad area, one must collect scores from a minimum of two qualitatively different, narrow abilities. This is the difficulty in such cases as the Digit Span from the Wechsler scales. There is only one subtest on the WISC/WAIS for Gsm, that being Digit Span. Digit Span represents one narrow ability and cannot constitute a broad area in isolation. When only using one narrow ability score, little reliability is garnered. Again, the psychologist is advised to have at least *two* narrow ability scores in order to make judgments on the child. For that reason the WISC yields valid scores for Gc and Gv, because there are two or more subtests representing these broad areas. The Stanford-Binet produces scores on three, or perhaps four broad areas, depending on what source you consult (Woodcock, 1990). Sattler (1988) claims three broad areas are assessed, while Woodcock asserts four. As mentioned above, one broad area is not tested on any major battery, that being Correct Decision Speed (CDS or Gt). The only battery that attempts to investigate the remaining seven broad areas of intelligence is the Woodcock-Johnson-Revised Test of Cognitive Ability (WJ-R) and the recently published WJ-III.

The WJ-R is grounded theoretically in the Cattell-Horn-Carroll Gf-Gc Theory (Horn, 1991; Horn & Noll, 1997) and provides a broad and comprehensive base from which to assess several types of ability. It is the only test battery available which produces ability scores in such broad areas as long-term memory (Glr), auditory processing (Ga), and fluid intelligence (Gf). These are critical domains to measure because each has been found to be highly correlated with various areas of academic achievement (Flanagan & McGrew, 1998). While many test batteries are able to reveal a discrepancy between ability and achievement, they often provide no information concerning the *cause* of the discrepancy. In turn,

most tests are also limited in their capacity to provide information regarding remediation for teachers, which should be a primary goal of the psychologist.

The Gf-Gc Cross-Battery Approach suggests that the clinician "cross-batteries" in order to provide the most comprehensive means of assessment (Flanagan, et al., 2000). This does not imply administering several total batteries to the student, but rather, selecting specific *portions* of batteries in order to answer the referral question and more accurately measure intelligence. The evaluator could chose two or three pure Gv subtests from different batteries in order to establish intelligence. In this case, for an American Indian person, Gv or Gs subtests could be selected. For instance, if a school psychologist/clinical psychologist gave the Stanford-Binet to a child with a reading problem, there is little to no information gathered from this test concerning auditory processing (Ga), which has been found to be highly correlated with reading success (Flanagan, et al., 2000). However, if the examiner supplemented the standard battery (the Stanford-Binet) with the Auditory Processing Cluster from the Woodcock-Johnson, then he/she could speak more directly to the possible cause of the reading difficulty (e.g., limited Ga). Additionally, because it has been found that one must collect two narrow subtest scores to constitute a broad category, it is unnecessary to continue testing the same narrow ability with four, five, or more subtests. This appears to be the case with the Wechsler scales. Assuming that the two subtests fall within the same range, only two subtests are required to be given in either Gv or Gc. There is no justifiable cause to include all of the Wechsler Verbal subtests in order to understand an individual's verbal ability. Hence, the number of subtests could be reduced so that overall administration time would not be significantly increased.

This approach allows the examiner to isolate specific abilities and test for a broader spectrum of abilities than the traditional standard battery. If the psychologist is parsimonious with time, he/she is able to carefully select the subtests beforehand, or during testing, which answer the referral question. Therefore, additional time is often not required to complete the testing from a cross-battery approach, or the increased time should amount to no more than ten to fifteen minutes.

At present there is no one test on the market that taps into all the broad categories of ability. Until such a test is produced, the vigilant psychologist will need to conduct a broad-based assessment of his or her own. As advocated by Genshaft and Gerner (1998), "…researchers and clinicians will need to 'cross' batteries in order to conduct complete assessments of cognitive functioning or *selective but in-depth* assessment of particular abilities (e.g., Glr, Gf) that have been found to underlie specific achievements" (p. 25). There are ever increasing possibilities on the horizon, including the new Woodcock-Johnson III (Woodcock, McGrew, & Mather, 2000), which was released the fall of 2000. The Universal Nonverbal

Intelligence Test (UNIT) (McCallum & Bracken, 1998), Leiter International Performance Scale-Revised (Roid & Miller, 1997), Comprehensive Test of Nonverbal Intelligence (CTONI) (Hammill, Pearson, & Wiederholt, 1996), or Test of Nonverbal Intelligence (TONI) (Brown, Sherbenou, & Johnson, 1997) are nonverbal tests which may provide good nonverbal or visual scores for American Indian children, but there is no current research on these tests. Such nonverbal tests may hold some promise for testing culturally-different individuals. However, in the near future, it continues to be unlikely that one test will accurately measure the intelligence of culturally-different individuals. We should also continue to challenge the test developers to devise new and improved tools of measurement that do a better job of assessing culturally different children. In addition, there is a need for the effectiveness of the cross-battery to be fully applied and researched with American Indians.

The cross-battery is not a panacea and the psychometric field will inevitably continue to evolve. Eventually, there may actually be one battery that "does it all," but this laudable goal may also be elusive since research will continue to refine cognitive abilities that can be assessed and test development will hasten to "catch up." In the meantime, we must make do with our current resources. Presently, for this psychologist, the cross-battery approach has proven to be the best method to accurately assess American Indian children and adolescents. It is an invaluable process that improves testing and provides a more thorough evaluation of the student, it has not significantly added time to the testing process, and it allows for an increased capacity to address referral questions. While the cross-battery has been effective for testing American Indian and ESL students, this approach applies to all individuals, and is not confined to culturally and linguistically different students.

The original question posed by this article concerning whether or not it was possible to accurately test the intelligence of American Indian children can be answered. It is the firm belief of this psychologist that the answer is "yes." Are we able to provide accurate scores by using one single test battery that was developed and normed with Caucasian children? "No," and frequently this method of testing is found lacking for such children. Over the past year, I have been requested to conduct a second opinion or reevaluation for eight Intellectually Disabled (mentally retarded) American Indian children. Original intelligence scores from the WISC-III and WAIS-R ranged from 58 to 69; the criterion is 70 for classification with this disorder. All eight children and adolescents had previously been tested with the WISC or WAIS, using either the Full Scale or Performance Scale. The reevaluations employed either the cross-battery approach, or pure measures of Gv/Gs to establish intelligence (Visual Processing from the Woodcock-Johnson or the UNIT). Reevaluations of these children produced average intelligence scores (i.e., between 90 and 105). *These scores indicate that the children were not mentally retarded, nor was their*

intelligence impaired. Clearly these children had been misdiagnosed, misplaced, and further, inappropriately educated. Two had been mislabeled and placed in a "self-contained" class for several years. In essence, these children's civil rights had been violated and this process is legally indefensible. It is the obligation of every school psychologist/clinical psychologist who works with American Indian children and adolescents to utilize the most accurate and up-to-date means available to measure intelligence and make special education decisions concerning placement and remediation. Otherwise, poor decisions and inaccurate diagnoses regarding the children we serve will inevitably be made. In turn, our decisions are tantamount to damaging the children we aspire to aid.

Gary A. Plank, Ph.D.
3360 E. Linda Vista Dr.
Flagstaff, AZ 86004

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APPLYING A CULTURAL MODELS APPROACH TO AMERICAN INDIAN SUBSTANCE DEPENDENCY RESEARCH

Linda K. Watts, Ph.D.

Abstract: The cognitive anthropological method of deriving cultural models from ethnographic discourse analysis is illustrated in relation to case studies yielding nativistic insights regarding American Indian substance dependency and recovery. Discussion focuses on the broader applicability and local community relevance of incorporating cultural models directly into the design and implementation of prevention and intervention programs. Such an approach may benefit local community cultural revitalization efforts while enhancing the cultural relevance and effectiveness of substance abuse programs.

In cognitive anthropology, *cultural models* have been defined by Quinn and Holland (1987) as "presupposed, taken-for-granted models of the world that are widely shared (although not necessarily to the exclusion of other, alternative models) by the members of a social group and that play an enormous role in their understanding of that world and their behavior in it" (p. 4). Keesing (1987) adds that such models "comprise the realms of (culturally constructed) common sense," serving a pragmatic role as "models of everyday reality" (p. 374). Cultural models research in current cognitive anthropology generally utilizes ethnographic interviewing along with discourse analysis, participant observation and statistical techniques such as multidimensional scaling in order to uncover and represent composite cognitive models of subject groups in alignment with a connectionist theory of cognitive processing (Strauss & Quinn, 1994). Some notable examples of cultural model analysis reported on in the anthropological literature include Holland and Skinner's (1987) study of folk semantics and related behavioral schemas associated with vernacular gender terms by a population of college undergraduates, D'Andrade's (1995, pp. 152-157) discussion of Gladwin's (1970) account of Caroline Islanders' model of sea navigation by triangulating the position of various

constellations with points of origin and destination conceived of as in motion relative to a static canoe, and Johnson's (1987) examination of body metaphors from a cross-cultural perspective. More informal theoretical conceptions of folk, 'emic' or cultural models have been represented in many ethnographic works, including particularly in medical anthropology (e.g., Scheper-Hughes, 1984) and cross-cultural psychological research (e.g., Hsu, 1985; Kleinman, 1980, 1986; Levy, 1973; Shweder, 1985).

Representations of cultural models in current cognitive anthropology provide simplified, schematic models of collective mental constructions of some aspect of everyday life. They are derived from qualitative interview data and represent common sense knowledge schemas more or less shared by a culturally related group of subjects and considered to inform appropriate, culturally situated behavior. Such models are not necessarily articulated in consciously coherent accounts by individual informants, yet to be considered culturally valid and relevant the models should be intuitively correct and satisfying to at least a representative sample of persons interviewed and, at best, to other persons from the same socio-cultural group. A cultural model seeks to account for culturally relevant knowledge schemata of at least some segment of a community pertaining to a particularly meaningful and culturally salient domain of their everyday experience.

This paper reports primarily on findings from two ethnographic studies conducted by the author that have yielded American Indian-based cultural models of substance dependency and recovery: one based on interviews with clients at a progressive American Indian rehabilitation clinic in Phoenix, the other constructed from interviews with youths at a New Mexico pueblo community. In addition, some other American Indian cultural models pertaining to substance dependency and recovery that are being used in nativistically designed prevention and intervention efforts will be discussed. The main objectives of this paper are to consider the value of incorporating global and/or local cultural models directly into prevention and intervention efforts and to illustrate a technique of ethnographic discourse analysis useful in deriving local models.

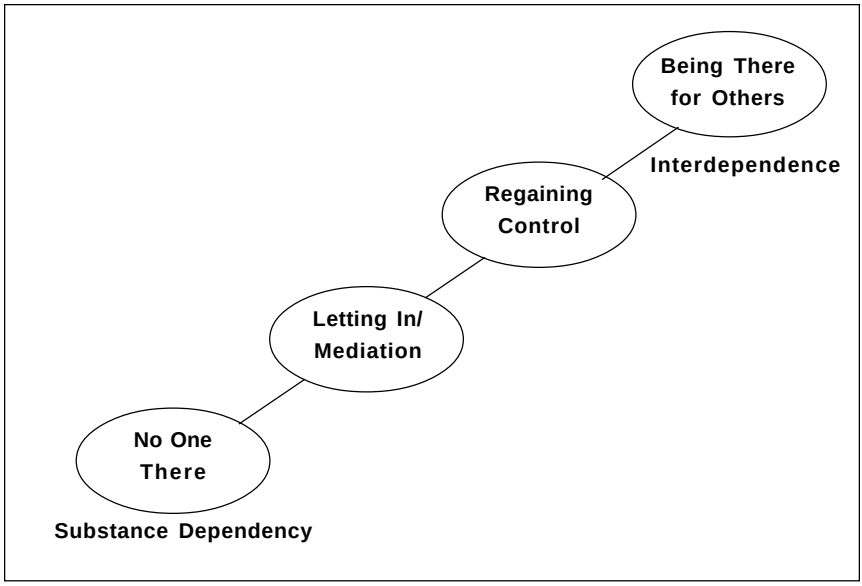
The Phoenix Indian Rehabilitation Center and Guiding Star Lodge

The first ethnographically derived model to be considered was constructed on the basis of qualitative interview data obtained from 58 American Indian clients mainly at two residential treatment facilities in Phoenix, Arizona, one for men and the other for women and both administered by the same organization. Individual interviews were conducted near the end of a three-month treatment program as an addition to a series of two sets of quantitative interview instruments administered at the start and near the end of clients' programs (Gutierres, Russo, & Urbanski,

1994). Clients were from fifteen tribes representing a wide cross-section of contemporary American Indian communities and lifestyles. There were 30 males and 28 females interviewed. The mean age was 28.5 years.

Informants were asked to discuss the factors that, in their own view, had led to their problems with alcohol or drugs; factors that had most helped them to overcome these problems; and advice that they would share with young persons beginning to experience problems with substances. Interview data were coded for recurring response patterns, revealing several salient themes. Analysis of interrelationships among these salient themes allowed the derivation of a cultural model (Watts & Gutierres, 1997) of the form that Quinn and Holland (1987, p. 32) identify as a "prototypical event sequence" involving four stages. These stages are represented as cyclical in nature, since there is always a recognized risk of relapse or falling back into the inertia of any given stage within the overall cumulatively positive process. Figure 1 illustrates the cultural model that emerged from these interview data.

Figure 1
An American Indian Based Cultural Model of
Substance Dependency and Recovery



The primary factor mentioned as having led to the development of substance dependency was some significant person or persons "not being there" during a critical stage of an informant's early family life, either because of a broken family situation, parental figures who were themselves

substance dependent, or the significant loss of a close family member due to divorce or death. Almost every informant also spoke in similar terms of the later importance of some particular person, usually an elder family or community member or else a close friend, "being there" for them and speaking out consistently against their drinking until, at a critical stage of either maturation or recognition of the damage substance use was doing to themselves or to others, they could finally "let in" these good role models' advice–and often their direct interventive assistance–and finally take steps toward "regaining control" over the otherwise overwhelming influence of the substance. According to this prototypical event sequence, informants expressed the view that eventually (i.e., after successfully completing the treatment program and returning to their communities) they would be in control of their own lives again and would be able to "be there" as good role models for others.

Substances themselves, especially alcohol, were often regarded in these interview data as potent agencies in and of themselves, to which the informant had relinquished autonomy. This was evident through linguistic analysis. The noun *alcohol* (most often substituted for in English simply by the pronoun */t*) was almost always employed in data about factors causative to the subjects' problems with substances as an agentive nominal argument; that is, as the active subject of a transitive verb. For example, an informant I will name Denise's advice to young people was: "…*It* will take your life and */t* will take the good part of you, your self-esteem and all that." Another informant, Michael, stated: "The more I did, the more */t* got me into trouble and put me on probation."

Traditional American Indian belief systems from many tribal backgrounds emphasize the powerful, even animate character of certain substances, including natural substances used in ceremonies such as sage, sweetgrass, tobacco smoke, jimsonweed, and peyote. Smoking native tobacco in a sacred pipe ceremony is a sacrament in the sweat lodge ceremony associated with purification as a form of communion (Steinmetz, 1984, p. 47). Peyote is clearly regarded by many Native American Church practitioners as a positive agency in and of itself (Aberle, 1966, pp. 213-214). Natural forces such as medicine powers, thunder and lightning are also often recognized as having both potentially helpful and harmful influence as potent agencies. When peyote is referred to as "Old Man (or Grandfather) Peyote," that is intended as a literal statement. When a Navajo speaks of succumbing to the deleterious influence of natural forces or to less intelligent beings, it is recognized that such agencies "cannot control or act upon beings of higher intelligence unless the beings of higher intelligence willfully or inadvertently yield to the control of beings of lower intelligence" (Witherspoon, 1977, p. 77). Thomas, for instance, a middle-aged client at the Phoenix facility who had been in and out of prison for some twenty years from alcohol related charges, characterized his relationship with alcohol as follows: "…*It's* cunning, baffling and powerful,

and *It's…* the worst thing that you can ever get into…When you think you're dominating the alcohol, you're going to find out in the long run that *It's* going to be dominating you." The fact that Thomas makes this statement as an almost verbatim quote from The Big Book of Alcoholics Anonymous (Alcoholics Anonymous, 1976, pp. 58-59) reflects his involvement with the Alcoholics Anonymous (AA) program at the Phoenix center, but it is noteworthy that the material quoted pertains so closely to nativistic conceptions.

American Indians from many tribal groups regard intoxicated individuals as not being in autonomous control and hence as not to be considered by community members as responsible for their behaviors while they are, quite literally, under the influence of alcohol or drugs. Bea Medicine has reported for the Lakota that intoxicated persons may be referred to as *t'an ables ya han*, translated as "gone" or "not at home" (Medicine, 1983, p. 128). The nativistic cultural model of interaction with alcohol or drugs expressed in these interview data characterizes a process of moving from *relinquishment of control* to *letting in* advice and *mediation* for help in *regaining control* to achieving *interdependence*. This is quite distinctive from the schema of progressing from *addiction* to *recovery* in the western medical model wherein alcoholism is regarded as an illness associated with biochemical effects. In traditional American Indian spiritual practices a medicine person or shaman might intervene on behalf of a person understood to have succumbed to the deleterious influence of a potent substance or force, though the person succumbing to this influence might be conceived to have brought this condition upon himself or herself by wrongful conscious or unconscious actions (e.g., Bahr, Gregorio, Lopez, & Alvarez, 1974). Likewise in these interview data, it appears significant that the turning point from relinquishing control toward reclaiming autonomy and interdependence is almost always reported to involve a familial or community elder or close friend who assumes a directly interventive, though not "pushy," *mediational* role on behalf of the substance dependent person. Extended family or communal role models were often reported to have stepped in to assist a person in connecting with a treatment program. Such mediators were said to have provided constant and persistent support both before and throughout the 'recovery' process. This role of the familial/ elder mediator draws upon community-based cultural constructs associated with extended family seniors, spiritual advisers, and shaman-type healers.

It should be noted that the Phoenix treatment program utilizes a twelve-step based AA counseling program along with several traditional American Indian spiritual treatment modalities, including participation in sweat lodges and talking circles, visits by American Indian spiritual advisers, and attendance at local cultural events such as powwows. In addition, a component of this program that has been found to contribute to an unusually high rate of completion by clients (Gutierres, Russo, & Urbanski, 1994, p. 1779) is the participation of family members. At the women's facility,

children are allowed to stay with their mothers throughout the program, and at both facilities, spouses or other family members are encouraged to live in the local vicinity during the course of the program or to visit or call often to communicate while the client resides at the facility.

Clearly the traditional treatment modalities mentioned above are concordant with the cultural model uncovered in this study. The direct involvement of close family members along with talking circles and shared ceremonial participation provide a familial and community-oriented context consistent with the themes of *being there*, *letting in*, and *mediation* considered crucial to facilitating the process of *regaining control* and *interdependence*. The sweat lodge and visitations by spiritual advisers further facilitate the mediation process during ceremonies wherein alternative, positive substances (e.g., sage, smoke, and cedar) and shamanistic-type spiritual advisement are employed to strengthen the individual's ability to regain control over the harmful substances.

A policy recommendation for intervention strategies based on this cultural model is that the role of the counselor and of the "buddy" or "sponsor" in an AA program might be directly patterned after locally defined familial/elder mediator roles. While the standard, western-based Alcoholics Anonymous program attributes a sense of powerlessness (viz., loss of autonomy) to character defects within the individual which the addict must first confront internally and then correct by a powerful act of will aided by acceptance of a morally superior higher power (Alcoholics Anonymous, 1967, p. 327), the American Indian based cultural model discerned in the Phoenix study places responsibility for relinquishment of control not directly on the individual but rather more so on family or community disturbances such as poor role-modeling or broken family conditions. Recognition of the relinquishment of control and then acceptance of advice and/or direct mediation is required for a substance-dependent person to regain control and achieve interdependence. Mediators (both human and positive, non-human agencies) assist the substance dependent person to raise impaired self-esteem and to regain control over the harmful substance so that s/he might again be capable of being integrated as a positive role model in the family and community. Thomason (1991, p. 322), who describes an American Indian model of healing to educate non-Indian counselors, points out that to many American Indian clients with traditional backgrounds, it may be that "curative powers are assumed to lie with the healer, not the patient." Thomason also recognizes the mediational role of family and community members. He notes that since psychological disorders such as those connected with substance dependency may be considered traditionally as being "rooted in the community" (Thomason, 1991, p. 322), then "the extended family, friends, and neighbors are mobilized to support the individual and get them integrated into the social life of the group." Many community based prevention and treatment programs serving American Indian communities already incorporate this traditional mediator

role into their programs simply by employing locally respected spiritual advisers and medicine persons as part of their regular staff and by providing access to positive agencies in traditional ceremonies. Further, employing former substance dependent persons as individuals who have successfully confronted the same difficulties and emerged victorious has often been found helpful in imparting a positive motivation for clients (e.g., Ben, Lansing, & Dereshiwsky, 1992; Edwards & Edwards, 1988: Hall, 1986; Kahn, Lejero, Antone, Francisco, & Manuel, 1988).

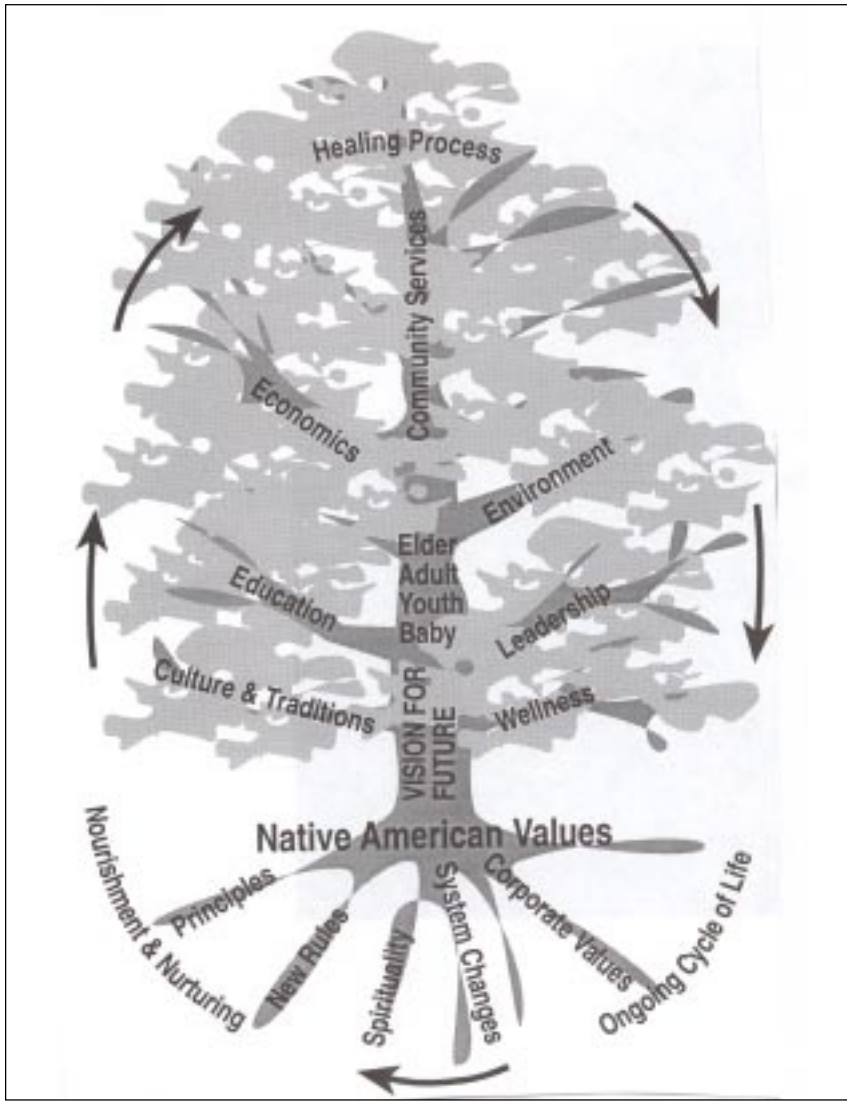
The Medicine Wheel and Healing Forest Models of White Bison, Inc.

After completing the Phoenix project and deriving the cultural model presented above, the author learned of a substance dependency treatment program based on the concept of the Medicine Wheel that matches phase for phase the four cyclic stages identified in the Phoenix study model. Don Coyhis and Richard Simonelli of White Bison, Inc. have somewhat revised and grouped the twelve steps of a standard AA program into four sets of three, associating each set of steps with a seasonal character (i.e., spring, summer, fall, and winter). These seasonally identified stages correspond closely with the four phases identified by clients at the Phoenix facility described in Figure 1 (Simonelli, 1993; Watts & Gutierres, 1997, p. 16). Generally, steps associated with the east involve the process of coming to recognize the Great Spirit as *being there* "to help us regain our responsibilities and model the life of our forefathers" (Simonelli, 1993, p. 2). Steps associated with the south involve *letting in* helpful advice by opening oneself to one's place in the circle of life, admitting weaknesses, and praying to the Creator for intercession. The west directional steps involve *regaining control* via mediation, as the individual gains strength through reliance on the Great Spirit's assistance and actively makes amends for weaknesses while practicing sobriety. The north stage involves *being there for others*, as the individual maintains a life of no longer being dependent upon alcohol or drugs and actively engages in "sharing the message of these steps with others."

Coyhis, a Mohican, has developed another cultural model of healing used in conjunction with the Medicine Wheel approach which he calls the "Healing Forest" model. White Bison, Inc. utilizes this approach in consulting with American Indian communities to assist their implementation of community-based substance dependency recovery programs. The Healing Forest program starts with the premise that an ailing individual tree, once healed and returned to a forest where the soil remains diseased, will become diseased again itself. A forest cannot heal unless harmful elements present in its soil are removed and replaced with healthy elements. Accordingly, as illustrated in Figure 2, the Healing Forest program engages various segments of an American Indian community, from political

and service sector agencies to school and family units, in a comprehensive program involving talking circles, the construction of individual and group mind-maps, and other workshop modalities. The purpose is to 'weed out' deleterious, non-traditional concepts seen as polluting the community value system and to replace these by re-instilling traditional cultural values in keeping with a specific, collectively agreed upon community vision.

Figure 2
The Healing Forest Model of White Bison, Inc.
(From Wocawson, 1994, p.3)



The White Bison program further employs traditional concepts which Coyhis refers to as "Four Principles (or Laws) of Change" to implement the Healing Forest and Medicine Wheel models (Simonelli, 1993). These are: (a) change is from within, (b) vision brings development, (c) a great learning needs to occur, and (d) a Healing Forest must be created. The program assists communities in first establishing a seed vision and then following through to nourish and bring that seed to fruition.

The Healing Forest program has been so successful in its implementation among the Passamaqoddy peoples in Maine that within the first ten months the program claimed a greater than 60% sobriety recovery rate for local participants (Coyhis, personal communication; see Wocawson, 1994). The Medicine Wheel and Healing Forest models both demonstrate the value of applying some relatively global (i.e., pan-tribal) cultural models directly to the design and implementation of prevention and treatment programs. American Indian traditions provide a naturally rich source of concepts, ceremony, and inspiration to draw from in designing culturally relevant prevention and intervention strategies. The more directly these concepts and practices can be incorporated into programs specifically designed for American Indian clients or in American Indian reservation communities, presumably the greater will be their effectiveness.

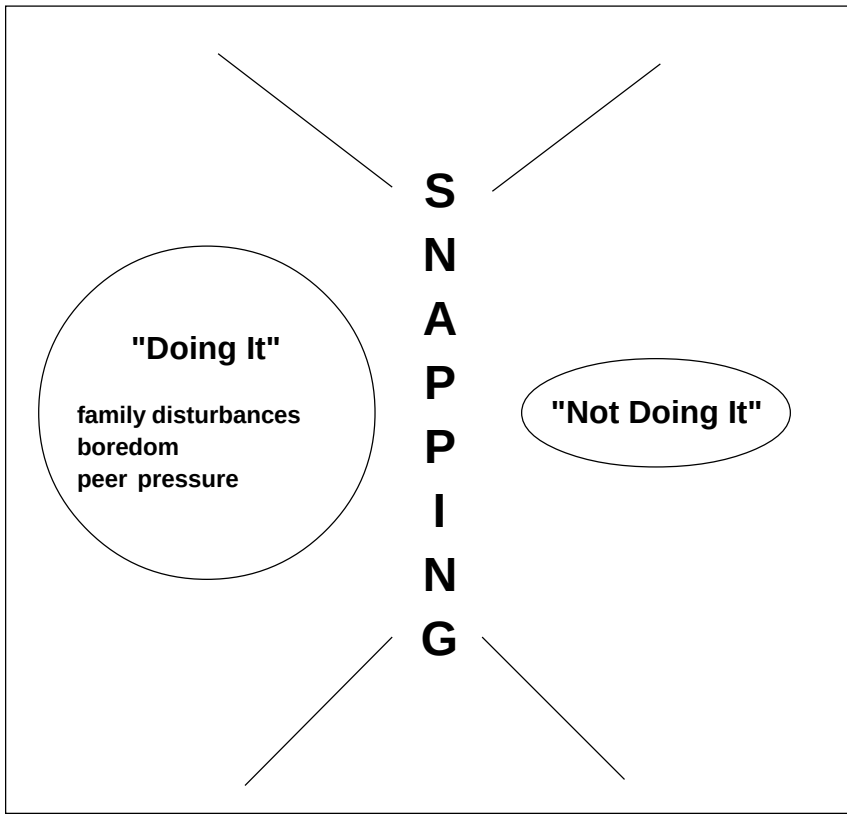
"Doing It" and "Snapping"

A second ethnographic interview project that resulted in a local cultural model of substance abuse and recovery was conducted by the author at the New Mexico pueblo of Santa Clara in 1995. Results from this study suggest the value of incorporating a specifically *local* cultural model of substance abuse and recovery in prevention or intervention strategies (Watts, 1996). The data in this study included demographic and qualitative interview data collected from nine young persons (ages 10 to 21) who served as a representative sample of youth selected from a summer youth work program at the pueblo, along with documentary information on 21 additional community youths who had been admitted to a Youth Emergency Shelter because of substance-related incidents between 1991 and 1995. The qualitative interview schedules included questions similar to those used in the Phoenix study along with questions concerning family background situations and the matter of youth gang involvement at the pueblo.

Findings revealed a high rate of prevalence of the use of controlled substances by seven of the nine youths sampled and within their families, indicating high risk for youth in general at the pueblo, granting that this conclusion is based on a small, pilot study sample. Several factors emerged particularly from the qualitative interview data that allowed construction of a local cultural model (Figure 3). Attributions of situations

contributing to substance dependency were expressed quite similarly as in the Phoenix study, with most of these youths mentioning broken family situations as the most highly significant factor involved in the development of their own use of illicit substances. Six of the nine informants also reported *boredom* as a significant factor along with *emotional stress*. Their characterization of the use of substances generally was summed up in a local community idiom: "doing it." Several of the youths interviewed used this expression as a means of talking about their own drinking or drug use. While broken family situations, stress, and boredom emerged as the major factors attributed as contributing to the phenomenon of "doing it," peer pressure, mainly expressed in terms of gang participation, was also frequently mentioned. Several of the youths reported that they participate in gangs mainly to protect themselves from members of other gangs, and substance use was reported as very high at gang activities. Youths who expressed little knowledge of gang activity still acknowledged peer pressure as a significant influencing factor.

Figure 3
A Local Vernacular Cultural Model



Along with the colloquial concept of "doing it" as a cultural theme among youths within this particular pueblo community, another distinctive theme that emerged as salient within the interview data was a phenomenon referred to as "snapping." After noting this term as being used similarly by several of the youths, I asked directly for definitions in follow-up interviews and discovered that the local use of this expression is apparently quite different from the notion inherent in Anglo usage. Rather than meaning "going over the edge" or losing control over one's actions–which is what 'snapping' generally refers to in Anglo parlance–youth interviewed at the pueblo used the term to refer to something similar to what Phoenix informants had called "letting in." "Snapping" was defined locally as a matter of "finally seeing the light." One girl clarified the phenomenon rather succinctly, explaining: "Like you realize what you've been doing; where you catch yourself doing something." After "snapping" occurs, these youths said, a person may choose to simply stop using alcohol or drugs and instead make major, positive life changes.

A summary of the cultural model of "doing it" derived from this study is illustrated in Figure 3. Family problems creating stressful situations, along with general boredom based on there being little in terms of community activities or recreational facilities at the pueblo, leads to "doing it" as an acceptable youth activity heightened by peer pressure and gang participation. Youth who stop "doing it" are reported to have commonly first experienced the phenomenon of "snapping," whereby some event occurs such as their ending up in a hospital, knowing a relative who has been hospitalized, or hearing of a catastrophic event which has befallen a family or community member as a direct result of excessive alcohol or drug use. Such events were said to have made the youth suddenly fully aware of the negative consequences of "doing it" and brought upon the locally recognized phenomenon of "snapping." Where "snapping" has not occurred, youth generally said they acknowledge that "doing it" is acceptable social behavior in that it may appear to effectively help youths deal with the situations of boredom and emotional stress that are a part of everyday life experience at school and at home in the community.

One recommendation based on the cultural model obtained from this study was directly called for by the youths interviewed. Recreational facilities might be established as "drug free zones" at the pueblo in order to counter the youths' perceived experience of boredom. Several informants specifically expressed a desire to have a park developed in the community that would be designated as a drug-free and alcohol-free area. Youth activity groups focused on traditional crafts or special interests or hobbies supervised by older youths or local elders was another practical recommendation suggested, to offset the motivation for gang involvement within the community.

Other recommendations based on this study that could help in applying the cultural model obtained by developing a locally relevant prevention and intervention program could include:

1. Production of videotapes presenting the stories of local or otherwise well-known individuals who have experienced the ravages of substance dependency in their own words. Such videotapes might be discussed in talking circles with youth, treatment facility staff or counselors, family members and elders in order to facilitate the "snapping" phenomenon.
2. Ethnographic research concerning traditional modes of dealing with substance addiction. Ethnographic sources about the pueblo, for instance, revealed that around the turn of the twentieth century, alcohol abuse was treated as a serious matter that was dealt with internally by local medicine persons. Reintroducing traditional methods of counseling substance dependent individuals could be a helpful means of addressing the contemporary situation.
3. Reintroduction of a specific, traditional form of family conflict resolution that involves allowing all points of view to be expressed and listened to respectfully, sometimes including mediating members of the extended family to reinforce fairness. Three of the youths interviewed–specifically the three informants least involved in the use of alcohol or drugs at the time of the interviews–reported that this practice in their families had been a very strong preventive or interventive factor. Ethnographic sources reveal that as late as the 1950s, there was a cultural tradition within this pueblo of bringing in extended family members or respected community elders to directly mediate family disputes. Here is an example of how reintroducing traditional values and practices could potentially have a positive impact on reducing the ravaging effects of substance dependency on families and their wider communities.

Discussion

The construction of cultural models on the basis of discourse analysis of open-ended interview data provides a fairly simple and direct means of deriving locally relevant, culturally sensitive treatment constructs for implementation in substance dependency programs. Programs targeted to address the specific local needs of ethnic communities stand to benefit by ethnographic research that examines prototypical cultural conceptions regarding involvement with alcohol and drugs, traditional manners of dealing with problems of addiction, and sociological and psychological patterns culturally attributed to the development and recovery from substance dependency.

The way local people talk about and understand substance dependency and recovery may illuminate not only ways by which members of a particular speech community tend to regard the difficult issues involved

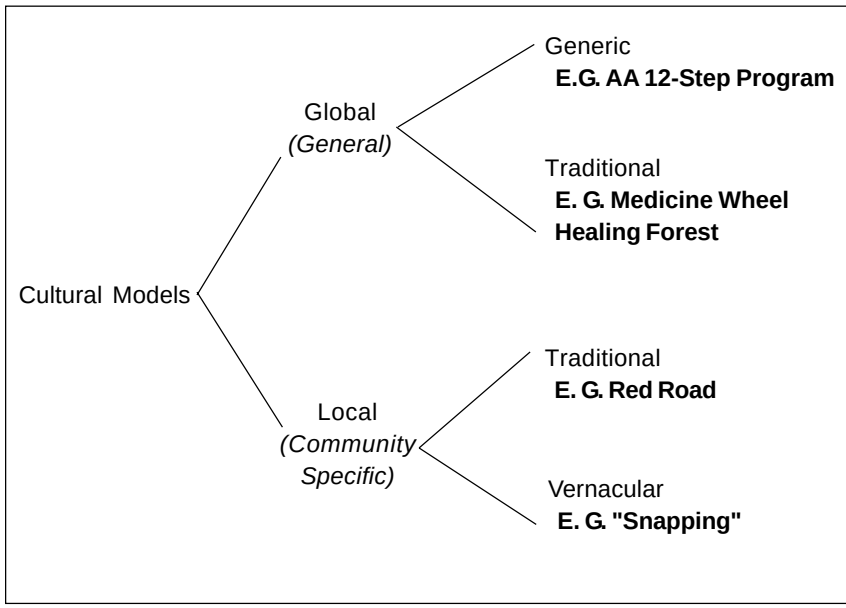
but may also suggest locally recognized prevention and recovery strategies with which they are familiar and, in that sense, with which they might be more comfortable participating than with externally introduced strategies (Thomason, 1991, p. 325). Furthermore, program designers and staff who are themselves members of the ethnic population they serve can utilize their own cultural knowledge more effectively by utilizing local cultural models as a means of incorporating local knowledge and traditional practices into their programs. This may allow better communication of program objectives and policy design in a collaborative framework inclusive of the knowledge and key experiences of members of the practitioners' own local communities in accordance with the vision and perceived objectives of individuals within that community. As Coyhis emphasizes from American Indian teachings in the Healing Forest workshops (Simonelli, 1993): "When the people lead, the leaders will follow" (p.1).

A distinction which might prove helpful in considering the application of a cultural models approach based on the examples herein as well as in the large, growing literature of program designs and research relating to American Indian substance dependency is a distinction between *global*-level and *local*-level cultural models. Figure 4 presents a typology of cultural models based on this distinction. The Medicine Wheel as articulated by Coyhis and Simonelli or as variously employed by others is an example of a *global traditional* model that has pan-tribal significance and, for many, perhaps also a revitalizing appeal. Though associated historically mainly with Sioux and some other Plains tribes' ceremonial traditions, certainly the seasonally based medicine wheel model has a pan-Indian contemporary significance for a wide range of tribal groups. The sacred significance of the four-season cycle and four colors are nearly universal symbolic motifs in American Indian cosmology.

An example of a *global generic* cultural model, i.e., one presented as trans-cultural in application and relevance, is the 12-step program in its various formats developed by Alcoholic Anonymous. This has certainly been a powerful tool used effectively in many programs treating American Indian clientele, often modified or supplemented with traditional models.

Local cultural models can also be further distinguished as being either of *local traditional* or *local vernacular* type. The "snapping" model derived from the interview study with youth at Santa Clara Pueblo is an example of a local vernacular model, as is the four-phase model uncovered in the Phoenix study. Some informants at the Phoenix facility from Hopi Pueblo also spoke in terms of another local traditional model when speaking of the abuse of deleterious substances as "taking a wrong path or road" versus "the right road" of sobriety. This latter schema may also be understood to correspond with a more generic traditional model of "walking the Red Road" (Wocawson, 1994, p. 31).

Figure 4
A Typology of Cultural Models



Finally, in designing prevention and treatment strategies, one might wish to consider which sorts or levels of cultural models are more culturally relevant or will be potentially more effective for a specific community setting or client base. Global generic models may require significant modification in order to be culturally relevant for a specific ethnic group or within a particular community setting. Traditional models, of either local or global origin, may have more appeal especially in a reservation community, for instance, where they might serve the purpose of enhancing or augmenting pan-Indian identification and traditional, nativistic value systems as well as fitting well within local cultural revitalization programs. Local traditional models may be employed to reintroduce and revitalize some ancient traditional concepts and practices. Local community elders might be consulted in clarifying traditional customs and practices associated with such approaches, or they might be directly enlisted to assist with teaching about these traditions within the community or treatment facility. There is an added value to conducting community-based ethnographic research to derive local vernacular models in that there may be the opportunity to address the immediate life experiences of community members in very contemporary terms in the vernacular of local experience.

The significance of global models generally–as perhaps with cultural models on the whole–is that they represent, often in mythic heroic terms, a “path;” i.e., a process with an entry point, a fairly well delimited set

of stages or conditions for change and growth, and, perhaps most importantly of all, an exit or emergence place leading out of the turmoil associated with the hardships undergone in the passage. All of the models discussed herein represent a process of learning, maturation, growth, and positive transformation of consciousness. They represent, in anthropological terms, rites of passage whereby an individual, family, or community may be understood to undergo a series of ordeals, learning to meet challenges associated with those ordeals in traditionally prescribed ways or by appealing to traditional practices, sacred assistance, and wisdom. By appropriately meeting the obstacles described by a model, persons may aim to emerge from those ordeals victorious and stronger for having undergone them. Such positively oriented cultural schemas may in fact help afflicted persons or groups to look beyond the immediately painful difficulties of their personal situations and to undertake a patterned 'road to recovery' that may readily be shared with others of their own community or ethnic heritage who have undergone similar experiences and who have sometimes succeeded in negotiating similar hardship.

Linda K. Watts, Ph.D.
Department of Anthropology
University of Colorado–Colorado Springs
1420 Austin Bluffs Pkwy.
Colorado Springs, CO 80933-7150

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THE DREAM CATCHER MEDITATION: A THERAPEUTIC TECHNIQUE USED WITH AMERICAN INDIAN ADOLESCENTS

Rockey Robbins, Ph.D.

Abstract: The following article describes a short-term treatment insight-oriented model for American Indian adolescents, called Dream Catcher Meditation. It is aimed at helping clients' express unconscious conflicts and to facilitate differentiation and healthy mutuality. Though its duration can vary, twelve sessions are outlined here. Session descriptions include goals and sample questions. Also included are anecdotal material and reflections about cultural relevancy.

The purpose of this article is to describe a culturally relevant and useful technique for therapists who work with American Indian adolescents. There is a dire need for creative therapeutic techniques designed specifically for American Indian adolescents. American Indian adolescents report high levels of truancy, delinquency, drug use, and suicide rates (Bee-Gates, Howard-Pitney, LaFromboise, & Rowe, 1996; Red Horse, 1982; Shore, 1988). BigFoot-Sipes, Dauphinais, LaFromboise, Bennett, and Rowe (1992) argue that the emphasis on "being Indian" is very important in the development of self-identity for American Indian adolescents. P. Katz (1981) reports that adolescents have a hard time expressing their feelings and are highly likely to use alcohol as a "loophole" to express anger.

Thousands of American Indians derive spiritual, social, cultural, and psychologically satisfying experiences from the rituals and symbolism of Native American Church peyote meetings (Calabrese, 1997), stomp dances, sun dances, and many other ceremonies. Hammerschlag (1988) and Heinrich, Corbin, and Thomas (1990) have described American Indian rituals and sacred symbols used in rites of passage and ceremonies for religious renewal to effect balance and a proper frame of mind among American Indian participants.

The circle is a common shape used in many American Indian ceremonies (Storm, 1972). One finds the circle used in peyote meetings, stomp dances, teepees, Navajo sand paintings, and medicine wheels to

name a few instances. American Indian people speak of the circle representing wholeness, enhancing communication, promoting equality, mirroring the roundness and symmetry of our spirits, and reflecting the natural cycle.

Carl Jung (1958) suggested that the personality expresses its deepest contents in symbols. He used the mandala, a circle divided into four quadrants as a pedagogical device. He believed the mandala to be an archetypal symbol and claimed that through its contemplation one could contemplate one's self. Through enactment, the process of having his patients represent emotional struggles in painting, drawing, sculpture, and other tactile means, his patients worked to integrate emotional and intellectual, as well as conscious and unconscious contents.

The dream catcher, which is also circular, is one of the most conspicuous American Indian symbols today. Recently while giving a workshop on how to use them in therapy, I was asked about their origin and traditional use. An American Indian elder asked if she might respond. She stated that the dream catcher is a relatively new phenomenon. They are made by tribal people as well as non-Indians from across the country. "They may have been first made by a White crafts person," she quipped, "but whoever first created them, many American Indians value them just the same." Some say they protect children from bad dreams. She concluded by saying that "stories" associated with dream catchers are still emerging.

Theoretical Foundations of the Dream Catcher Meditation

The following is a multi-session process of making a dream catcher during which the symbolism of each state of creation is systematically linked with key therapeutic issues. A cursory overview of the theoretical foundations of the Dream Catcher Meditation may facilitate a better understanding of the actual therapeutic process.

1. Forming the foundation of this treatment is the psychoanalytic notion that unresolved conflicts can interfere with an adolescent's emotional maturation process, while symptom reduction may be a byproduct (B. Katz, 1981). It is believed that a client's recollection and verbalization of certain traumatic events in an emotionally congruent manner can lead to freedom from patterns of reactive behavior, emotional restriction, negative self-image, and manacled social interaction.
2. Nevertheless, insight is not sufficient for successful treatment. Insights must subsequently be translated into plans and altered behaviors (Greenson, 1967.)
3. The use of symbolism in therapy can facilitate more profound self-exploration and behavioral change (Jung, 1958). Duran and Duran (1995)

advocate for the development of a post-colonial paradigm that legitimizes differing cosmologies and for an American Indian psychology that utilizes archetypal psychology.

4. Honoring our ancestors and the earth may facilitate differentiation, mutuality, and promote positive self-identity (BigFoot-Sipes et al., 1992; Bowen, 1966).

5. It is believed that acknowledging and discussing American Indian ideas about harmony and wholeness (Herring, 1997) with the client may promote meaningfulness and a more culturally satisfying state of mental health.

6. It is believed that short-term insight therapy as utilized in the Dream Catcher Meditation can be beneficial (Sifneos, 1972; Umana, Gross, & McConville, 1980) with American Indian adolescents. Clients with deeply ingrained issues may need extended treatment.

Session One: Introduction and Self-Reflection

The Dream Catcher Meditation begins with an overview about the technique itself. The client often has questions about the dream catcher and its meaning. The client is shown a dream catcher and asked about his/her knowledge and feelings about it. The therapist explains that the dream catcher's enclosing circle can help maintain his/her attention on his/her inner life; its interconnected web serves as a reminder of the unity of life; and the web's pattern, which weaves itself to the center circle, is a mirror of his/her journey of emotional and intellectual development.

A hoop is given to the client accompanied with the remark, "Tell me about who you are on the inside." Connecting this self-reflective question with the act of handing the hoop to the client prompts an identification of the self with the hoop. A concrete focused attention is brought on the inner domain of the personality. The dream catcher comes to represent the individual identity.

The client holds the hoop throughout the session, though does not work on it. The conversation moves back and forth from casual conversation to deeper reflections. The client is asked about his/her strengths and weaknesses, sense of humor, hobbies, dreams, temper, awkwardness's, finesse, feelings about his/her looks and intelligence, likes and dislikes, and many other questions concerning identity. At the end of the session, the client is told that the dream catcher will be wrapped with leather during the next session. The dream catcher is placed in safe keeping.

Session Two: Respect for Ancestors

I once asked a medicine person and a micco, a counselor at a ceremonial grounds, what they considered to be the essence of their tribe's

spirituality. They answered differently. The medicine person said, "It is respect for your ancestors." The micco said, "It is an appreciation for the land we live on." In homage to the wisdom of these American Indian elders, I formed some of the questions that I use in the second, third, and fourth sessions. The questions used during this session focus on ancestry.

Some models of therapy, such as behavioral and cognitive-behavioral therapy, see little value in the historical investigation of the individual client, much less their ancestry. Such a perspective would bewilder most traditional American Indians. To ignore the legacy of those who come before you is to be lost without guides. It may be considered forgetting who you are and may be associated with spiritual depravity. Spiritual health involves thankfulness for the gifts bestowed upon us by previous generations. Seattle said, "Our bare feet are conscious of the sympathetic touch of our ancestors as we walk over this earth… to us the ashes of our ancestors are sacred" (Hifler, 1992, p. 299).

Bowen (1966) has argued convincingly for the consideration of multi-generational transmission in therapy. Bowen became convinced through clinical practice that his clients' problems went beyond them and their nuclear families to several generations. He often considered his clients in a three-generational context. The adolescent's attachments to his parents might be considered in the context of his parent's attachments with their parents. Bowen considered how patterns are repeated one generation after the next. With this knowledge, he attempted to help his clients "differentiate" and break out of unhealthy patterns. The Dream Catcher Meditation incorporates this perspective, but also emphasizes the strengths of past interactional patterns.

In this session, the client takes thin strips of leather and wraps them around the perimeter of the hoop so that they overlap and completely cover the hoop. At this time the therapist says: "Describe ancestors' from your mother's side of the family" …and later, "from your father's side." The client is asked to identify ancestors' struggles. He/she is asked, "How are you like these people you described? How are you not like them? How are your struggles similar or different?"

Session Three: Differentiation

While acknowledging our interconnectedness, differentiation is equally important. Some clients are enmeshed with family members and have difficulty emerging as individuals from the undifferentiated family ego mass (Bowen, 1966). Meanwhile, their own issues are ignored. Participation with others should not be at the expense of losing oneself. It is a mistake for therapists to assume American Indian people have historically ignored individual aspirations. Tecumseh said, "My forefathers were warriors. From them I take my existence… I am the maker of my own fortune" (Hifler, 1992, p.

320). Holistic self-affirmation entails participation with one's family but also involves unique individual expression. The client may be caught in the emotional chaos of his/her family and have difficulty thinking reasonably for his/her self because of the pressures of emotionality. The client may blame others for his/her problems, when he/she should objectively consider his/her own participation. Helping the client think through issues facilitates his/her work toward healthy differentiation (Guerin, Fay, Burden, & Kautto, 1996).

During this session, the client does not work on the dream catcher, but he/she does hold it. This pause in the actual physical work serves to emphasize the importance of contemplation. The client is handed the hoop and congratulated for having completed the wrap. The therapist notes that balance in our lives may be engendered by our taking time to reflect after actions and work. The client is asked to name the persons they discussed the previous week, and then asked, "In what ways do continued animosities toward these people affect your life? In what ways does continued adoration of these people affect your life? What do you feel is a healthy relationship with those relatives who preceded you? …with current family members? How are your views different from other family members? …the same? How much do you need your family? How well do you function when you are away from them?"

Session Four: Respect for Place

As alluded to above in the conversation with the micco and medicine man, American Indian teachings emphasize our connection to the land. To be cut off from the earth is to be estranged from ourselves. Our land is our spiritual mother. In this session, the client begins to tie sinew to the rim of the hoop in such a way that a web is made. Tying the sinew to the hoop, the client is asked to describe in detail the four most memorable places where he/she has spent considerable time. The client is encouraged to use sense of touch, smell, taste, color, and sound descriptions. These concrete descriptions invariably open a client up to memories, both painful and joyous. The client describes the earth on which he/she lived, the grass on the lawns, the trees that offered shade, the houses and rooms in which he/she lived, the pastures surrounding his/her homes, and the roads or streets he/she walked or rode bicycles on.

Client descriptions of place often evoke strong emotions that can be overwhelming. Because of the limited number of sessions the client will have had at this point of the Dream Catcher Meditation, the therapist should be careful about moving too quickly into the depths of the unconscious. Typically, a client takes several trips into the unconscious before he/she retrieves enough past experience to gain the relief he/she seeks. The therapist should be cautious about probing too deeply for emotional content

at this point. Unconditional acceptance and patience from the therapist is primary during this stage of the meditation. At this point, groundwork for congruent expression of emotions is still being laid.

Session Five: Appreciation of Others

During this session, the client is to consider his/her more extended social relations. The client inevitably wishes to recognize his/her friends or teachers. The therapist facilitates the client to look at his/her self from different perspectives. Often the client becomes emotional when thinking about significant others. The emotions are usually tender and warm. The client expresses feelings of being supported. He/she sometimes comments that he/she is never truly alone in his/her struggles. (Traditionalists have sometimes commented that their medicine people call upon ancestor spirits for support during religious ceremonies.) This session serves to help the client feel supported and safe. It also takes the client out of an egocentric point of view. The client is being prepared for the upcoming sessions when he/she will deal with traumatic events.

The client picks about seven beads to represent significant people in his/her life. This is done in silence. The client may put the beads on the string at any time as he/she webs his/her way to the center circle. The client considers how these significant persons came to be part of his/her life and how their positive interaction continues to live on in his/her life. “How are the significant others, in a sense, supporting them in the session? If these persons heard what had been talked about, what would they say? What would their hope be for them?”

Session Six, Seven, and Eight: Psychological Traumas

Regarding the treatment of psychical traumas, Freud (1960) wrote, “It was necessary to reproduce the whole chain of pathogenic memories, the latest ones first and the earliest ones last: and it was impossible to jump over the later traumas in order to get back more quickly to the first, which was often the most potent one” (p. 111). I too, drawing from clinical experience, hypothesize that neuroses are often clusters of traumas that may have a core in early childhood. When I began doing the meditation, I tried to deal with the early crises first but found that clients were more likely to fully ventilate traumas when we regressively worked through them. Facing avoided past emotional struggles leads to symptom relief and personal growth.

While completing the first inside round of making the web, the therapist asks the client to describe an incident during the past five years that resulted in psychological suffering. The client is then asked to describe

how the suffering was assuaged. He/she may describe the person(s) who helped him/her through the pain and the form in which help was given. These sessions are usually the first time that in-depth probing is used. With each new spiral toward the center of the dream catcher, the client is asked to describe another crisis or trauma from an earlier period of life. There are typically about six rounds of web leading to the creation of a small center circle, depending on how close the ties are on the hoop and the size of the hoop's circumference. Consequently, the pace of the work on the dream catcher and the therapy is influenced by the physical attributes of the hoop, the client's age, and the client's life experiences. Each client determines how many experiences he/she chooses to talk about from any given period of time. For example, a thirty year old may regressively describe six traumas about every five years back until her birth, while a fourteen year old may describe five traumas separated by only two or three years. Others have described many more experiences in more or less sessions. It is important for the therapist to slow the work on the dream catcher to create a reflective rhythm. Often work on the dream catcher will stop though the client typically continues to hold it in his/her hands.

Many of the most emotionally difficult sessions coincide with the sessions that explore the client's crises or traumas. Questions are utilized to help the client tell his/her stories. The client is asked, "What incidents led up to the crisis? Who had parts in the story you are telling? Who were they and what were they like? Where did it take place? Who was missing at the time? How did you feel at the time?" The therapist attempts to help the client express congruent emotions when describing painful events.

Session Nine: Integration

The dream catcher is an enclosing circle. The client concentrates on a symbol, which has been associated with the self. The web represents a long series of experiences that reach back to early childhood. Jung's (1958) description of his therapy is very similar to the Dream Catcher Meditation. He wrote that analytic therapy is "traversing a succession of spheres towards the center of a system, which is at once her own, and the universal system." ". . .a turning in a circle around oneself" (p.322) and that the process of individuation can never do without a symbol (p. 325). The dream catcher spirals toward the center of the hoop. The client's self-exploration moves progressively to the depths of his/her personality.

During this session, the client completes the web spiral. He/she looks at the overall pattern of his/her life. The client identifies regressive patterns of coping with stress. He/she is asked to objectively consider the continued effects of the past. The client attempts to integrate his/her past into a more mature self. Relived traumas have left their wounds, but the

client has transcended them, and has begun to put them in an acceptable order. It is hoped that a more balanced consciousness will be achieved, where the client can feel and think spontaneously rather than being governed by an accretion of chaotic emotions. Ideally the client has moved closer to the point of resolving underlying conflicts.

Before tying off the center circle, the client is asked, "What is your relation to your past in terms of its negative and positive effects on your life now? For you, what are the dangers of clinging too much to the past? …of rejecting it? If you could have things the way you would like, what would your relationship to your past be and why? What are some of the recurring ways you have attempted to cope with your traumas? How effective have they been? When have you successfully dealt with crisis and trauma? What alternative methods might you use to cope with traumatic and stressful situations?"

Session Ten: Outside Influences

Having worked through unresolved emotional conflicts and reintegrated fragmented aspects of his/her self, the client now considers him/her self in the context of larger society. To focus only on inner struggles can become morbid and unproductive self-absorption. At this point clients are challenged to examine the effects of external influences on their lives. Many American Indian adolescents have suffered from the toxic effects of broader societal influences such as poverty, racism, materialism, classism, crime, and unemployment.

During this session the therapist tries to help the client consider the validity of the values he/she may have assumed without question and become aware of constraining social forces. Discussing social influences provides a client with an understanding that results in greater choice. The client focuses on both the inner circle of sinew within the larger rim and the network of sinew that connects the two circles. The therapist asks, "How is your inner self related to your outer world's environmental and social networks? How are you treated differently because of your sex? How does racial prejudice effect you? How do the limits placed on you by society regarding your age effect you? What are the messages you hear on television and in music? How do they influence you? What may you offer to your family, friends, tribe, or society that could change things for the better?" The process of termination is also discussed at this time.

Session Eleven: Life Goals

The Dream Catcher Meditation serves the creative purpose of giving expression and form to something that does not yet exist, something

new, unique, and healthy. In the new order, the past is translated and brought to a higher level. Instead of having negative past experiences slyly thwart the client's present life, past experiences, good and bad, are courageously accepted and transcended. The client is liberated to live in the here and now.

During this session the client works with four feathers, attaching them to the dream catcher while discussing four personal goals. The number four corresponds with American Indian medicine traditions that connect wholeness and health with the four directions. For instance, during Cherokee tribe's stomp dances, the sacred fire burns in the center of four logs that point outward to the four directions. Though Plains Indian tribes associate different qualities to their directions, many emphasize the number four in their sacred medicine wheels. Each of the directions is associated with different qualities one should integrate into his/her personality in order to attain a healthy balance.

The client "ties," or wraps the stems of four feathers, and ties them to the hoop. Working with the first feather, the client discusses a spiritual goal; with the second, a mental goal; with the third, an emotional goal; and fourthly, discusses a physical goal. Each goal is discussed thoroughly.

Session Twelve: Evaluation and Termination

Gaining feedback from clients both during and upon termination helps the therapist to improve the Dream Catcher Meditation. The client has input into the therapeutic process. This session is a time for evaluation of the therapy process, a discussion of the client/therapist relationship, and a time to consolidate the positive changes made during therapy. Termination issues should be sensitively approached at this time as well. At the end of therapy, the client takes the dream catcher with him/her.

The client is asked, "How has this counseling experience been helpful or not helpful? How has it been difficult? What insights did you gain about yourself? What changes have you made in your life since beginning therapy? How might this therapeutic approach have been made better? What alternative paths might we have taken during therapy? Do you feel like your therapy should end for the time being? What do you feel about this being our last session together?"

Case Study

The American Indian community where I worked during the last two years was very appreciative of the Dream Catcher Meditation approach. Many parents, adolescents, and elders made affirming remarks about the

use of this American Indian symbol to help clients. Further, the use of American Indian symbols expanded considerably while I worked at the Indian Behavioral Health Clinic. Many American Indian people came in specifically to utilize this approach. A few clients wanted to use medicine wheels and staffs as their symbols of meditation.

One client with whom I used this approach was a seventeen-year-old American Indian male, who was required by the court system to come to therapy due to a long series of charges dating back from when he was twelve. Several therapists who had worked with him previously said that he had "no conscience" and would not talk in therapy. Still, he was required by the court to come to four sessions for a psychological evaluation. After his evaluation sessions, he chose to attend 12 sessions of the Dream Catcher Meditation. Glancing references to his experiences and comments may flesh out the benefits of the Dream Catcher Meditation.

Session 1 - Self Reflection: Making a dream catcher was especially interesting to him because his deceased father had made Indian articles. (I considered how his journey was like at least a dozen American Indian myths that have plots involving a boy who begins a search for his father but ends in the discovery of his own identity.)

Session 2 - Respect for Ancestors: He described a litany of ancestors and relatives addicted to drugs or alcohol who had wonderful senses of humor. His grandmother was the only person he considered as a role model. He described her as "the one truly caring person I know" and as a "survivor."

Session 3 - Differentiation: He said he was like those relatives who had destroyed themselves on drugs and alcohol but that he wished he was more like his grandmother. I worked with him to differentiate his actions from many of his relatives' destructive actions as well as to draw on their strengths. He reported that his mother was addicted to crank and had been very neglectful and that he felt he would be "better off not living with her." He eventually chose to move in with his grandmother.

Session 4 - Respect for Place: He shared with me later that remembering the places where he had lived had been difficult because of painful memories. He recalled playing lots of baseball with his father in his back yard and at the city park.

Session 5 - Appreciation of Others: Sadly, he was able to pick only two beads in appreciation of significant others. He said he appreciated his grandmother for coming to his baseball games and for the good food she cooked for him. He recalled that he quit baseball at age nine after his father died. He commented that his father had taught him to draw and had left him several pictures. During this session, he said it still hurt to talk about his father and deflected questions concerning him.

Sessions 6, 7, and 8 - Psychological Traumas: He was very prepared to ventilate his feelings by the Psychological Trauma sessions. Against my advice, after the sixth session he visited the cemetery where

his father was buried. He viewed the traditional Creek grave-house from a distance. During those three sessions, he grieved and expressed anger. He was only able to remember experiences back to the age of five. Some of the most cathartic moments of therapy occurred when he described early positive experiences with his father and his father's unexpected death. He chose not to explore his relationship with his mother. I suspect he may benefit from such exploration later.

Session 9 - Integration: During the integration session, he discussed his use of drugs to cope with the anger and sadness that he felt over losing his father. He claimed to have never cried about the event and was pleased to have been able to during therapy. He said he was ready to let his father go (in one sense he meant this literally having heard that his deep pain may be hindering his father from making his journey to the spirit world), but was determined to always be appreciative of his love.

Session 10 - Outside Influences: Most of his discussion of outside influences focused on ceasing to "hang out" with former friends who were "into drugs and crime."

Session 11 - Life Goals: His goals included - spiritual, attending stomp dances more regularly; mental, graduating from school; social, finding a nice girlfriend who he could share his feelings with; and physical, staying off drugs.

Session 12 - Evaluation and Termination: He claimed that the sessions helped him to grieve for this father who had been murdered, to feel proud of the wisdom of his cultural heritage, and open up to new relationships.

Over the next six months, he periodically checked in with me. During that time he reported no trouble with the law. He established a romantic relationship with a young woman that lasted six months. He got a part-time job and worked there for several months. His grandmother reported that he was very responsible about helping her with house chores and by being home early each night.

Disscussion

Variations/Modifications

The Dream Catcher Meditation has many variations. Looking over my charts, I see that with adolescents, we typically took ten to fourteen sessions to complete the meditation. With adults, the meditation was used less frequently, and the time it took to complete was typically longer. For most adolescents, twelve sessions seems to be an adequate number of sessions to selectively work on developmental issues. If warranted, renegotiation for additional sessions is an option.

Modifications of the Dream Catcher Meditation have been reported as successful. One therapist said that he used the technique with an eleven-year-old boy who felt alienated from his mother. He chose to have the mother and child make one together over the course of three sessions. Each said the process was a bonding experience. The boy commented that the experience helped him to feel proud of his American Indian heritage. The mother said that she never thought her son could concentrate long enough on such a task and felt proud of him for his hard work. The therapist emphasized that the process helped build the boy's self-esteem.

Risks

I have encountered problems of client emotional flooding after the fourth session (Respect for Place). During the fourth session, a young woman recalled Raggedy Ann pictures on the walls of a house where she lived when she was about four or five years old. She said she had not thought of "that room" for years. The next week following that session, she thought she glimpsed her grandfather at a baseball game. But her grandfather died when she was four years old, when she lived in the house she described. She recalled that after he had died, her beloved grandfather had lain in a casket in their living room. She was having recurrent dreams of falling through an abyss and said she had been very depressed. If left to itself, the unconscious, once set in motion, can be overpowering. Jung wrote, "Whenever the narrowly delimited individual consciousness meets the immense expansion of the collective unconscious, there is a danger because the latter has a disintegrating effect on the consciousness" (1958, p. 330). The Dream Catcher Meditations offer an avenue into dark events hidden in the unconscious.

After a few instances of similar flooding, I developed a technique to help prevent flooding outside therapy. After each session, I began to have clients wrap the excess sinew around the rim, symbolically wrapping up the discussion until the next session. We talk about how in the next session we will enter back into a safe realm where we can comfortably discuss painful memories. We also discuss how the rim, like the confidential and secure counseling setting, symbolically protects us from negative outside influences when we reenter its realm. Jung, in describing his use of the mandala, argues that the outside of a circle rim has the function of symbolically marking off a boundary around the center of the client's unconscious. The rim symbolically contains the client's unconscious and acts as a symbolic guard against any flowing out (Jung, 1958). The symbolic "wrapping up" device helps keep clients from flooding after they leave the therapy session. I assure clients that I will keep the dream catcher safe in my drawer and we can resume our discussions about the memories the next session.

Contradictions

Developing a deliberate-standardized approach to the Dream Catcher Meditation appeared contradictory at first. I was reluctant about such a deliberate approach because I thought it would not be acceptable to the unconscious. Would such a directive circumscribed approach limit the free associations clients might express? However, I learned that I can be flexible with the Dream Catcher Meditation. Though structured, I observe that each session provides clients with universes of possibility to explore. Further, the meditation's structure helps adolescents cope with the ambiguity of the counseling situation and offers concrete, tangible support as they explore their inner selves.

Many may feel that such an insight-approach demands more than twelve sessions. I have been fortunate enough to have worked at an Indian Behavioral Health Clinic where clients have not had to pay money for counseling services and are thus not limited by scarce financial resources. For some clients, the Dream Catcher Meditation has extended to over one hundred sessions. Still, the vast majority of adolescent clients I counsel would not be classified as "long term." Whether in short- or long-term therapy, adolescents have shown appreciation and have grown emotionally having been able to talk about crises in their lives within the structure of this meditation. They are often surprised by their ability to articulate the pains they have suffered, and they eagerly discuss their struggles to cope with the pressures and crises of growing up. Hopefully the above standardization of the Dream Catcher Meditation will serve as a loose guideline for clinicians and may be beneficial for those who wish to research its efficacy.

Benefits

The Dream Catcher Meditation for adolescents appears to contribute to increasing the likelihood of their remaining in therapy long enough to make a difference. Few clients leave therapy before they complete the dream catcher. Clients stay in therapy because: they want their dream catchers; the physical proximity of working on the dream catcher appears to contribute to trust building and client/therapist rapport; their parents and grandparents are very supportive of such an approach; they feel pride in what they consider a cultural experience (several have brought their dream catchers to medicine men who doctored them and added feathers, bones, arrowheads, and rocks); and they gain psychological benefits from the Dream Catcher Meditation.

Rockey Robbins, Ph.D.
Department of Applied Health & Education Psychology
Oklahoma State University
1406 Amherst
Norman, OK 73071

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