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American Indian/Alaska Native Alcohol-Related Incarceration and Treatment <i>Sarah W. Feldstein, M.S., Kamilla L. Venner, Ph.D., and Philip A. May, Ph.D.</i>	1
Factors Associated with Successful Functioning in American Indian Youths <i>Hile Silmere, M.S.W. and Arlene Rubin Stiffman, Ph.D.</i>	23
The Impact of the Sweat Lodge Ceremony on Dimensions of Well-being <i>Jeannette Wagemakers Schiff, Ph.D. and Kerrie Moorie, M.S.W.</i>	48
Initial Development of a Cultural Values and Beliefs Scale Among Dakota/Nakota/ Lakota People: A Pilot Study <i>W. Rusty Reynolds, M.A., C.D.C.T., Randal P. Quevillon, Ph.D., Beth Boyd, Ph.D., and Duane Mackey, Ed.D.</i>	70

AMERICAN INDIAN/ALASKA NATIVE ALCOHOL-RELATED INCARCERATION AND TREATMENT

Sarah W. Feldstein, M.S., Kamilla L. Venner, Ph.D.,
and Philip A. May, Ph.D.

Abstract: American Indian/Alaska Natives have high rates of alcohol-related arrests and are overrepresented in justice systems. To understand the relationship between alcohol dependence, treatment, and alcohol-related incarceration, this study queried American Indian/Alaska Natives currently in remission from alcohol dependence. Participants reported receiving 0 to 43 treatment experiences. Moreover, participants had a significantly greater number of alcohol-related incarcerations than all other treatments combined. These findings underline the importance of making alcohol treatment available within criminal justice settings.

Introduction

Rates of American Indian/Alaska Native alcohol problems

Across the United States, there is great intertribal variation in drinking styles (Herman-Stahl & Chong, 2002; May, 1996; Westermeyer, Walker, & Benton, 1981). Recent efforts to compare cross-tribal and cross-national variations in drinking patterns have found greater rates of lifetime abstinence among two Indian communities (one Southwestern, one Northern Plains) than in the general U.S. population (Spicer et al., 2003). Across these two Indian samples, both gender and tribal differences emerged, whereby Southwestern women showed the greatest levels of abstinence from alcohol (Beals et al., 2003; Spicer et al., 2003) and the

lowest rates of alcohol dependence (Beals et al., 2003; Beals, Novins, et al., 2005; Mitchell, Beals, Novins, Spicer, & the AI-SUPERPPF Team, 2003; Spicer et al., 2003; Whitesell et al., 2006). However, when compared with a U.S. sample, Indian women did not consistently evidence lower rates. Rather, Northern Plains women displayed the greatest levels of lifetime and past-year alcohol dependence, surpassing both U.S. and Southwestern women (Spicer et al., 2003). Similar to the Northern Plains women, on the cross-cultural comparison, men of both Indian samples displayed greater levels of lifetime and past-year alcohol dependence than U.S. men (Spicer et al., 2003). In addition to the Southwestern and Northern Plains samples, gender disparities have emerged across many different tribes, whereby men have evidenced greater levels of dependence and related problems than women (Herman-Stahl & Chong, 2002; May & Gossage, 2001).

When looking across tribes nationally, patterns of adult drinking appear to include high levels of abstinence (Herman-Stahl & Chong, 2002) which may or may not be accompanied by high levels of heavy drinking and negative consequences (May & Moran, 1995; *Oversight hearing*, 2005; Robin, Long, Rasmussen, Albaugh, & Goldman, 1998). For many tribal communities, drinking may start at a young age (Grobsmith, 1989; May & Moran, 1995), and involve more heavy episodic drinking than is generally found across U.S. national samples (Beals et al., 2003). Specifically, in many Indian communities, drinking may involve consuming larger quantities (Beals et al., 2003; May & Moran, 1995), but with less frequency than U.S. samples (Beals et al., 2003). However, regardless of Indian consumption patterns, societal issues including myths about the “drunken Indian” (Westermeyer, 1974), justice system biases (Stratton, 1973), and difficult socio-economic factors, such as high levels of unemployment, poverty, and social stressors (Beauvais, 1998; Herman-Stahl & Chong, 2002), may hinder American Indian/Alaska Natives’ access to and utility of alcohol treatment programs.

History of Societal Response to American Indian/Alaska Native Alcohol Problems and Crime

Scholars recognized the relationship of alcohol use and abuse to crime among American Indians many years ago. Stewart (1964) and Reasons (1972) reviewed the rates and causes of Indian crime on several reservations and in the Uniform Crime Reports and found that 70% to 95% of Indian arrests were for alcohol-specific (e.g., public drunkenness, DWI) or alcohol-related offenses (e.g., crimes such as assault or theft

committed under the influence of alcohol). Levy, Kunitz (1969; 1971) and colleagues (Levy, Kunitz, & Everett, 1969) reported that the majority of homicide, assault, public intoxication, DWI, and other crimes for which the Navajo and other Southwestern Indians were incarcerated at a high rate were alcohol related. Some authors proposed alcohol policy reform as a way of reducing incarceration of Indians by 50% or more (Hagan, 1976; May, 1975; 1976; 1977). However, the facts remain the same even today; American Indians suffer very high rates of incarceration that are precipitated by or associated with alcohol use and abuse.

One of the outstanding weaknesses of the literature of the past is that the impact of arrests and incarceration on individual Indians who drank was seldom presented (May, 1982). Most early literature in this area presented aggregate level statistics on the gross number of Indian arrests and incarcerations (e.g., Stewart, 1964; Reasons, 1972). Yet, the actual number of individuals accounting for the arrests and the impact of recidivism and repeated incarcerations was seldom known or addressed conceptually (May, 1982). However, one study that did present such data was carried out by Ferguson (1968) in Gallup, New Mexico. She reported that 115 Navajo males with problems of alcohol abuse accounted for 1,196 arrests in an 18-month period (10.4 per person) in this one town alone. In tribal communities, alcohol abuse has been found to be concentrated, whereby large segments of the population are abstinent or are free of alcohol abuse, yet high rates of problems such as incarceration are generated by a minority of families and individuals (May & Gossage, 2001).

Historically, American Indian/Alaska Natives struggling with heavy drinking have had frequent contact with federal and tribal justice systems for many decades (Walker, 1981; Westermeyer, 1976). Recent research with a reservation-based sample of American Indians with substance abuse problems indicated that only 45% sought formal or informal treatment (Herman-Stahl & Chong, 2002). Thus, with the dearth of treatment attendance and the high rate of incarceration, it has been posited that many states have attempted to address Indian drinking problems through incarceration rather than alcohol treatment (French, 2004). Yet, regardless of the origin of the discrepancy, compared with other ethnic groups across the United States, American Indian/Alaska Natives have been overrepresented in the justice system for alcohol-related arrests throughout the past three decades (Graves, 1971; James, Hutchinson, Moore, & Smith, 1993; Kunitz et al., 2002; Perry, 2004; Walker, 1981).

What is the Relationship between American Indian/Alaska Native Alcohol Use, Alcohol-Related Incarceration, and Receipt of Alcohol Treatment?

While it is known that American Indian/Alaska Natives who struggle with severe alcohol dependence tend to be arrested (Walker, 1981; Westermeyer, 1976), only preliminary efforts have sought to understand American Indian/Alaska Native experiences of alcohol dependence, effective treatments, and justice interactions (Grobsmith & Dam, 1990). Therefore, through examining the correlates of alcohol-related incarceration and treatment, this study sought to develop a more nuanced understanding of this relationship. The sample consisted of American Indian/Alaska Natives who were in full, sustained remission from alcohol dependence, reporting upon their experiences with incarceration and alcohol treatment. Even though the recovered nature of this highly select sample may provide an underestimate of the incidence of incarcerations for this community, it is important to note that the broader sample may not go on to resolve alcohol dependence. Thus, a sample in remission is ideal, insofar as *only* they can report on the full spectrum of incarceration and treatment that they experienced during the full span of their drinking careers. This not only provides a unique look at the extent of possible experiences for a sample, but the status of this sample in full, sustained remission puts forth the positive message that American Indian/Alaska Natives can (and clearly do) recover from alcohol dependence. Including current drinkers would not only have confounded the statistical comparisons (as they may have continued to amass treatment and incarceration experiences), but it would not have underscored the positive message of recovery that we hope emerges from this paper.

Previous research has indicated that American Indian/Alaska Natives with alcohol dependence have more interactions with the penal system than with treatment settings (French, 2004; Westermeyer, 1976). Thus, it was hypothesized that during their drinking careers, this sample would have experienced more interactions with the penal system (in the form of number of alcohol-related incarcerations) than with treatment settings (in terms of number of times received alcohol-related treatment). In addition, it was hypothesized that participants who reported drinking alone would report a higher number of incarcerations than those who drank mostly or always with others, as drinking alone has been considered a more “deviant” drinking style (Kunitz & Levy, 1994).

Materials and Methods

Definitions of what may constitute alcohol treatment are extensive and sometimes controversial. For example, Alcoholics Anonymous (AA) attendance has fallen both within and outside of the vestiges of treatment (Sobell, Ellingstad, & Sobell, 2000; AA, 2001, respectively). Thus, in an effort to be as comprehensive as possible in including settings where participants may have received treatment for their alcohol problems, hospital detoxification, non-hospital detoxification, residential alcohol treatment, residential psychiatric treatment, and outpatient alcohol treatment meetings were incorporated into the definition of possible treatment settings. However, due to the current controversy around Alcoholics Anonymous/12-step as a treatment, in accordance with the guidelines of the program (AA, 2001), it was not included in these analyses.

This study was a component of a larger study (Venner & Feldstein, 2006) investigating American Indian/Alaska Natives' progression into and out of alcohol dependence. Specifically, in the larger study, Venner and Feldstein (2006) sought to evaluate which elements of alcohol dependence may be common across cultures, and which may be differentially shaped by culture. This was achieved through evaluating a sample of American Indian's development of and remission from alcohol dependence, and comparing the results with other American Indian and mainstream U.S. samples.

For this study, participant selection was based upon two criteria: being in full, sustained remission from alcohol dependence ("resolved") as determined by participant responses on the Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID; First, Spitzer, Gibbon, & Williams, 2002) and the ability to report effectively on the receipt of relevant treatment and interactions with the justice system that occurred during their drinking careers.

Participants were recruited through multiple routes, including word-of-mouth, advertisements in the local paper, and fliers requesting "American Indian/Alaska Natives who have overcome drinking problems." Potential participants telephoned the first and second authors to indicate interest. Prior to participation, the first and second authors conducted a half-hour telephone screen, during which confidentiality and relevant limits were discussed. In addition, the SCID (First et al., 2002) was administered to determine past and current alcohol abuse and dependence, as well as past and current substance abuse and dependence. Potential participants who did not meet the inclusion

criteria of alcohol dependence in full, sustained remission and/or who met the exclusion criteria of current alcohol or substance dependence or abuse were determined to be ineligible and were thanked for their time.

Eligible participants were invited to the University of New Mexico's Center on Alcoholism, Substance Abuse, and Addictions (UNM CASAA) to complete the research battery. Participants were compensated \$50 (approximately \$10 per hour) for their time. If participants traveled 50 to 100 miles roundtrip to participate, they were provided an additional \$20 to help with travel expenses; if they traveled over 100 miles, they were given \$40.

This study was conducted in compliance with the University of New Mexico's Institutional Review Board, the guidelines of National Institute of Alcohol Abuse and Alcoholism (NIAAA), and under the protection of a confidentiality certificate from the U.S. Department of Health and Human Services (DHHS). These data were collected between March 2003 and February 2005.

Measures

As part of a larger assessment battery, participants completed six measures. Some of the instruments required participants to report information in the present, whereas the retrospective instruments required the participants to reflect back upon their heaviest period of drinking (defined as three months to one year, depending on the measure). Participants were asked to define their heaviest period of drinking as "the time during which you drank the most (quantity), most often (frequency), or had the most problems (negative consequences)."

Participants began by completing the UNM CASAA demographic interview. The first or second author conducted this measure verbally. This measure gathers current information regarding tribal identification, age, current living situation, highest level of education achieved, employment, income, and original language learned.

Next, participants completed the Alcohol-Related Behaviors Survey (ARBS). Venner and Miller (2001) developed this measure and used it with a Navajo sample. This measure has also been used with a multi-tribal sample to determine the sample's progression into alcohol dependence (Venner & Feldstein, 2006). The ARBS is comprised of 55 cards that list a series of drinking experiences, including alcohol abuse and dependence criteria from DSM III-R (American Psychiatric Association, 1987) and events noted within Jellinek's (1952) phases.

Examples include “Loss of tolerance,” “Moving away to escape problems,” and “Regular morning drinking.” Participants were administered the ARBS sequentially using the card-sorting method of Venner & Miller (2001) and Yeager, Piazza, and Yates (1992). Specifically, the first or second author presented the cards one at a time and asked whether the participants had experienced the event during their drinking careers. If endorsed, the participants were asked at what age they *first* experienced the event. The age was then written upon a post-it and the card was then placed underneath. Through this process, each endorsed alcohol-related behavior was placed under a specified age. At the end of the process, participants were invited to move around the cards to reflect the ascending order of onset of their alcohol-related behaviors.

Participants were also administered the Drinker Inventory of Consequences (DrInC-2R; casaa.unm.edu/inst.htm), a 50-item Likert-scaled measure of the symptoms and frequency of alcohol-related consequences. This measure yields information regarding the consequences of alcohol abuse overall and in several areas during the participants’ heaviest three months of drinking. Subscales yielded include interpersonal, physical, social, impulsive, intrapersonal, and control.

In addition, participants completed the Alcohol Dependence Scale (ADS; Skinner & Horn, 1984), a 25-item measure of alcohol dependence, including withdrawal symptoms, impaired control, increased tolerance, and blackouts during their designated heaviest year of drinking. This measure is frequently used in clinical and research settings to yield measures of drinking behavior that correspond with DSM diagnoses of alcohol dependence.

Next, participants completed the UNM CASAA self-report measure of previous treatment experiences (Lifetime Treatment History Interview; casaa.unm.edu/inst.htm). This questionnaire was administered verbally and prefaced by, “I’m going to ask you about several different types of experiences that you may have had while you were drinking. As we go through, I would like you to respond by telling me how many times you have experienced each of these due to your use of alcohol. Then we will note the first year during which you experienced each. Let’s begin.” Example items from this questionnaire include, “How many times were you hospitalized medically because of your drinking or due to something alcohol-related?” “How many times were you incarcerated because of your drinking or due to something alcohol-related?” This 10-item measure yields total number and initial date of participants’ experiences with specific forms of alcohol treatment. The treatments listed within this

questionnaire included medical hospitalization, hospital detoxification, non-hospital detoxification, residential alcohol treatment, residential psychiatric treatment, alcohol-related incarcerations, outpatient alcohol treatment, and Alcoholics Anonymous and other 12-step meetings.

Participants also completed a retrospective measure of their drinking patterns over their selected heaviest 60-day drinking period (Form 90 QFV; casaa.unm.edu/inst.htm). The four items on this measure gather information about frequency of drinking (number of days during which they had any alcoholic beverage), quantity (average number of drinks per drinking day), frequency of binge drinking (number of days during which they had five or more drinks), and social drinking (tendency to drink alone, sometimes with others, or generally with others).

Results

Participants

Forty-five ($n = 26$ male, $n = 19$ female) adult American Indian/Alaska Native participants, ranging from 31-64 years of age ($M = 48.2$, $SD = 7.5$), had met lifetime DSM-IV criteria for alcohol dependence during their reported heaviest year of drinking and had not met criteria for alcohol abuse or dependence for at least one year (Table 1). Participants were from various continental United States tribes including Southwestern pueblo (40.3%), Southwestern Athapaskan (40.3%), Midwestern/plains (15.2%), and Northwestern (4.2%). At the time of assessment, participants reported an average of two years of post-high school education, earning approximately \$28,158 ($SD = \$23,073$) annually. At the time of evaluation, 35.6% were married, 42.2% were divorced or separated, 17.8% had never been married, and 4.4% were widowed. At the time of evaluation, participants had attended an average of 737.6 AA or other 12-step meetings ($SD = 1392.6$, $Mdn = 156.0$)

All participants reported at least one year of abstinence from alcohol. Across the sample, participants reported severe alcohol dependence during their heaviest period of drinking as determined by the Alcohol-Related Behaviors Scale (ARBS) and Alcohol Dependence Scale (ADS). In addition, this sample's span of alcohol dependence, age at the start of their sobriety, and length of their sobriety ($M = 10.5$ years, $SD = 7.8$ years) are also provided in Table 1.

Table 1
Current Demographics and Drinking History of Sample

	Mean	Standard Deviation	Median	Minimum	Maximum
Current age	48.23	7.5	49.0	31.0	64.0
Current level of education (in years)	13.8	2.3	14.0	9.0	19.0
Current annual income	\$28,152.20	\$23,073.80	\$25,500.00	\$700.00	\$120,000.00
Past ARBS endorsed (maximum possible = 55)	41.0	8.9	42.0	18.0	55.0
Past ADS total score	27.1	8.9	27.0	9.0	43.0
DrInC total score	38.3	7.4	39.5	13.0	47.0
Years drinking until sobriety	13.2	8.6	13.9	1.0	31.3
Age at start of sobriety	37.8	8.4	38.8	19.0	54.5
Length of sobriety (in years)	10.5	7.8	9.0	1.0	28.0

Note: Drinking history reflects drinking during heaviest three months to one year during drinking history, defined as the time during which they were drinking the most or the most frequently, and as reported by participant.

Alcohol Dependence

The ARBS is an innovative measure of alcohol dependence administered in a card-sort format. Due to its relatively recent history as a research instrument, bivariate correlations were conducted to evaluate the convergence between the ARBS and other measures of alcohol dependence. Specifically, significant correlations emerged between the total number of reported alcohol-related behaviors from the ARBS with the Drinker Inventory of Consequences (DrInC) total score ($r = .63, p < .01$), and the Alcohol Dependence Scale (ADS) total score ($r = .74, p < .01$), supporting the ability of the ARBS to measure alcohol dependence (Table 2). Furthermore, the lack of perfect correlations between all of the measures indicates the probability of unique contributions by each measure. Thus, to provide the most complete picture of the participants' symptoms of alcohol dependence and related relationships to treatment and incarceration variables, each alcohol dependence measure was retained.

Table 2
Bivariate Correlations between Alcohol Dependence Measures

	ARBS	ADS total	DrInC total	Days \geq 5 drinks	DDD ^a
ARBS	---	0.74 ^a	0.63 ^a	0.25	0.07
ADS total		---	0.49 ^a	0.15	0.01
DrInC total			---	0.05	0.05
Days \geq 5 drinks				---	0.39 ^a
DDD					---

^a Correlation is significant at the 0.01 level (2-tailed)

Note: ARBS = Alcohol Related Behaviors Survey; ADS = Alcohol Dependence Scale; DrInC = Drinker Inventory of Consequences; Days \geq 5 Drinks = Number of days during which the participant drank more than 5 drinks; DDD = Drinks per drinking day

Treatment Experiences

As those with alcohol dependence are likely to seek and/or receive treatment from a broad range of settings, the following were included in the analyses: medical hospitalization, hospital detoxification, non-hospital detoxification, residential alcohol treatment, residential psychiatric treatment, alcohol-related incarcerations, and outpatient alcohol treatment. For this sample, medical hospitalization emerged as the most frequently utilized, followed by residential alcohol treatment, outpatient alcohol treatment, non-hospital detoxification, hospital detoxification, and residential psychiatric treatment (Table 3). Participants in this sample ranged from never having received formal treatment to having received treatment 43 times. Most participants (95.5%, $n = 43$) had received at least one form of treatment during their drinking careers. Moreover, those who received at least one form of treatment received an average of seven types of treatment ($M = 6.9$, $SD = 8.8$, $Mdn = 4.0$).

Table 3
Number of Treatment Experiences and Alcohol-related Incarcerations

	Mean	Standard Deviation	Median	Minimum	Maximum
Medical hospitalization	2.29	2.72	2.00	0.00	15.00
Hospital detoxification	0.64	2.36	0.00	0.00	15.00
Non-hospital detoxification	0.91	3.65	0.00	0.00	23.00
Residential alcohol treatment	1.53	2.77	1.00	0.00	15.00
Residential psychiatric treatment	0.44	1.57	0.00	0.00	10.00
Outpatient alcohol treatment	0.93	1.23	1.00	0.00	5.00
Number of alcohol-related incarcerations	11.76	19.09	4.00	0.00	100.00

Treatment Experiences in Comparison with Incarceration

Ninety-three percent ($n = 41$) of this sample had been incarcerated at least one time for alcohol-related events ($M = 11.8, SD = 19.1$). For those participants, their first incarceration occurred between the ages of 8 and 40 ($M = 23.0$ years, $SD = 7.7, Mdn = 21.0$). Due to the evident mean difference for times incarcerated compared with times received treatment, independent sample t -tests were conducted to examine whether this sample experienced more interactions with the penal system (in the form of number of alcohol-related incarcerations) than with treatment settings (in terms of number of times received alcohol-related treatment) during their drinking careers. Independent sample t -tests revealed that this sample experienced more times in incarceration than times in medical hospitalization, hospital detoxification, non-hospital detoxification, residential alcohol treatment, residential psychiatric treatment, and outpatient alcohol treatment (Table 4). Moreover, t -tests indicated that this sample endorsed significantly more times incarcerated than in times in all other treatments combined.

Table 4
Paired t -tests of Treatment Experiences
in Comparison with Incarceration

Times incarcerated compared with:	t	degrees of freedom (df)	p
Medical hospitalization	3.24	44	0.002 ^b
Hospital detoxification	3.93	44	0.000 ^b
Non-hospital detoxification	3.76	44	0.001 ^b
Residential alcohol treatment	3.61	44	0.001 ^b
Residential psychiatric treatment	3.99	44	0.000 ^b
Outpatient alcohol treatment	3.81	44	0.000 ^b
All treatments combined	2.48	44	0.017 ^a

^a Correlation is significant at the 0.05 level (2-tailed)

^b Correlation is significant at the 0.01 level (2-tailed)

Treatment and Incarceration with Demographic and Drinking Variables

To examine the interaction between male gender and alcohol-related incarceration and treatment variables, an analysis of variance (ANOVA) was conducted. Gender was only significantly correlated with number of medical hospitalizations, $F(1, 43) = 11.6, p = .001$. Yet, it was on the cusp of significance with incarceration, $F(1, 43) = 4.0, p = .052$. Follow-up with point biserial correlations supported these findings and indicated that women evidenced a significantly higher number of

medical hospitalizations ($r = .46, p = .001$), while men reported a slightly higher number of alcohol-related incarcerations ($r = -.29, p = .052$). Gender was not significantly related to level of alcohol dependence, as measured by the ARBS, number of drinking days, drinks per drinking day, number of days of binge drinking, ADS total score, or DrInC total. In addition, gender was not significantly related to any of the other types of alcohol-related treatment, including hospital detoxification, non-hospital detoxification, residential alcohol treatment, residential psychiatric treatment, and outpatient alcohol treatment. In terms of drinking variables, point biserial correlations revealed that severity of alcohol dependence as measured by total number of alcohol-related behaviors from the ARBS ($r = 0.33, p = .035$) and ADS total score ($r = 0.26, p = .004$) was significantly correlated with number of alcohol-related incarcerations.

Finally, point biserial correlations were also employed to examine the relationship between social drinking (alone, sometimes alone/sometimes with others, and always with others) and number of alcohol-related incarcerations. While a slight mean difference appeared between number of alcohol-related incarcerations for those who drank alone ($n = 8, M = 14.1, SD = 14.2, Mdn = 5.0$), those who drank sometimes alone and sometimes with others ($n = 17.0, M = 15.7, SD = 23.5, Mdn = 6.0$), and always with others ($n = 20, M = 8.5, SD = 17.2, Mdn = 2.0$), the differences were nonsignificant ($r = -.14, p = .348$).

Discussion

This study set out to address the relationship between American Indian/Alaska Native alcohol use, alcohol-related incarceration, and receipt of alcohol treatment in a sample of recovered drinkers. Considering the relatively small sample size and their highly select status of full, sustained remission, the prevalence of alcohol-related justice encounters and relative infrequency of alcohol-related treatment was striking.

As might be expected, severity of alcohol dependence was significantly correlated with the number of alcohol-related incarcerations. Moreover, this sample experienced more alcohol-related incarcerations than alcohol treatment. In contrast with the findings of Herman-Stahl and Chong (2002), and with the exception of women reporting greater medical hospitalizations, gender was not significantly related to the receipt of treatment. Moreover, neither gender nor social drinking style was significantly correlated with number of alcohol-related incarcerations.

This sample experienced a very high rate of alcohol-related incarceration. However, the rate of alcohol-related arrests for non-Indians (Karberg & James, 2005) and currently alcohol dependent Indians (Minton, 2005) may be significantly greater. Specifically, the rate of arrests found within this sample may be related to an unnamed variable (e.g., fewer years drinking, less deviant drinking, the more social nature of drinking) that may be correlated with this sample's eventual remission from alcohol dependence (Levy & Kunitz, 1974; Kunitz & Levy, 1994). Or perhaps, as recent studies in Alaska have indicated (Seale, Shellenberger, & Spence, 2006; Wood & Gruenewald, 2006) perhaps police and justice system interactions provided a catalyst for some participants in this study to reduce their drinking.

Due to the low number of participants who had never experienced an alcohol-related arrest ($n = 3$; 6.8%) within this sample, it was unclear whether the level of alcohol dependence significantly affected the rates of incarceration. Post hoc analyses revealed slightly lower levels of alcohol dependence in the non-incarcerated sample, as reported in the ARBS ($M = 36.00$, $M = 41.10$), DrInC ($M = 36.50$, $M = 38.36$), and ADS ($M = 26.50$, $M = 27.88$, respectively).

Interestingly, the most commonly reported form of treatment was medical hospitalization. This is likely to be a "forced" treatment, not requiring the belief that alcohol use is a problem. In addition, there are several possible reasons behind the significant relationship between women and times in medical hospitalization. First, despite efforts to clarify that the number of hospitalizations should be limited to alcohol-related entries, perhaps this value was confounded by hospitalizations for childbirth. Second, this value may be a vestige of women in this sample experiencing greater alcohol-related health complications (Nolen-Hoeksema, 2004). Third, women and men may have experienced equivalent health problems, yet the women of this sample may have felt more comfortable seeking or receiving alcohol-related medical services (Marsh, Cao, and D'Aunno, 2004).

There is currently a debate surrounding whether or not AA and other types of 12-step "count" as treatment. Although AA states a clear position that they are not treatment (AA, 2001), other studies investigating natural recovery from alcohol dependence exclude potential participants who have attended two or more AA meetings (Sobell et al., 2000). While other studies have found mixed results in terms of American Indians' response to AA (Herman-Stahl and Chong, 2002; Seale et al., 2006), within this sample, AA attendance was clearly something that participants in this sample sought or to which they were

directed. The high number of meetings attended suggests that despite demographic factors, other treatment variables, or means of entry, most participants within the sample continued to attend meetings.

The comprehensive forms of treatment in this study were included in order to achieve the best picture of possible places where participants who have resolved alcohol dependence may have received treatment during their drinking careers. With the broad spectrum of treatment possibilities available, another finding was the significant relationship between the receipt of one form of treatment with other forms of treatment. When these data are integrated, it appears that those participants who made efforts to overcome their alcohol problems and/or who received one form of treatment were also likely to receive other forms of treatment. First, perhaps it is through the process of trial and error "treatment shopping" that allowed some in this sample to find the form of treatment that they needed to overcome their alcohol addictions. Second, it is possible that participants' made multiple attempts to seek treatment, depending upon their stage of change within the process of change continuum (Prochaska, DiClemente, & Norcross, 1992). Third, it is possible that these participants were bounced around the treatment system. As treatment providers in certain settings may be few and/or insufficiently trained (Beals, Novins, Spicer, Orton, Mitchell, Baron, Manson, & the AI-SUPERPPF Team, 2004), it is possible that providers were unable to help participants overcome their dependence, and hence, referred the participants to other treatment sources. Fourth, other studies with American Indians with substance-related problems have found varying rates regarding the seeking and receipt of treatment (Beals, Manson, et al., 2005; Beals et al., 2004; Herman-Stahl & Chong, 2002). It is possible that the discrepancy between those who seek or do not seek treatment may be resolved by the cultural fit of available treatments, whereby people are more likely to seek traditional treatments that integrate their values and customs (Seale et al., 2006). For this sample, it is possible that the formal treatments included and/or available to these participants may not have been a good cultural fit. Hence, this sample may have moved from treatment form to form without avail (Grobsmith & Dam, 1990; Stewart, May, & Muneta, 1980). Fifth, it is probable that the participants within this sample were seeking forms of treatment that were not listed within the included questionnaires. Future studies examining treatment would benefit from the inclusion and evaluation of local treatments (Gossage et al., 2003; Gossage, Alexius, Monaghan-Geernaert, & May, 2004) and culturally-based interventions (Mikta, 2002; Seale et al., 2006), such as medicine men or women, curanderos/curanderas, religious ceremonies,

sweats, sings, and the integration of local values into formal treatment. Finally, due to the cross-sectional nature of the study, it is impossible to parse out the impact of any single type of treatment and/or incarceration upon the resolution of alcohol dependence.

Limitations

Several limitations influence the generalizability of these findings. First, this sample was a highly select group of participants who had moved into full, sustained remission from alcohol dependence. Hence, this sample's experience with criminal justice and treatment systems may be quite different from that of other American Indian/Alaska Natives struggling with alcohol dependence. Second, the small sample size resulted in low power. This may have influenced analyses, such as failing to support the relationship between male gender and number of alcohol-related incarcerations, as well as precluding comparisons between the ever and never incarcerated. Third, the sample included was from multiple tribes. The small sample size hampered possible between-tribe comparisons. Hence, caution should be exercised before generalizing these findings to any individual of any particular tribe. Fourth, the majority of the data were collected retrospectively. Thus, it is possible that difficulties in recall or errors in memory could have affected the included data. Fifth, because all of the measures were self-report, it is possible that the time designated as "heaviest drinking period" would not have corresponded with physiological or diagnostic determinations. Moreover, alcohol-related incarcerations were determined through responses to the question "How many times were you incarcerated for anything alcohol-related?" Since the administration of these measures, another questionnaire has been incorporated into the assessment battery that clearly delineates what precisely constitutes an arrest and incarceration, as well as requires designation of the nature of each arrest. In addition, at the time of this data collection, we did not parse out protective custody. Thus, if the participant deemed protective custody as incarceration, that is how it was noted within the data collection. Sixth, because we did not assess for any other forms of past or current psychopathology, any issues stemming from comorbid psychiatric disorders cannot be parsed out. This is relevant because comorbid conditions may influence the course of the progression, consequences, the seeking, and receipt of different forms of treatment, and the resolution of alcohol problems (Robin et al., 1998; Westermeyer, Eames, & Nugent, 1998; Westermeyer & Neider, 1994). Moreover, knowledge

of comorbid conditions appears to be important in understanding and developing appropriate treatment plans with American Indian/Alaska Natives (Westermeyer, 2001).

Conclusion

This study uniquely contributes to the literature by providing preliminary information to elucidate the poorly understood, but frequently recognized relationship between American Indian/Alaska Native alcohol dependence and incarceration. Specifically, this study provides a picture of how a highly select sample of American Indian/Alaska Natives who resolved alcohol dependence interacted with the justice system and other treatment settings during their drinking careers. This sample experienced a range of types and amount of treatment, supporting that while several participants sought and/or received several types of treatments, many were able to resolve their alcohol problems without the assistance of formal treatment settings (Bezdek, Croy, Spicer, & the AI-SUPERPPF Team, 2004; Leung, Kinzie, Boehnlein, & Shore, 1993). Why participants in this sample did not access treatment settings more often remains unknown. Future studies will aim to explore Indians' access to and interest in seeking alcohol treatment from non-justice system treatment settings, as well as the incidence of natural recovery. In addition, due to the findings that emerged from this study regarding American Indian/Alaska Natives' interface with the justice system, future studies will aim to investigate the justice system's effectiveness in providing alcohol treatment for American Indian/Alaska Natives.

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FACTORS ASSOCIATED WITH SUCCESSFUL FUNCTIONING IN AMERICAN INDIAN YOUTHS

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Abstract: This study examines environmental and cultural factors related to successful functioning in a stratified random sample of 401 American Indian youths. The success index included seven indicators: good mental health, being alcohol- and drug-free, absence of serious misbehavior, clean police record, good grades, positive psychosocial functioning, and positive behavior and emotions. Family satisfaction was positively related to overall successful functioning, whereas misbehaving peers, living in a dysfunctional neighborhood, and experiencing child abuse had an inverse relationship with success.

Most research on adolescents focuses on pathological and problem behaviors (Barnes, Welte, Hoffman, & Dintcheff, 2005; Donovan, Jessor, & Costa, 1999; Ferdinand, Verhulst, & Wiznitzer, 1995; Griffin, Botvin, Scheier, Doyle, & Williams, 2003; Hunter, 2004; Orlando, Tucker, Ellickson, & Klein, 2005; Whitbeck, Hoyt, Chen, & Stubben, 2002). American Indian youths have received perhaps the most negative attention of all American adolescents due to a high occurrence of various problems in many American Indian communities, such as alcohol, tobacco, inhalant, and other drug use; pathological gambling; and mental health problems (Dick, Manson, & Beals, 1993; Frank & Lester, 2002; Freedenthal & Stiffman, 2004; Howard, Walker, Walker, Cottler, & Compton, 1999; Novins & Barón, 2004; Spear, Longshore, McCaffrey, & Ellickson, 2005; Whitbeck et al., 2002). Understanding the prevalence and predictors of pathological functioning is important, but focusing predominantly on problem behaviors creates a skewed picture of American Indian youths

as primarily “bad” and in need of correction. To provide more balance to the extant literature, this study focuses on American Indian youths who function successfully.

An important question to address is: What constitutes successful functioning in adolescence? Extant theoretical and empirical literature has approached this question from two slightly different angles. The first approach defines successful functioning in terms of staying problem-free (e.g. avoiding the use of drugs) (Small & Memmo, 2004). It is argued that engagement in various problem behaviors can interfere with the accomplishment of important developmental milestones and diminish later life chances (Lerner & Galambos, 1998; Simons-Morton & Haynie, 2003). Even though there is plenty of evidence to support this argument (Bardone, Moffitt, Caspi, & Dickson, 1996; Chassin, Pitts, & DeLucia, 1999; Fergusson, Horwood, & Swain-Campbell, 2002; Newcomb & Bentler, 1988; Novins & Barón, 2004), it must be kept in mind that experimentation with some risk behaviors during adolescence is normative and will not inevitably lead to long-term problems (Lerner & Galambos, 1998).

The emerging field of positive youth development offers an alternative framework to define and study successful functioning (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Small & Memmo, 2004). Proponents of this approach argue that positive development should entail more than just staying problem-free (Catalano et al., 2004; Small & Memmo, 2004). Instead, the focus should be on promoting emotional, social, behavioral, and cognitive competence. Outcomes of positive youth development have been assessed in the following four broad domains: educational achievement and cognitive attainment, health and safety, social and emotional development, and self-sufficiency (Bornstein, Davidson, Keyes, & Moore, 2003; Moore, Lippman, & Brown, 2004). However, since positive youth development is a relatively new approach, there is currently a lack of consensus over what outcomes are most indicative of successful or positive development and how to best operationalize them.

Small & Memmo (2004) argue that these two approaches—the “problem-free” model and positive youth development—are best seen as complimentary to each other and only differ with regard to the relative emphasis they place on different developmental outcomes. In other words, we can consider these approaches as representing two different sides of the same coin with a common goal of promoting the health and well-being of youths. The majority of parents, teachers, community leaders and policy makers would likely agree that helping youths to avoid risky behaviors and mental health problems is important. However, the

unique contribution of the positive youth development approach is the inclusion of additional criteria (e.g. academic, cognitive, emotional, and social competence) that are equally important when defining successful or positive development (Catalano et al., 2004). Consequently, it makes sense to use criteria from both approaches when conceptualizing and studying successful functioning in adolescence. This offers major improvements over previous studies that have tended to focus on examining predictors and correlates of only one positive outcome at a time (e.g. academic achievement). It would be clearly more valuable and realistic to use multiple outcomes, as development is a multifaceted process (Moore et al., 2004). In addition to using several outcomes, it would also be desirable to use multiple indicators to measure each of these outcomes in order to increase the validity of responses (Mitchell & Beals, 1997; Moore et al., 2004).

Another question that warrants attention is whether significant ethnic differences exist in outcomes that are considered desirable for youths. Unfortunately, the meager literature that exists on positive youth development and healthy functioning has focused predominantly on Caucasian adolescents (Catalano et al., 2004; Lerner & Galambos, 1998). For example, a search of the PsycInfo database for keywords “positive youth development” and “American Indian or Native American” only yielded 14 results, none of which specifically addressed the issue of what positive or successful functioning may look like in American Indian adolescents. Mitchell and Beals (1997), two of the few authors who have studied both positive and problem behaviors in American Indian youths, also voice a concern over the lack of clear understanding on what constitutes positive functioning in American Indian youths, how to best assess these outcomes, and how such outcomes may differ across location or tribal affiliation. Due to this paucity of research that addresses potential ethnic differences in defining successful or positive functioning, we need to begin this study with a focus on outcomes that are considered desirable for youths in general.

Ecological systems theory, also known as the bioecological model, has been widely used to understand determinants of youth problem behaviors (Bronfenbrenner, 1979, 1986, 2005). This theory postulates that youth development is embedded in multiple environmental contexts that interact with each other and with the individual to determine developmental outcomes. Although typically used to study the development of problem behaviors, it is equally suitable to use this theory to study how familial, social, and cultural factors impact successful functioning.

Family environment. Despite the increased time spent with peers during adolescence, families across cultures continue to play an important role in the socialization process of their children (Oetting & Donnermeyer, 1998). However, few studies have examined how family environment and relationships influence positive development among American Indian youths. One study found that perception of a caring family was a significant protective factor for emotional health for both American Indian boys and girls (Cummins, Ireland, Resnick, & Blum, 1999). Numerous studies report that dysfunctional family environment increases the risk of various youth problem behaviors including substance abuse, delinquency, and school dropout (Bahr, Hoffmann, & Yang, 2005; Guo, Hill, Hawkins, Catalano, & Abbott, 2002; Hawkins, Catalano, & Arthur, 2002; Oetting, Beauvais, & Edwards, 1988; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998).

Social environment. Adolescent development is also impacted by peer, neighborhood, and school influences. Supportive peer networks, schools, and neighborhoods enhance the bonding to conventional society and provide more resources for youths to function successfully (Hawkins, Cummins, & Marlatt, 2004). Negative school and neighborhood influences, on the other hand, may interfere with positive functioning by weakening bonds between the child and these institutions, or by providing direct negative role models (Oetting & Donnermeyer, 1998).

Religion and culture. The role of religion as a protective factor for adolescent psychological and social adjustment has recently received more attention. Limited findings provide preliminary support that religious involvement can decrease youth risk behaviors and enhance healthy lifestyle patterns (Brown, Parks, Zimmerman, & Phillips, 2001; Frank & Kendall, 2001; Regnerus & Elder, 2003). However, significant ethnic differences may exist. For example, Brown et al. (2001) found that religious service attendance and frequency of prayer served as protective factors against alcohol use for African American youths, whereas for White youths, the importance placed on religion was the more significant aspect.

Literature on the role of cultural identification and participation in cultural activities on adolescent health-related behaviors is conflicting. Some studies have found that participation in traditional American Indian activities is positively correlated with various problem behaviors (Hawkins et al., 2004; Petoskey, Van Stelle, & De Jong, 1998; Whitbeck et al., 2002), but there is also evidence that identification with American Indian culture is positively related to some healthy behaviors (e.g. healthy eating habits) (Weaver, 1999). More research is clearly needed to clarify

how involvement in cultural activities impacts successful functioning of American Indian youths (Hawkins et al., 2004).

The goal of the present study is to 1) describe the prevalence of successful functioning of American Indian youths in seven criterion areas drawn from both positive youth development and “problem-free” paradigms (good mental health, being alcohol- and drug-free, clean police record, absence of serious misbehavior, good grades, positive behavior/emotions, and positive psychosocial functioning); and to 2) examine how familial, social, and cultural/religious factors relate to overall successful functioning for these adolescents. Based on theory and past empirical evidence, we hypothesize that supportive family and social environments enhance the likelihood of experiencing positive outcomes, whereas dysfunctional environment interferes with successful functioning. The findings will provide important information for the planning and development of programs that strengthen American Indian youths.

Methods

Sample

Data obtained from interviews with 401 Southwestern urban and reservation-based youths (~200 from each area) in 2001 are used in these analyses (Stiffman, Freedenthal, Brown, Ostmann, & Hibbeler, 2005b; Stiffman et al., 2006b). The urban and reservation areas were chosen because they are relatively closely positioned, as the reservation is peri-urban. Also, both areas described confronting similar cultural issues in terms of assimilation, loss of culture, and extensive youth problems. Both were attempting to strengthen youths’ connections to their heritage by providing cultural activities and experiences. However, the two areas had very different resources and funding streams for their health and mental health programs (Stiffman, Alexander-Eitzman, Silmere, Osborne, & Brown, 2006a).

The NIDA-funded American Indian Multisector Help Inquiry (AIM-HI) gathered information on youth service use, mental health, substance use and other problem behaviors, behavioral and emotional functioning, familial and social environment, and cultural identification. Youths between the ages of 12 and 19 were recruited through a two-stage sampling method. First, a random sample of 300 urban and 300 reservation-based youths was selected from complete school district

and tribal enrollment records, respectively. The school records were kept by the school system to qualify it for reimbursement, as based on the Johnson O'Malley Act whereby school systems are reimbursed for educating American Indian youths. The school claimed to maintain full rosters of all eligible American Indian youths including those currently enrolled in school, ever enrolled, never enrolled, and those who had dropped out or were enrolled in alternate training or GED programs. Certainly the tribal records and the urban Johnson O'Malley records were the best available, and we were assured that these lists were current and representative of all the American Indian youths in both areas. Only one child per household was enrolled.

Second, out of the 567 youths who completed a brief screening questionnaire, about 150 from each area were randomly selected to participate in the long interview. Since the primary purpose of this NIDA-funded study was to examine youth service use and drug-use information, and not the indicators of success discussed in this article, we needed to oversample troubled youths. Therefore, we enriched this sample of approximately 300 youths with 50 additional randomly selected youths from each area who were likely to need services, as determined by exceeding the clinical cutoff points in the brief screening questionnaire using the Achenbach Youth Self-Report form - YSR (Achenbach, 1991) and the child version of the Columbia Impairment Scale - CIS (Bird et al., 1993).

Consent and protection procedures for this study were reviewed and shaped by Internal Review Boards at Washington University, the tribal council, the urban school district, and a team of local stakeholders composed of American Indian human service professionals, political leaders, and parents (Stiffman, Brown, Striley, Ostmann, & Chowa, 2005a). Two field supervisors, one from each area, who were familiar with the local American Indian communities and knowledgeable concerning field research and adolescents were hired and trained for this study.

Procedures

Personnel from local American Indian educational and health services and tribal representatives made the initial contact with the selected families, notifying them about AIM-HI and encouraging their participation. Families were asked to return a fold-over, pre-stamped postcard signed by the youths and a guardian where they either

consented to or refused the research. Families who did not actively refuse were contacted directly by the interviewers. Only six families or youths refused in each area (12 total).

The youths were then contacted by trained, mostly American Indian interviewers in 2001. The interviewers explained the purpose of the brief interview and the entire study, obtained parent/guardian and youths' consent (if not already signed), and administered the brief screening questionnaire tapping behavior and functioning (Stiffman et al., 2005a). The brief and long interviews were administered in the youths' place of choice, typically in a private area in the youths' home. We used CAPI (computer assisted personal interviews) to conduct the interviews and included a number of safety measures to assure the well-being of youths and increase the validity of responses to sensitive questions (Stiffman et al., 2005a). Youths who participated in the brief interview received a T-shirt with an AIM-HI logo designed by a local American Indian artist. Youths were paid an additional \$25.00 for the long interview. Only 2.7% of those who completed the brief interview and were scheduled for the long refused to participate or had a parent withdraw consent.

Measures

The measures from the long interview used in these analyses comprised both structured and qualitative open-ended questions that tapped youth functioning and environmental characteristics. All instruments were developed and modified in collaboration with local human service workers, tribal elders, council members, parents, and representative youths who directed the types of questions that they wanted included in the survey (Stiffman et al., 2005a). This stakeholder team helped to identify and develop the interview items that indicated successful functioning. All items were also piloted with groups of American Indian parents and youths in both areas.

Dependent variable: Successful functioning

In this study, we defined and operationalized successful functioning by using seven indicators—drawn from various parts of the structured interview instrument that tapped different aspects of youth functioning reflecting both positive youth development and “problem-free” perspectives. The indicators (each described below) include good

mental health, being alcohol- and drug-free, clean police record, absence of serious misbehavior, good grades, positive behavior/emotions, and positive psychosocial functioning. Each indicator is a dichotomous variable, with 1 denoting that youths possess the positive quality. The sum of these seven items comprises the overall success index, with higher scores signifying greater success (range = 0 – 7, mean = 2.5, $SD = 2.0$).

Good mental health. The good mental health indicator consists of five items (Cronbach $\alpha = .72$) derived from the National Institute for Mental Health's Diagnostic Interview Schedule (DIS-IV) (Robins & Helzer, 1994). Youths who reported two or fewer lifetime symptoms for each of the following—alcohol abuse, drug abuse, depression, and conduct disorder—and no suicidal thoughts were considered to have good mental health.

Being alcohol-, tobacco-, and illicit drug-free. Remaining substance-free was likewise measured by items from the DIS-IV. Since experimentation with substances is normative during adolescence, we allowed for some experimental use of alcohol, tobacco, and illicit drugs. In order to qualify as alcohol- and drug-free, a youth must have reported consuming fewer than six drinks of alcohol during lifetime, no use of tobacco more than once or twice a week (including cigarettes, cigars, pipes, and snuff or chewing tobacco, except for tobaccos used exclusively for ceremonial purposes), and no use of any illicit drugs more than five times during lifetime.

Clean police record. Involvement with police was measured by one item. Youths were regarded as successful in this area if they reported no lifetime involvement with the police or juvenile courts for any reason besides curfew, a minor traffic violation, or being questioned on the street.

Absence of serious misbehavior. Since not all delinquent behavior comes to the attention of law enforcement officials, we developed an absence of serious misbehavior indicator using seven items from the YSR (Achenbach, 1991; Walker, Lambert, Walker, & Kivlahan, 1992): not destroying things belonging to others, getting into many fights, physically attacking people, setting fires, stealing from home or other places, and threatening to hurt people (Cronbach $\alpha = .75$). Youths who reported no past 30-day involvement in any of these behaviors were considered to be successful in this domain.

Good grades. Academic success was measured by one item asking what kinds of grades the respondent averaged for the last semester he or she was in school. Getting mostly As or Bs qualified the youths as successful in this area.

Positive behavior and emotions. YSR items (Achenbach, 1991) were used to identify respondents with positive behavior and emotions. The seven YSR items that were already used to detect youths without serious misbehavior were excluded from this scale. Internal consistency of the abbreviated YSR scale with the remaining 92 items was .95. Lower scores on YSR indicate fewer behavioral and emotional problems. In order to identify youths with truly positive behavior and emotions, we designated those youths as successful in this domain whose YSR score fell at least 1 *SD* below the mean (≤ 20).

Positive psychosocial functioning. Psychosocial functioning was measured by 13 items from the Columbia Impairment Scale (CIS) (Bird et al., 1993). This scale taps four major areas of functioning: interpersonal relations, psychopathology, school or work, and leisure time. Internal consistency of this scale in the current study was .83. Youths whose CIS score fell at least 1 *SD* below the mean (≤ 3) were considered to have positive psychosocial functioning.

The success index. The seven indicators described above comprised an overall success index ranging from 0 to 7. Please note that our goal was not to develop a homogeneous scale with high internal consistency. Instead, we created an index by deliberately choosing items that represented different aspects of successful functioning. According to Wright and Feinstein (1992), indices differ from scales in that they are not expected to be homogeneous because they represent different attributes of a complex phenomenon. Nevertheless, the internal consistency of the success index was .61 (quite high for an index). We examined the validity of the overall success index in light of youths' self-reports to two open-ended questions regarding personal strengths and biggest accomplishments. Youths who reported more personal strengths and more accomplishments had also higher scores on the success index ($r = .16, p < .001$), providing evidence that the success index correlates with other aspects of positive functioning (Moore et al., 2004). Details about these open-ended questions are outside the scope of this paper and are described elsewhere (Stiffman et al., in press).

Independent variables: Environmental and cultural factors

Family Environment

Family environment was assessed by youths' self-reports of family satisfaction, family problems, stressful events, and child abuse experiences.

Family satisfaction. A modified version of the family satisfaction scale (Hudson, 1982) included five items asking youths how they felt about their family in the last six months, including really enjoying one's family, being able to depend on one's family, etc. The response options ranged from 1 (*Rarely or none of the time*) to 5 (*Most or all of the time*). Responses to these five items were summed (Cronbach $\alpha = .70$), with higher scores indicating greater family satisfaction.

Family problems. The family problems scale consisted of ten dichotomous yes/no type items tapping parental and sibling emotional and mental health problems, alcohol and drug use, suicide attempts, gambling, and fighting (Stiffman, Hadley-Ives, Elze, Johnson, & Doré, 1999). Positive responses to these ten items were summed (Cronbach $\alpha = .63$), with higher scores being indicative of more family problems.

Stressful events. Questions concerning stressful events came from the Diagnostic Interview for Children and Adolescents (DICA) (Reich, 2000). Youths were asked if they had experienced situations in their family during the past six months that made them worry a lot. These situations included arguing and fighting, financial worries, serious illness of a family member, family member's alcohol or drug abuse or involvement with police, and threats or actual harm to self or a family member. Summing positive responses to these nine dichotomous items resulted in a stressful events scale (Cronbach $\alpha = .64$), with higher scores implying more stressful events.

Child abuse. Child abuse experiences included lifetime assessment of both physical and sexual abuse (Stiffman et al., 1999). A dichotomous (0/1) variable was created, with 1 denoting having being abused for youths who reported any of the following: being hit or beaten until having bruises or being injured by someone in some other way (excluding street or playground fights), being raped, or being pressured into having sex.

Social Environment

Assessment of social environment involved youths' self-reports of neighborhood and school characteristics and peer misbehavior (Hadley-Ives et al., 2000; Stiffman et al., 1999).

Negative neighborhood environment. Youths were asked to report how much of the following—shooting, drug dealing, murders, prostitution, abandoned buildings, neighbors on welfare, and homeless people in street—had been going on in their neighborhood or community during the past six months (Stiffman et al., 1999). Sum of responses to these seven items on a 3-point scale (*none, some, a lot*)

formed the negative neighborhood scale (Cronbach $\alpha = .68$), with higher scores reflecting more negativity. Both the urban and tribal areas had distinct areas that the community stakeholders described as more or less desirable. In the questionnaire, the delimitation of neighborhood was left up to the youths, as the important quality was their perception of their living space rather than a fixed area (Hadley-Ives et al., 2000).

Negative school environment. Negative school factors were assessed with an eight-item scale, with questions such as fighting between students, being discriminated against, and shootings or stabbings on school property (Hadley-Ives et al., 2000). Summing these responses resulted in the negative school environment scale (Cronbach $\alpha = .77$).

Peer misbehavior. To assess peer misbehavior, youths were asked how many of their friends and acquaintances about their age used alcohol, tobacco, or other drugs; sold drugs; were both out of school and unemployed; had problems with police; had babies or fathered babies; belonged to a gang; and had attempted or committed suicide. Responses to these 11 questions on a 5-point scale were summed (Cronbach $\alpha = .85$), with higher scores reflecting more peer misbehavior.

Culture/Religion

Culture and religion were assessed by two items self-reported by youths: cultural participation and religious involvement.

Cultural participation. Participation in cultural activities was measured with questions adapted from the orthogonal cultural identity scale (Oetting & Beauvais, 1990). Youths were asked to report their level of involvement in 11 different American Indian traditions (e.g. memorials, powwows, sweats, talking circles). Responses to these items on a 4-point scale (*not at all, a little, some, a lot*) were summed (Cronbach $\alpha = .87$), with higher scores indicating greater involvement in traditions.

Religious involvement. Religious involvement was measured by a dichotomous (yes/no) item, asking youths if they belonged to or were involved with any organized religious group or church.

Analyses

All analyses were completed using SAS software, version 9.1 (SAS Institute, 2004). Because the original sample was enriched with youths likely to need services, all analyses were weighted to ensure the generalizability of findings to the community sampled. Ns presented in the tables are the actual N, but percentages reflect the weighted data.

Multivariate regression models were used to identify familial, social, and cultural factors that best predicted overall successful functioning for these youths. In addition, we also performed these analyses (although not reported herein) on the pooled urban and reservation data after weighting them to reflect the sampling frame for each area. Because the basic results were parallel, and we wanted to maximize the policy and services implications for each area, we report here data in which we kept location as a covariate and examined all of its potential interactions with the predictor variables (there were none).

Results

Descriptive information (See Table 1)

About one-half of the youths in this study lived in an urban area (49.0%), and a little over one-half were female (55.1%). The average age of participants was 15.6 years ($SD = 1.9$). Concerning successful functioning, over one-half of the youths had a clean police record and also reported no involvement in serious misbehavior (56.8% and 54.2%, respectively). Close to one-half of the youths received good grades (45.6%). One-third reported being alcohol- and drug-free (32.0%), about one-fourth were successful in terms of positive psychosocial functioning (23.6%), and one-fifth had good mental health (20.2%). Less than one-fifth of the youths qualified as successful in the domain of positive behavior and emotions (16.8%), as measured by the YSR (at least 1 SD below the mean). The average number of successful outcomes for the youths was 2.5 ($SD = 2.0$), with a range of 0 to 7. In terms of the distribution of the success index, 38% of the youths qualified as successful in two to three outcome domains and 36% in zero or only one domains of functioning as assessed in this study. Twenty-one percent were successful in four to five domains and another 5% qualified as being successful in six to seven domains of functioning.

Table 1
Descriptive Statistics of Demographic, Independent,
and Dependent Variables

Characteristic	Percentage or Mean (SD)	n (Total N = 401)
Demographics		
Female	55.1%	401
Urban	49.0%	401
Age (range 12-19)	15.6 (1.9)	401
Socioeconomic status (range 0-17)	5.6 (4.3)	372
Independent variables		
<i>Family environment</i>		
Family satisfaction (range 2-25)	19.9 (4.5)	400
Family problems (range 0-9)	2.1 (2.2)	391
Stressful events (range 0-8)	2.0 (2.2)	391
Child abuse experience	25.9%	385
<i>Social environment</i>		
Negative neighborhood (range 0-11)	2.4 (2.6)	394
Negative school environment (range 0-12)	3.4 (3.1)	337
Peer misbehavior (range 0-34)	10.0 (7.5)	398
<i>Culture/spirituality</i>		
Involvement in AI traditions (range 0-31)	8.7 (8.0)	399
Religious involvement	28.8%	399
Dependent variable		
<i>Successful functioning</i>		
Clean police record	56.8%	393
Absence of serious misbehavior	54.2%	401
Good grades	45.6%	386
Alcohol- and drug-free	32.0%	399
Positive psychosocial functioning	23.6%	401
Good mental health	20.2%	401
Positive behavior/emotions	16.8%	401
Cumulative success index (range 0-7)	2.5 (2.0)	401

Bivariate Relationships

Relationships between each of the environmental characteristics and the success index showed that all family environment variables were bivariately significantly related to overall successful functioning (see Table 2). Family satisfaction showed a significant positive relationship ($r = .34, p < .0001$) to successful functioning, while negative family environment variables, such as stressful events ($r = -.36, p < .0001$), family problems ($r = -.31, p < .0001$), and child abuse ($r = -.31, p < .0001$), exhibited an inverse relationship.

Youths' social environment also showed significant bivariate relationships with overall successful functioning. Peer misbehavior had the strongest negative bivariate relationship with being successful ($r = -.50, p < .0001$), followed by negative neighborhood ($r = -.34, p < .0001$) and negative school environment ($r = -.25, p < .0001$).

Finally, both cultural and religious involvement variables were moderately related to successful functioning at the bivariate level: the relationship of religious involvement was positive ($r = .12, p < .05$), whereas involvement in American Indian traditions was negative ($r = -.10, p < .05$) (see Table 2).

Table 2
Bivariate Associations of Independent Variables and the Success Index (N = 401)

Independent variables	Dependent variable: Success Index
<i>Family environment</i>	
Family satisfaction	.34 ^a
Family problems	-.31 ^a
Stressful events	-.36 ^a
Child abuse	-.31 ^a
<i>Social environment</i>	
Negative neighborhood	-.34 ^a
Negative school environment	-.25 ^a
Peer misbehavior	-.50 ^a
<i>Culture/religion</i>	
Involvement in AI traditions	-.10 ^b
Religious involvement	.12 ^b

^a $p < .0001$, ^b $p < .05$

We also explored how environmental and cultural factors related to each of the individual seven success indicators (see Table 3). With a few minor exceptions, the problem environment variables—negative neighborhood, peer misbehavior, family problems, and stressful events—were inversely related to each of the seven successful outcomes. Supportive environment, in terms of family satisfaction, was consistently positively associated with each success indicator. Religious involvement was positively related to having a clean police record, being alcohol- and drug-free, and good mental health. Participation in American Indian traditions was negatively associated with being alcohol- and drug-free.

There were demographic differences (area of residence, gender, age, and socioeconomic status) in experiencing each of the seven successful outcomes. Compared to reservation youths, those living in an urban area were significantly more likely to have a clean police record ($\chi^2 = 9.28, p < .01$), less likely to have been involved in serious misbehavior ($\chi^2 = 6.00, p < .05$), and more likely to have good grades ($\chi^2 = 4.41, p < .05$). Girls were also more likely to have good grades ($\chi^2 = 7.18, p < .01$) and report no involvement in serious misbehavior ($\chi^2 = 4.18, p < .05$) compared to boys, but were less likely to be successful in

terms of positive psychosocial functioning ($\chi^2 = 11.54, p < .001$), positive behavior and emotions ($\chi^2 = 5.88, p < .05$), and good mental health ($\chi^2 = 5.44, p < .05$). Being older was positively associated with absence of serious misbehavior ($p < .05$), but negatively related to good mental health ($p < .01$) and being alcohol- and drug-free ($p < .0001$). Higher socioeconomic status was positively associated with having a clean police record ($p < .05$).

Table 3
Bivariate Associations of Independent Variables
with Individual Success Indicators (N = 401)

	Individual Success Indicators						
	Good mental health (n=74)	Alcohol- and drug-free (n=122)	Clean police record (n=220)	Absence of serious misbehavior (n=202)	Good grades (n=170)	Positive behavior/emotions (n=58)	Positive psychosocial functioning (n=81)
<i>Family environment</i>							
Family satisfaction	+ ^a	+ ^c	+ ^d	+ ^c	+ ^d	+ ^a	+ ^a
Family problems	- ^a	- ^a	- ^a	- ^d	NS	- ^b	- ^d
Stressful events	- ^a	- ^a	- ^b	- ^b	- ^c	- ^a	- ^a
Child abuse	- ^a	- ^a	- ^a	- ^c	NS	- ^a	- ^a
<i>Social environment</i>							
Negative neighborhood	- ^a	- ^a	- ^a	- ^b	- ^d	- ^c	- ^d
Negative school environment	- ^b	- ^a	NS	- ^c	NS	- ^c	- ^d
Peer misbehavior	- ^a	- ^a	- ^a	- ^a	- ^d	- ^b	- ^c
<i>Culture/religion</i>							
Involvement in AI traditions	NS	- ^c	NS	NS	NS	NS	NS
Religious involvement	+ ^d	+ ^c	+ ^a	NS	NS	NS	NS

Note: Since the nature of the variables involved in these analyses required the utilization of different statistical tests, for ease of interpretation, only the direction of each relationship and its level of significance is provided.

+ denotes a positive significant relationship

- denotes a negative significant relationship

NS = not significant

^a $p < .0001$, ^b $p < .001$, ^c $p < .01$, ^d $p < .05$

Multivariate Analyses

Multiple regression analyses were used to investigate what familial, social, and cultural factors best explain overall successful functioning (see Table 4). Multicollinearity was checked and found not to be an issue. After controlling for all demographic and predictor variables, two family environment variables (family satisfaction and child abuse), and two social environment variables (peer misbehavior and negative neighborhood) remained significant unique factors relating to successful functioning ($F = 44.12, p < .0001, R^2 = .36$). Family satisfaction was positively related to being successful, whereas child abuse, peer misbehavior, and negative neighborhood diminished the likelihood of functioning successfully. Participation in American Indian traditions did not contribute unique variance to successful functioning in this model. However, since many youths attend traditional activities with their friends, we also investigated a potential interaction between involvement in American Indian traditions and peer misbehavior. This interaction term was significant ($p < .05$) (see Figure 1). Youths with many misbehaving peers were less successful regardless of their level of involvement in American Indian traditions. However, high involvement in traditional activities also resulted in less success for those youths who did not have many misbehaving peers. Finally, since we pooled the urban and reservation samples in the multivariate analyses, we explored the potential interactions between location and each of the independent variables on successful functioning. None of these interaction terms were significant.

Table 4
Multiple Regression Models Predicting Successful Functioning in American Indian Youths ($n = 383$)

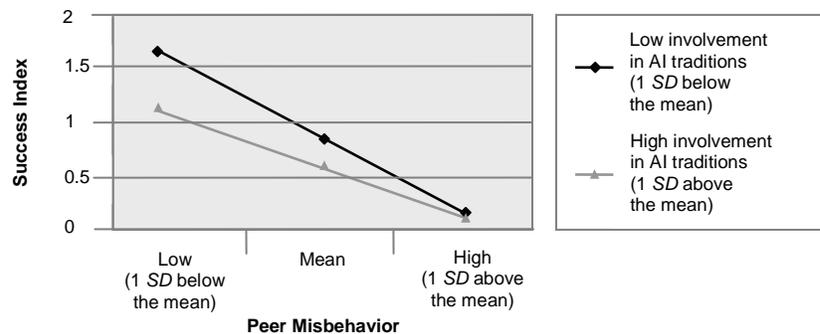
Variables	Model 1		Model 2	
	b	SE	b	SE
Intercept	1.96 ^a	.40	2.22 ^a	.41
<i>Family environment</i>				
Child abuse	-.42 ^b	.14	-.41 ^b	.14
Family satisfaction	.10 ^a	.02	.11 ^a	.02
<i>Social environment</i>				
Peer misbehavior	-.10 ^a	.01	-.13	.02
Negative neighborhood	-.11 ^b	.03	-.12 ^b	.03
<i>Culture/spirituality</i>				
Involvement in AI traditions	-.02	.01	-.05	.02
Peer misbehavior * AI traditions			.003 ^c	.001
	R ² = .36 F = 44.12 ^a		R ² = .37 F = 38.17 ^a	

Note: Age, gender, SES, and location (urban/reservation) were included as control variables and were not significant.

^a $p < .0001$, ^b $p < .01$, ^c $p < .05$

Figure 1
Interaction of Peer Misbehavior and Involvement
in American Indian Traditions

Regression of Success on the Interaction of Peer Misbehavior and Involvement in AI Traditions



Discussion

Extant literature on American Indian adolescents has focused predominantly on pathological and problem behaviors. Our study found that over one-third of the youths are functioning at a moderately successful level (38%), and one-fourth are clearly highly successful. Approximately one-fifth to one-half of American Indian youths experienced positive outcomes in at least one out of seven different areas of functioning. Over one-half had a clean police record (56.8%) and reported no involvement in serious misbehavior (54.2%). Nearly one-half of the youths received good grades (45.6%) and one-third reported hardly any involvement with alcohol or drugs (32.0%). However, less than one-quarter of youths qualified as successful in the domains of positive psychosocial functioning (23.6%), good mental health (20.2%), and positive behavior and emotions (16.8%), and one-third (36%) of the youths had almost no areas of successful functioning. These findings are consistent with the communities concerns and the high prevalence of various problems in American Indian adolescents reported in previous studies (Frank & Lester, 2002; Hawkins et al., 2004; Spear et al., 2005).

This study is one of the first to examine how family, social, and cultural/religious factors relate to overall successful functioning in American Indian youths. Consistent with previous theory and research with the general population of adolescents, we found that family and social environment can both enhance or interfere with successful functioning in American Indian youths. Family satisfaction was a

significant positive predictor related to overall successful functioning, whereas youths who had experienced either physical or sexual abuse were significantly less likely to be successful. Living in a dysfunctional neighborhood and having many misbehaving peers also interfered with overall successful functioning. It is possible that these adverse experiences and influences interfere with youths' ability to develop or maintain healthy bonds with parents and other institutions, which in turn may make them more susceptible to negative peer influences and lead to greater involvement in various problem behaviors (Oetting & Donnermeyer, 1998).

Additional research is needed regarding youth participation in American Indian traditions and activities. In this study, such participation was associated with more substance use and less overall successful functioning at the bivariate level. However, since youths often attend traditional activities with their friends, we explored how participation in these activities in conjunction with peer misbehavior affects successful functioning in the multivariate model. Not surprisingly, youths who had many misbehaving peers were less successful overall regardless of their level of involvement in American Indian traditions. Nevertheless, youths who did not have many misbehaving peers—but participated frequently in traditional activities—were still less successful compared to those who were less involved in such activities. Several other studies have found that participation in American Indian traditional activities was related to various problem behaviors (Hawkins et al., 2004; Petoskey et al., 1998; Whitbeck et al., 2002), but the reasons for these findings remain unclear and need further investigation.

Our study is unique in a number of ways. First, instead of focusing on only one positive outcome, we used seven indicators of successful functioning tapping criteria from both positive youth development and “problem-free” perspectives in order to more accurately understand development as a multifaceted process. Second, as has been suggested (Mitchell & Beals, 1997; Moore et al., 2004), we measured five of our seven success indicators with multiple items, with an exception of good grades and clean police record. Moreover, as recommended by Moore et al. (2004), we examined if our choice of successful outcomes was intrinsically important for these youths, finding a significant positive correlation between youths' self-reports on personal strengths and biggest accomplishments, and the overall success index. In addition, a number of youths volunteered that their biggest accomplishment was staying out of trouble, not using alcohol and drugs, and doing well at

school—lending some support to the idea that these outcomes may be intrinsically important (Stiffman et al., in press). Third, our sample involved youths from both urban and reservation areas.

The study also had several limitations. First, the findings reported here are cross-sectional, making it difficult to identify causal links. Future waves of this longitudinal project should offer more insight into potential patterns of causality and long-term patterns of successful functioning. Second, our study was confined to only one reservation and one urban area located in close proximity to each other. The findings of this study may not be generalizable beyond these areas, but can serve as a model for other settings. However, because 39% of American Indians and Alaska Natives are under age 20, and most belong to mid- to small-size peri-urban reservations (U.S. Census Bureau, 2001), the similarities enhance the potential generalizability of results. Finally, due to the paucity of research that describes successful functioning in American Indian youths, we defined successful functioning using criteria that apply to adolescents in general. Even though we used indicators reflecting both positive youth development and “problem-free” approaches to successful functioning, we did not directly measure other emerging constructs of positive development, such as social and moral competence, character strengths, self-efficacy, community-mindedness etc. Future studies should broaden the definition of successful functioning by examining other outcomes that are valued by American Indian youths and their communities. Qualitative studies with youths, their parents, or key leaders in a community might clarify what they, rather than the investigator, consider successful or desirable outcomes (Mitchell & Beals, 1997; Moore et al., 2004).

Despite any limitations, our findings have important implications for intervention. We identified several modifiable environmental factors that might be incorporated into programs designed to support American Indian youths in their growth and development. Strengthening families and creating safer neighborhoods may enhance successful functioning for these adolescents. Developing and implementing culturally appropriate peer-oriented interventions is also an important goal. However, the role of participation in American Indian traditional activities as a potential intervention method remains unclear. In this study, we found that such participation was associated with less successful functioning, even for youths who did not have many misbehaving peers. Other studies have reported similar findings (Hawkins et al., 2004; Petoskey et al., 1998; Whitbeck et al., 2002). More research is needed to determine the

circumstances under which participation in American Indian traditional activities enhances or interferes with successful functioning in American Indian adolescents (Hawkins et al., 2004).

In sum, this study is one of the first to focus on successful functioning in American Indian youths, and the first to use multiple positive outcomes with several indicators. Our findings identified a number of modifiable targets that might be incorporated into programs designed to strengthen American Indian youths in their healthy development and ultimate outcomes, and also identified several avenues for future research.

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THE IMPACT OF THE SWEAT LODGE CEREMONY ON DIMENSIONS OF WELL-BEING

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Abstract: The importance of traditional healing practices for First Nations people¹ has created interest in traditional ceremonies, including sweat lodges, which are increasingly incorporated into programs serving Aboriginal people. Despite the fact that traditional healing practices have always been valued by Aboriginal people, there is virtually no research on their efficacy. The results of a pilot study that measured the impact of the sweat lodge ceremony on the physical, mental, emotional, and spiritual domains of individual participants indicated that an increase in spiritual and emotional well-being of participants was directly attributable to the ceremony.

Although the sweat lodge has historically been an important part of Aboriginal ceremonies throughout North America, little effort has been made to investigate the healing benefits that Indigenous people have always acknowledged. Along with a rise in interest in natural and Indigenous healing practices, and a revival of traditional Indigenous ceremonies, the sweat lodge has been increasingly used by both Indigenous and non-Indigenous peoples as a means of healing in multiple dimensions of body, mind, emotion, and spirit (Aaland, 1978; Royal Commission on Aboriginal Peoples [RCAP], 1996; Smith, 2005; Walkingstick & Osborne, 1995). Furthermore, its implementation in prisons and substance abuse treatment centers attests to its recognition and growing acceptance as an important aspect of healing for persons of Indigenous descent (Brady, 1995; Jackson, 2002). We conducted a pilot study to determine if the impact of the sweat lodge ceremony could be measured using a simple pre-post experimental design. The

aim of the study was to explore whether self-reported improvements in the physical, spiritual, emotional, and cognitive dimensions could be documented using quantitative measures of physical and psychological well-being.

This study was implemented through protocols developed in consultation with the sweat lodge holders and using an Aboriginal worldview. Since it is noted in relevant literature (Castellano, 2004; RCAP, 1996) that research is often conducted and reported through a Western worldview, the investigators made every effort to write and report the findings with the direction of First Nations people. The intertribal glossing that may be present is necessary in order to offer an understanding of this project. This project, as well as its findings and protocol, are relevant for this sweat lodge but may not represent all sweat lodges.

The process of sweating for cleansing and healing has a history that extends around the world and goes back for millennia. Both the ancient Greeks and the Romans used hot baths and sweating techniques to draw out bad humors and as a general form of relaxation and social gathering. Likewise, Finnish saunas promoted cleanliness, healing, and renewed strength. Russians used a banya, which combined steam and hot air to create a humid, healing environment, while Turkish hammams and Japanese hot tubs are widely used in their respective countries (Aaland, 1978). Sweating cleanses the body of toxic elements and boosts the immune system (Smoley, 1992).

While heat and water are universal in these various manifestations of cleansing processes, only a few cultures have incorporated them into a carefully prescribed ceremony which emphasizes the spiritual element in addition to the physical healing and cleansing that are universally acknowledged. Indigenous North Americans are among those people for whom the sweating experience is a traditional ceremony that aims to purify, cleanse, and heal the body, mind, emotions, and spirit.

The definition of traditional healing developed by Velimirovic (1990) and modified by RCAP (1996) describes traditional healing as "practices designed to promote mental, physical, and spiritual well-being that are based on beliefs which go back to the time before the spread of western, 'scientific bio-medicine.'" When Indigenous people refer to 'traditional healing', they include the use of herbal remedies as well as specific ceremonies and rituals to promote spiritual, mental, physical, and psychological well-being (RCAP, 1996). Recent recognition and affirmation of the importance of traditional healing practices for Indigenous peoples by RCAP (1996) has accelerated a reversal of the historic efforts to eradicate Indigenous traditions. Along with this reversal

has come an upsurge in interest in traditional healing practices, including the sweat lodge ceremony (Borg, Delaney, & Sellick, 1997; Kirmayer, Brass & Tait, 2000)).

Increasingly, sweat lodges are being incorporated into healing programs that serve Indigenous people (Hall, 1986). The American Indian/Alaska Native Suicide Task Force Report (1996) and RCAP (1996) emphasize the need for treatment programs that incorporate traditional healing, noting that those programs that do so had greater success in preventing suicide. Duran and Duran (1995) report that counseling programs that include traditional healing approaches such as the sweat lodge have been very successful. Sweat lodge ceremonies have also been compared to group therapy processes (Colmant & Merta, 1999; Smith, 2005; Walkingstick & Osborne, 1995), although these comparisons minimize the importance of the spiritual element of sweat lodge ceremonies.

Sweat lodge ceremonies have been described as holistic experiences that improve emotional, physical, cognitive, and spiritual well-being (Wallingstick & Osborne, 1995; Wilson, 2003). Ross and Ross (1992) report that they observed sweat lodge participants were less worried and had a higher level of self-esteem after a sweat lodge. In a review of the literature, Colmant and Merta (1999) found that many American Indians spoke about the importance of socialization and friendship and the healing properties that come with laughter in a sweat lodge.

Despite the fact that traditional healing practices have been valued by Indigenous peoples for as long as oral tradition has been alive, there is virtually no research on the efficacy of these methods. As traditional healing practices continue to be prominent and accepted in Indigenous communities and increasingly valued in non-Indigenous communities, it is becoming increasingly important to document their efficacy beyond traditional testimonials. The Canadian Institutes of Health Research (CIHR) have called for an initiative to foster new investigations in Indigenous health from researchers of any discipline who are focused on health determinants, intervention, or outcomes. Priority proposals include traditional medicine and spiritual health (CIHR, 2003). Further, one of the main objectives of the Institute of Aboriginal Peoples' Health within CIHR is "to know how factors such as Aboriginal culture and spirituality can affect health and wellness." (CIHR-IAPH, 2006). The National Aboriginal Health Organization (NAHO) recognizes the health includes physical, emotional, social and cultural aspects. It includes the following goals in its Vision Statement: to "facilitate and promote research

and develop research partnerships," to "foster participation of Aboriginal Peoples in delivery of health care," and to "affirm and protect Aboriginal traditional healing practices."

In response to these mandates we conducted a pilot study on the efficacy of the sweat lodge ceremony on healing. The main hypothesis of the study was that the sweat lodge ceremony will have a measurable positive impact on one or more of the four principal components of well-being (physical, mental, emotional, and spiritual) of participants. Although it was further hypothesized that the impact will be cumulative for those who attend more than one ceremony within a short period of time, this hypothesis could not be thoroughly tested within the limitations imposed on this pilot study.

Study Protocols

Research in Indigenous communities has often suffered from lack of culturally appropriate methodology and lack of involvement of the Indigenous community, its Elders, and members (RCAP, 1996). Additionally, research on spiritual and ceremonial practices often is not acceptable to Indigenous communities who regard the sweat lodge as a sacred ceremony that is outside the purview of research. The challenge in any research on Indigenous customs is thus to establish a protocol that is respectful of traditional ways; does not intrude on any ceremony; does not study the ceremony itself; involves Elders in its organization, execution, and dissemination of findings; and is culturally sensitive and appropriate in the manner in which data are collected and analyzed.

Of importance to research funders (e.g., Canadian Institutes of Health Research) as well as Indigenous communities (e.g., National Aboriginal Health Organization) is the principle that Indigenous people are involved in planning and implementation and that researchers are culturally competent. Before this study was implemented, our cultural competence within an Indigenous context had to be accepted by sweat lodge Elders.

Recognition of the importance of cultural competence, respect for Indigenous traditions and sacred ceremonies, and equal participation by Elders in all aspects of this study design and implementation resulted in the development of the study protocol. The study was designed in close collaboration between the researchers, one of whom is a First Nations healer (Métis), and two additional Elders/First Nations healers (Cree). The planning process was both extensive and intensive, and allowed for sufficient passage of time for researchers and Elders to fully process

contingencies of the study. All protocols and research instruments were discussed and approved by this group. A detailed research protocol, including consensus on all aspects of the study and dissemination of findings, was accepted by the Elders and the research team. The Elders have also participated in the dissemination of the results.

The main protocols adopted were the following.

1. No aspect of the study will intrude on traditional Aboriginal practices. That is, all data collection will be conducted before and after the sweat lodge ceremony. No data will be collected during the ceremony (including pre-lodge preparation rituals).
2. No information will be collected about ceremonial events in the sweat lodge ceremony.
3. Reports of the study will not report on the actual ceremony.
4. The research team will adhere to all protocol of the sweat lodge ceremony, including the offering of tobacco and print (woven cloth, usually cotton), a gift for the Elders and firekeeper(s), and food to share at the post-sweat lodge feast.
5. In order to assure anonymity of participants, no identifying information such as name, address, or social insurance number will be collected. Instead, participants will be asked to use a code that consists of their date of birth and the initial of their last name. This code is individual-specific and will not be readily duplicated (the numbers in this study are small enough that there is little possibility of two participants sharing the same code.) Participants can then use the code if they participate in additional sweat lodge ceremonies.
6. All sweat lodge participants will be invited to participate in the study. They will be given an envelope with the written informed consent form and the study instruments. They will be asked to complete the baseline instruments and place them in the envelop. After the ceremony and the feast, participants will be asked to complete the same instruments, place them in the envelope, and return it to the investigators.
7. All participants will be asked to return the forms – whether completed or not – so that there will be nothing to identify those who have chosen to participate and those who have not. Thus, neither the researchers nor the Elder(s) will be aware of who is participating.
8. Participating Elders will approve all written and oral dissemination of the results.
9. Participating Elders will be included in all oral dissemination of the results.

Procedures

The project design, instrument selection, and data collection protocols were developed by the team of investigators and Elders working together. All protocols and research instruments were discussed and approved by this group and all decisions were made according to a set of specific study protocols. Respect for the sacredness of the sweat lodge ceremony was central to these protocols. Thus the study reports contain only minimal descriptions of the sweat lodge and do not detail any aspect of the ceremony or its impact of specific individuals. This study was approved by the Conjoint Faculties Research Ethics Board at the University of Calgary.

Instruments

Several factors entered into the decisions about which instruments to use in this study. There are no existing instruments that measure well-being in an Indigenous framework that includes all four dimensions (physical, mental, emotional, and spiritual). Additionally, since we anticipated some participants who were not of Indigenous decent, the research instruments for this investigation needed to be relatively culture-free and psychometrically sound. Finally, since there was a limited amount of time available for completion of the instruments, they needed to be relatively short, easy to understand, and self-administered

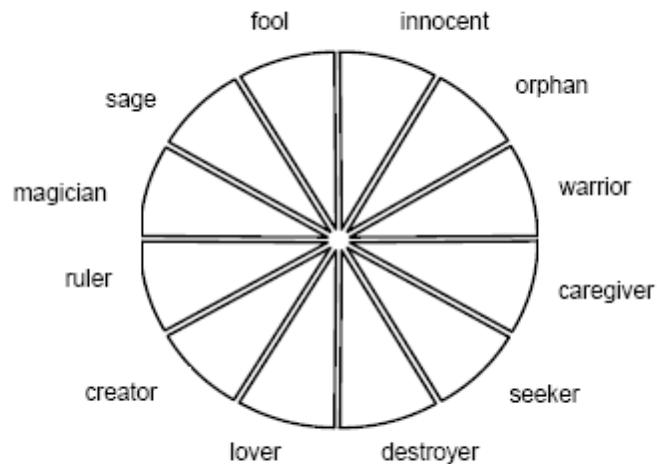
In the absence of a single instrument to measure all four dimensions of healing, two questionnaires most closely meeting the above criteria were chosen: the SF-36[®] (Ware et al., 1998) and The Heroic Myth Index (Pearson, 1991). The SF-36[®] is a multipurpose health survey that provides a generic measure (as opposed to a measure that targets a specific age group, disease, or treatment approach) of physical and mental health. It consists of 36 items that cover two main factors: (1) health concepts, including bodily pain and limitations in physical/social activities because of physical health problems; and (2) general mental health, including psychological distress and well-being, limitations in activities because of emotional problems, and vitality (energy and fatigue). In addition there is a general measure of self-perception of overall health. Ware and colleagues report that the two main scales account for 80 to 85 percent of the reliable variance in the instrument (Ware & Kosinski, 2004, p. 3), and the instrument has been normed to the general U.S. population (Ware & Kosinski, 2004, pp. 88-119). The SF-36[®]

can be self-administered by individuals 14 years of age and over. It has been used in multiple western European countries as well as Japan and China, and is an instrument of record in nearly 4,000 research-related publications (Ware et al., 1998).

The issue of how to measure the emotional well-being and spirituality dimensions posed some difficulties. A body of research has recently begun to emerge on the impact of spirituality on personal well-being (Anandarajah & Hight, 2001; Seybold & Hill 2001; Masters, Lensegrav-Benson, Kircher, & Hill, 2005; Miller & Thoresen, 2003; Salsman, Brown, Brechting, & Carlson, 2005; Seeman, Dubin, & Seeman, 2003; Van Hook, Huguen, & Aguilar, 2001). However, despite the development of over 70 assorted instruments intended to measure spirituality and related constructs (MacDonald, LeClair, Holland, Alter & Friedman, 1995), only a few have generated empirical research (MacDonald, 2000) and most continue to intermingle religious beliefs with spiritual dimensions. Given the cultural, ethnic and religious elements present in measures of spirituality, no culture-free instrument presently exists (MacDonald, 2000; Moberg, 2003).

Because no well-validated instruments culturally sensitive to Indigenous spirituality were available, the investigators opted for one that has been occasionally used but whose items were generally appropriate within an Indigenous context. The Heroic Myth Index (HMI; Pearson, 1991) has been used to measure aspects of spirituality and emotional well-being (Canda & Smith, 2001). It consists of 72 items that are constructed into twelve scales representing personal archetypes or personality types. These scales are then grouped into three sets of four scales each, purporting to measure aspects of the ego, soul, and self. Although well-known in popular psychology, the HMI has had little psychometric evaluation. In one examination (Marr, 1995), an exploratory factor analysis did not support the 12-scale model proposed by Pearson, although a confirmatory factor analysis did. However, inadequate sample size in that study limits its utility. Despite the lack of adequate psychometric properties, the HMI was deemed by the research team to have face validity in that it presents a reflection of Indigenous philosophy of life and interpersonal relationships, and to more clearly provide a link with Aboriginal spirituality than other instruments. Within the Aboriginal worldview, all aspects of the life's journey are inter-connected. Each person carries all 12 archetypes, although most often given labels different than those used by Pearson (such as Coyote rather than Fool). These archetypes indicate where a person is on his or her life's journey.

Figure 1
The Heroic Myth Index



(Pearson, 1991, p. 23)

Those items that appeared to be inappropriate within a Canadian and American Indian Indigenous context were modified for the pilot study. For example, the item "I feel sexy" was replaced with "I feel passionate about life."

Since the focus of the investigation was individual change as experienced by sweat lodge participants, test-retest reliability was of primary concern. Specifically, we were interested in the stability of the measure over a time interval of approximately three hours. We also recognized that administration of the same questionnaire within such a short time frame would result in respondents remembering their initial responses, which might bias the post-sweat lodge results.

In order to control for this possibility, and to determine the test-retest stability over a short time frame, we administered the HMI to a control group. Two groups of Masters-level social work students acted as a control group and completed the HMI before a three-hour research class and again after the class was over. Test-retest reliability was strong and indicated no change between pre- and post research class measurements.

Data Collection

The intent of the study was to look at the impact of the sweat lodge on a group of individuals who self-selected to attend the ceremony. The sweat lodge was located in a natural, semi-rural setting in Alberta, Canada. The data collection protocol established was that persons coming to the ceremony were asked if they would like to participate, and if agreeable, were given the two study questionnaires to complete. People arriving close to the time of the start of the ceremony were not asked because they would not have time to complete the instruments and properly prepare themselves for the ceremony. (Study protocol dictated that when the Elder indicated the ceremony was about to begin, no further data were collected.) The protocol also stipulated that the study would not be discussed during the ceremony. After the post-sweat lodge feast, participants were asked to complete the same questionnaires again. They were instructed that we were interested in comparing people's responses before and after the ceremony, and that this comparison would be based on a group of people and not one individual per se.

All data were collected by the principal investigators and a research assistant who was a First Nations Masters student in social work. Forty-two participants completed the pre- and post-sweat lodge measures. Incomplete responses by three persons reduced the final subject pool to 39 complete sets of responses. Data collection occurred over four months – November to March. The timing of the pilot study – winter – contributed to a lower than anticipated pool of participants, since many people are more likely to attend a sweat lodge ceremony (or to arrive well in advance of the anticipated start) in milder weather conditions. In addition to those who arrived too late to be offered the opportunity to participate, some people were initially reluctant but participated at a later sweat lodge ceremony.

Participants

Forty-two people participated in the study. In three cases, the participants did not complete the post-ceremony instruments, leaving us with 39 complete, unduplicated sets of responses. While the majority of participants were Indigenous (59%), 41% were not. There were more female respondents (72%) than male. This gender composition of the subjects does not represent the gender balance at the ceremonies; rather, it reflects an aspect of the data collection protocols that skewed

respondents towards those who arrived well in advance of the start of the ceremony, most of whom were women. Many men tended to arrive at the sweat lodge site immediately before the ceremony began, and so did not have sufficient time to complete the pre-ceremony questionnaires. Participants ranged in age from 15 to 68, but the majority (51.3%) were in their 30s or 40s. Most respondents had previously attended at least one sweat lodge ceremony (76.9%) and of the nine who had not, eight were women and one was a man. Many participants (43.6%) had attended more than 10 sweat lodge ceremonies in their lifetime.

Table 1
Characteristics of Respondents

		N	Percent
Gender	Male	11	28.2
	Female	28	78.1
Age	< 20	2	5.1
	20 to 30	8	20.5
	30 to 40	11	28.2
	40 to 50	9	23.1
	50 to 60	7	18.0
	60 +	2	5.1
Ethnic Affiliation	Aboriginal	23	59.0
	Caucasian	14	35.9
	Other	2	5.1
Previous Sweat lodge experience	Yes	30	76.9
	No	9	23.1
No. of previous sweats	1	4	10.3
	2 to 3	4	10.3
	4 to 10	5	12.8
	10+	17	43.6
Time since last sweat	No prior sweat	9	23.1
	1 week	8	20.5
	1 month	8	20.5
	6 months	8	20.5
	No > 6 months	6	15.4

Results

The results from the HMI were analyzed using the SPSS statistical package, version 13.0. We first produced a scale reliability analysis of each of the 12 HMI scales. Scale alphas (Chronbach's) ranged from an acceptable .751 to a low of .430. A scale analysis of variance (ANOVA) for each scale indicated significant differences among scale items at the .01 to the .000 level. With the exception of one low scale alpha we could be reasonably confident that the scales were measuring an underlying construct and that the ANOVAs for each scale indicated that items within each scale were measuring different aspects of the underlying construct.

Table 2
Scale Analysis: 12 HMI Scales

Scale	Alpha	ANOVA
Innocent	.734	.000
Orphan	.628	.000
Warrior	.638	.003
Caregiver	.787	.013
Creator	.739	.000
Sage	.430	.000
Seeker	.733	.000
Lover	.599	.000
Destroyer	.599	.000
Magician	.751	.000
Ruler	.718	.000
Fool	.604	.000

Table 3
Heroic Myth Index Paired Samples Test

	Paired Differences					<i>t</i>	<i>df</i>	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Innocentpo innocentpre	2.02703	3.76007	.61815	.77336	3.28070	3.279	36	.002**
Orphanpo orphanpre	-1.37838	4.57864	.75272	-2.90497	.14822	-1.831	36	.075*
Warriorpo warriorpre	1.29730	3.51082	.57717	.12673	2.46786	2.248	36	.031**
Caregiverpo caregiverpre	.00000	2.76887	.45520	-.92319	.92319	.000	36	1.000
Seekerpo seekerpre	-.37838	2.92832	.48141	-1.35473	.59797	-.786	36	.437
Loverpo loverpre	.70270	4.02675	.66199	-.63988	2.04529	1.061	36	.296
Destroyerpo destroyerpre	-.02703	3.85491	.63374	-1.31232	1.25827	-.043	36	.966
Creatorpo creatorpre	1.27027	4.46995	.73486	-.22009	2.76063	1.729	36	.092*
Rulerpo rulerpre	.97297	4.33645	.71291	-.47287	2.41882	1.365	36	.181
Sagepo sagepre	1.13514	3.05652	.50249	.11604	2.15423	2.259	36	.030**
Foolpo foolpre	-.45946	2.73450	.44955	-1.37119	.45227	-1.022	36	.314
Magicianpo magicianpre	.62162	5.26177	.86503	-1.13274	2.37598	.719	36	.477

Next, we performed an ANOVA to compare pre-sweat and post-sweat HMI scale scores. Of the twelve HMI scales, three (Innocent, Warrior, and Sage) yielded statistically significant differences between the pre- and post-ceremony responses, and another two – the Creator and Orphan – fell just outside of acceptable limits. Given the nature of the sample size, the results were encouraging in suggesting up to five scales that could detect pre-post significance differences.

The SF-36[®] was scored using the statistical scoring packing developed for the instrument (SF Health Outcomes Scoring Software, QualityMetric, 2006). A majority of participants in the study reported either very good (59%) or excellent (29%) health. The SF-36[®] scores indicated that only six (15%) of respondents reported problems with physical health that might interfere with activities of daily living or role functioning. This number was not sufficiently large to secure significant results in a quantitative analysis. An ANOVA comparing the pre- and post-sweat lodge scores showed no significant difference in overall health scores or in health scores of the two main scales (physical and mental health).

Discussion

Although the HMI scales were constructed within a Euro-centered frame built on a Jungian worldview (Pearson, 1991), each of the scales that showed pre-post differences in respondent scores may be interpreted within an Aboriginal context as aspects of Indigenous spirituality: a connectedness with all of creation, and one's relationship to other people, the spirits, the land (Cajete, 2000; McLennan & Khavarpour, 2004).

When participants leave the sweat lodge ceremony they are reminded to say "all my relations" as an affirmation of the relationship that humans share with all aspects of creation: living things (such as two-legged and four-legged creatures, those that live in the waters, and plants that grow in all places), the wind, the sun, the waters, all inanimate objects that are part of creation (such as the rocks, the earth, and the mountains), and the spirit world which many Aboriginal people acknowledge co-exists with the physical world. Along with this connection comes the responsibility to take care of and respect all creation.

The items in the HMI were originally intended to map archetypes by which people live their lives. Founded on principles of Jungian psychology, the archetypes are presented as energies which reside "within the unconscious psychological life of all peoples everywhere"

(Pearson, 1991, p.6). While this perspective may be appreciated by people whose traditions stem from the Western European worldview that separates mind and matter, body and soul into separate components, it may not fit an Indigenous worldview that encompasses mental, emotional, physical, and spiritual aspects of life as integrally related. Most Western research instruments are based upon measurable, objective criteria, whereas an Aboriginal perspective tends to include a large subjective component. The Western perspective also is largely deficit-based, and instruments of functioning are predominantly focused on individual inadequacies (Cowger, 1994). Recent attention has been focused on the importance of a strength-based perspective in the helping professions (Smith, 2006). Rather than focusing on disease, dysfunction, and pathology, this perspective looks at assets instead of deficiencies and emphasizes individual resiliency. This view fits very well with an Aboriginal epistemology. The HMI embraces a subjective and strength perspective.

Many of the items in the HMI are also suggestive of Indigenous spirituality: the belief in the connectedness of all things, that people take care of each other and all aspects of life, that there is a basic goodness in all creation and all people (Cajete, 2000; Mehl-Madrona, 2003). When re-interpreted through this Indigenous worldview, the scales of the HMI take on meaning that highlights connections that are fundamental for Indigenous people.

An excellent example of this interpretation can be found in the Caregiver scale. The items all reflect aspects of taking care of others and putting the needs of others before one's own. This behavioral style has been described in the social work and psychology literature as symptomatic of co-dependency or as an altruistic question of "social desirability" (Rubin & Babbie, 2001). An Indigenous worldview emphasizes the fact that all people are connected and responsible for each other (Cajete, 2000, p. 77). Placing the needs of the group before others is a fundamental aspect of this "tribal mind" orientation. It is also representative of one of the most important values of many Aboriginal people, accountability.

The scores for the Caregiver scale were high and showed no difference between the pre- and post-sweat responses. This suggests that participants espoused a worldview that included taking care of others as a predisposition to the sweat lodge experience. However, an ANOVA of the scale scores on the Caregiver scale and ethnic identification indicated that there were significant differences (.037) between Indigenous and Caucasian respondents before the sweat (Indigenous persons had a

higher caregiver score), but that these differences diminished afterwards (significance .060). The Caregiver scale was the only one where there was a difference in responses between Indigenous and Caucasian respondents either before or after the ceremony; this may point to a transformational component of the sweat lodge that brings people closer together in this feeling of connectedness. Elders often refer to this as a transformation through “connection to spirit.” When individuals connect to the love within themselves they will feel connected to all things outside of themselves. Many Aboriginal people believe that healing is not possible unless we “connect to spirit” first.

The Innocent scale reflects the theme that people are loving and look after each other. It contains items that affirm a positive worldview of human nature and the willingness of people to take care of each other. Participants clearly felt more positive about the world being a safe place after the sweat lodge than before. Likewise, the Sage scale reflects a worldview that all of creation is connected, that there is a balance, and that life has many teachings about this universality. It is represented by such statements as “I see the present as part of the past” and “I try to find the real meaning in things.” Inherent in Indigenous spirituality is the sacredness of relationship with all of creation (Brave Heart, 2001; Brown, 1953, 1989).

Native spirituality also embodies the concept of responsibility in the context of facing adversity so that the people may be protected (Brave Heart, 2001). Thus, the Warrior scale is an expected aspect of spirituality that encompasses the importance of taking care of self and others despite the risks that may be involved. It is embodied in statements such as “I can’t sit back and let a wrong go by without challenging it,” and “I put fear aside and do what needs to be done.”

Two other scales, the Orphan and the Creator, fall just outside of statistically admissible range, but are included here because with a larger sample they may well fall inside these limits. The items in the Creator scale also directly reflect an Indigenous spiritual view. They include statements such as “I am in the process of creating my own life” and “I try to be true to my inner self wherever I am” and may be thought of as responding to the free will in each of us. Free will is inherent in each individual and is connected to our intuition and instinct. This aspect of “self” needs to be developed in order for individuals to make accountable decisions in life.

The Orphan scale shows a decrease in value from the pre- to the post-ceremony responses, indicating that participants felt less that life is one heartache after another, less abandoned, and less betrayed by others.

The Orphan scale contains the following items:

- As a child I could depend on adults to take care of me
- Life is one heartache after another
- I fear those in authority
- I feel abandoned
- Most people I have trusted have betrayed me
- Important people in my life have let me down

We examined the pre- and post-scale scores for difference according to age, gender, ethnic affiliation, and previous sweat lodge experience. ANOVA of the pre-sweat lodge scores by each of these variables showed no statistically significant differences between groups. Those with previous sweat lodge experience had significantly higher scores before the sweat lodge on the Warrior, Seeker, and Creator scales. The increase in scores of the self-discipline (Warrior), self-actualizer (Seeker) and developer of a new life (Creator) scales may be due to the effect of previous sweat lodge experiences. They may also be attributable to predisposing personal characteristics such as a heightened sense of spirituality that leads a person to attend this ceremony. For no known reason, Caucasian respondents had a lower score on the Caregiver scale before the ceremony. These differences were not significant in post-sweat lodge scores.

Because the study participants were drawn from the general population, and subjects reflected norms of a healthy population, the non-significant findings on the SF-36[®] scores were not totally unexpected. In addition, since the sweat lodge ceremonies were held during the coldest months of the year, in a relatively cold climate, the lack of attendance of those in frail health may also be attributable to the cold and to anxiety about traveling to a rural location for fear of inclement weather.

Limitations

This study was limited by some factors common to pilot studies and also by the lack of research precedents in Aboriginal healing practices. Budget constraints limited the time for data collection to a few months and the location to a single sweat lodge site. This precluded our

ability to test the second hypothesis (that effects for the participants will be cumulative over multiple sweat lodge ceremonies). As noted earlier, the time of year (winter months in a northern climate) greatly reduced the number of people in less than good health who would venture out. People who are depressed may also be less likely to venture out into a rural area (the location of this and most sweat lodges) in cold and potentially inclement weather.

With primarily healthy participants it was not possible to measure changes in perceived physical health. Additional limitations were imposed by the structuring of most SF-36[®] questions, which inquired about “normal daily activities.” In this study most participants were active adults who experienced few limitations caused by their health. An instrument that assesses perceived pain or bodily discomfort may be applicable to more participants. The use of a single sweat lodge and its Elders limits the generalizability of the results. Future studies that use multiple sweat lodges (and Elders) and can extend over four seasons will address these issues.

The limitations inherent in a study of Indigenous healing practices stem in part from the challenges of adapting Western research methodologies within Aboriginal communities. While this study had a control group of graduate students to measure the stability of the two instruments used, no control group is possible within the sweat lodge environment. Those who come to participate cannot be asked to be randomly assigned to a control group, nor to delay participation (such as in a “cross-over group” design). Even if a delay were possible, Elders maintain that there is great benefit to those who are within the ceremonial grounds during the sweat lodge, and thus there is no practical way to control for this influence. Because of the historical misuse of research in Aboriginal communities, many potential participants were wary of the study and some participated after being exposed to the research team on several occasions.

Respect for the sacred circle surrounding the sweat lodge meant that latecomers could not be asked to participate. Although no records were kept of participants versus non-participants, the research team estimated that between 40% and 50% of potential participants were missed because of late arrivals. This would skew results of the study, yet is an unavoidable complication in a naturalistic setting.

Additional factors limiting the generalizability of this study include those imposed by the research instruments. While the SF-36[®] has strong psychometric properties and has been used in a number of cultures, its acceptability by the Aboriginal community has not been

reported. Some participants had a negative reaction to the box and "x" format for responses, noting that this design was antithetical to an Aboriginal perspective. The limited response options (a three-point scale) of most questions also runs counter to Aboriginal views that are more fluid. On the other hand, the HMI was more positively received, in part because of its focus on personal issues and relationships (which are important within an Aboriginal context), and in part because the response options were more extensive (a seven-point scale). However, the HMI lacks the instrument validation of the SF-36°. Future work should include modification and testing of the HMI or a variation thereof that would be an acceptable measure of aspects of Aboriginal spirituality.

Conclusions

This study aimed to measure changes in well-being of sweat lodge ceremony participants using two instruments, the SF-36° and the HMI, to track physical, mental, emotional, and spiritual health. Attendees at sweat lodge ceremonies at a semi-rural, natural site in Alberta, Canada completed the instrument before and after the ceremony. Extensive preparations and protocol assured that the data collection was outside of the sacred circle of the ceremony. Physical health outcomes did not change, in part because participants (two-thirds of whom were Aboriginal) were in self-reported good or excellent health and noted no change in this after the ceremony. Additionally, the SF-36° was not designed to measure changes in health over a very short interval (several hours) and was not well received by many Aboriginal participants.

Of note, the results indicate that change in spiritual and emotional well-being as a result of participating in a sweat lodge ceremony can be measured (using the HMI), and that participants are more similar in spiritual and emotional dimensions after the ceremony than before. It is significant that we found changes in spirituality, because such changes are a fundamental component of healing within an Indigenous paradigm. Further confirmation of these findings is dependent on a larger sample and the use of multiple sweat lodge sites so the findings can also be generalized beyond the study population. An extended study can also examine if these effects are cumulative over several sweat lodge ceremonies. While the importance of Aboriginal healing ceremonies has been acknowledged by many governmental bodies and academic scholars, this is the first known demonstration of Indigenous healing using a quantitative approach. It is a pilot study that should be replicated on a larger scale.

The intent of this study was to demonstrate that the sweat lodge ceremony produces positive change in participants that can be measured along one or more dimensions of physical, mental, emotional, and spiritual well-being. "Connection to spirit" is the beginning of the healing journey for many Aboriginal people, who recognize that healing involves a balance in those four dimensions. The balance cannot be attained until a person has become aware of and responsive to the spiritual component of his or her own life. To the extent that healing begins with this spiritual connection, the sweat lodge ceremony creates a positive change in participants' self-reported sense of connection to life.

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Footnote

¹The terms First Nations, Aboriginal, and Indigenous are used interchangeably to denote Canadian people of Indigenous descent.

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In keeping with the protocol that Aboriginal people should be involved with research involving their customs, rituals, and knowledge, we would also note that Kerrie Moore is Métis.

INITIAL DEVELOPMENT OF A CULTURAL VALUES AND BELIEFS SCALE AMONG DAKOTA/NAKOTA/LAKOTA PEOPLE: A PILOT STUDY

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Abstract: This study was the initial phase in the development of a mental health assessment tool. The Native American Cultural Values and Beliefs Scale is a 12-item instrument that assesses three dimensions of American Indian/Alaska Native values and beliefs: 1) the importance, 2) the frequency of practicing, and 3) the amount of distress caused by not practicing traditional values and beliefs. The initial project was targeted to Dakota/Nakota/Lakota people, though future scale development is intended to establish sufficient generality across several groups of American Indian and Alaska Native persons. The survey was administered to 37 Dakota/Nakota/Lakota adults. The results indicated high internal consistency with Cronbach's alphas of .897 for importance and .917 for practice.

In comparison to non-Indian populations, there is a relatively small amount of literature that deals with American Indian and Alaska Native mental health needs and issues. More research is now being done concerning factors that may contribute to high levels of physiological and psychological difficulties in these populations. These difficulties have led to reported prevalence rates for some conditions (such as diabetes, depression, substance abuse, and suicide) that are two, three, even ten times higher than the rates among non-Indians (Beals et al., 1997; Fleming, 1992; French, 2000; Gray & Nye, 2001; May et al., 2002; Brave Heart & DeBruyn, 1998).

Historical Factors That Affect the Mental Health of American Indians and Alaska Natives

The United States has a long history of policies that led to termination and assimilation of American Indians and Alaska Natives (Brown, 1991; Garrett & Pichette, 2000). Between 1880 and 1930, "Assimilation and Allotment" was the basic philosophy of the American government regarding Indian relations. The goal of this policy was to assimilate American Indians into the mainstream of American life by changing their customs, values, beliefs, dress, occupations, languages, religions, and philosophies (BigFoot, 2000). Relocation occurred during the period between 1950 and 1968. Indigenous people were severed from their cultures and their families. Elevated rates of homelessness, substance dependence, and violence among these populations, are examples of the results of relocation (BigFoot, 2000; Chadwick & Stauss, 1975). In 1953, Congress passed House Concurrent Resolution 108 with the intention to finally solve "the Indian problem." Their intention was to make the Native people just like "other citizens." Due to U.S. policy, more than 200 tribes were terminated, meaning that members of those tribes no longer had status as American Indians (BigFoot, 2000; Brave Heart et al., 1998).

The underlying questions asked in this paper are: How are these events tied to, and what factors are related to, current mental and physical health problems of Native people (Duclos et al., 1998; Manson, Ackerson, Dick, Barón, & Fleming, 1990; Manson, Shore, & Bloom, 1985; Novins, Beals, Roberts, & Manson, 1999)? For example, depression alone has been estimated at 58.1% (Manson et al., 1990). Attempted suicide among American Indians and Alaska Natives has been reported to be between 13% and 23% (Novins et al., 1999). Research findings have shown that since World War II, diabetes has become epidemic (Hill, 1997). Finally, some research has reported that in some American Indian/Alaska Native samples, 49% had at least one alcohol, drug, or mental health disorder; 12.7% had two disorders; and 8.7% had three or more disorders (Duclos et al., 1998).

Research and Mental Health Services Among American Indian/Alaska Native Populations

According to Trimble (1987), the provision of mental health services to American Indian/Alaska Natives gradually changed from the 1920s through the 1960s, progressing from virtually nothing to an

anthropological approach that examined constructs of ethnic identity. In addition, other sources in the literature also note the disparities in services rendered to American Indian/Alaska Natives (Aboud & Christain, 1979; Boggs, 1956, 1958; Deloria, 1969; Haught, 1934; LaFromboise, 1988; Landes, 1938; Phinney & Rotheram, 1987; Saindon, 1933; Splindler, 1958; Splindler & Splinder, 1958; Brave Heart & DeBruyn, 1998).

During the early 1960s, the relationship among mental health, negative stereotyping, and psychosocial factors (e.g., drunkenness, laziness, immorality, abusiveness, etc.) among indigenous people was first studied (Trimble, 1987). The 1960s also brought about the use of paper-and-pencil personality and self-report measures as tools to assess American Indian and Alaska Native personality and mental health (Gough, 1948; Hathaway & McKinley, 1940; Trimble, 1987). However, many of the results obtained with Western psychological test instruments have either over-pathologized or under-pathologized American Indians and Alaska Natives; some researchers question the validity of utilizing such instruments within this population (LaFromboise, 1988; Manson, 2000; Trimble, 1987).

During the 1970s, there was an explosion in American Indian federal policy reform reestablishing individual and tribal rights that were outlawed between 1880 and 1978 (BigFoot, 2000; Calloway, 1999). During this period Native activism also emerged, reestablishing traditional customs, ceremonies, values, and beliefs for the purposes of healing and wellness.

Research concerning American Indian personality increased during the 1970s and early 1980s (Trimble, 1987). Studies began to surface examining the role of culture, values, and ethnic identity in American Indian and Alaska Native wellness, with some researchers pointing out the failure of previous research and services to Native people (Dinges, Trimble, Manson, & Pasquale, 1981; Jilek, 1981; LaFromboise, 1988; LaFromboise & Rowe, 1983; Red Horse, 1980). By the mid 1980s, researchers began to examine the reliability and validity of treatment methodologies used among American Indian and Alaska Native populations. In a study of Hopi people examining the effectiveness of diagnostic instruments for depression, Manson et al. (1985) reported that "psychiatry has failed to consider the cultural dimension of illness: how it is conceptualized, experienced, manifested, explained, and treated."

Towards the end of the 1980s, research literature began to emerge addressing Native peoples' well-being and possible causes for unwellness (LaFromboise, 1988; Lafromboise & BigFoot, 1988). LaFromboise (1988) wrote that Native peoples have unique views of

what constitutes “mental illness, personality and the self.” LaFromboise emphasized that these views are focused not on the traditional Western theoretical mind-body concept, but on the presence of a more traditional Native holistic value and belief system.

By the 1990s, researchers began to explore the significance of American Indian and Alaska Native mental health and its relationship to worldview, level of acculturation, identity, self-esteem, self-efficacy, and behavior (Dana, 1993; Duran & Duran, 1995; LaFromboise, Coleman, & Gerton, 1993; Pittenger, 1998). One study examining both American and Canadian Native peoples concluded that maintenance of traditional beliefs and rules of behavior has had in the past, and will continue to have, considerable consequence for Native mental health (Brant, 1990).

Native scholars and researchers (Duran & Duran, 1995; French, 2000; Garrett, 1999; LaFromboise & Rowe, 1983; Locust, 1988; Manson, 2000) advocate that American Indian and Alaska Native values and beliefs are essential to the wellness of these groups. In sum, the literature suggests that health service professionals develop services that take into account the ways that indigenous people themselves construct their health and illness (Dinges, Atlis, Locust, 1988; Manson, 2000, & Ragan, 2000; Manson, 2000; Manson et al, 1985; Tolman & Reedy, 1998). For example, the Na’Nizhoozhi Center Inc. (NCI), a substance abuse inpatient/outpatient facility in Gallup, New Mexico specific to American Indians, utilizes both Western and traditional Native values and belief systems in therapy. The NCI is an isolated example of American Indian/Alaska Native addictions treatment that is conducted utilizing Native spirituality, customs, values, and beliefs. According to Manson (2000), from 1980 to 1995, over 2000 journal articles and book chapters were published on the mental health of American Indians and Alaska Natives. Manson discussed the lack of culturally sensitive assessment instruments and appealed to the scientific community for a more culturally sensitive approach to American Indian and Alaska Native mental health.

Recently, researchers (Whitbeck, McMorris, Hoyt, Stubben, & LaFromboise, 2002) examined 287 Native adults from the upper Midwest for factors relating to wellness. The results indicated that discrimination was strongly associated with depressive symptoms, but those who engaged in traditional practices such as going to powwows, speaking their Native language, and engaging in other traditional behaviors were less likely to have symptoms of depression. The evidence seems to be growing to support the idea that traditional American Indian and Alaska Native values and beliefs have an innate and interwoven relationship to the wellness of these populations. The efficacy of

utilizing traditional practices in treatment for Native people has been empirically documented. For example, Tolman and Reedy (1998) found that increased utilization of ceremonies in treatment enhanced patient and tribal satisfaction, improved health care outcomes, and reduced length of stay. Also, Brave Heart (1999) examined the relationship of traditional Lakota mores to behaviors that place children at risk for alcohol and other substance abuse. The author concluded that in order for Native peoples to reestablish wellness, a re-attachment to traditional values is imperative.

The State of South Dakota's Department of Human Services, Division of Alcohol and Drug Abuse (2002) conducted a statewide survey among state-affiliated rehabilitation centers examining the prevalence of substance abuse among American Indians in South Dakota. With relation to Lakota, Dakota, Nakota people, the survey stated, "Individuals more oriented to their Native American culture drank less heavily and were less likely to use illicit substances or multiple substances." The survey went on to say, "Native American adults who were oriented primarily toward traditional Native American culture had lower rates of treatment need compared with Native Americans who were bicultural in orientation, or were even less oriented to traditional Native American culture."

Previous literature suggests that, for American Indians and Alaska Natives, wellness is grounded in practices of spirituality, values, and beliefs (Bates, Beauvais, & Trimble, 1997; Deloria, 1969; Duran & Duran, 1995; French, 2000; Manson, 2000; Phinney & Rotheram, 1987). This study was an initial step in the development of a mental health tool that would be able to cross tribal differences and to be utilized in the mental health/addictions field. The instrument examines the relationship of distress with the stated importance of values and beliefs and the practice of those cultural norms.

There are over 500 federally recognized American Indian and Alaska Native tribes in the United States, with each having a variation of the aforementioned theoretical construct of what constitutes a culture (Dana, 1993). For this particular study, the Dakota/Nakota/Lakota (D/N/L) people were the first to participate in the survey development process. In developing the pilot version, important aspects of D/N/L culture were first identified; the next step was to determine whether believing that these cultural aspects were important – but not following or participating in them – caused distress. Thus, the following hypotheses were made: First, a D/N/L person who identifies values and beliefs as important and practices those norms will exhibit a significantly lower level of distress than a person who states that values and beliefs are important but does

not practice those norms. Second, a D/N/L person who identifies values and beliefs as not being important to them and who does not practice those cultural norms will have a significantly lower level of distress than a person who states that D/N/L values and beliefs are important but does not practice those norms.

Methods

Participants

There were 37 participants for this pilot study. The participants consisted of undergraduate, graduate, and former students from a small Midwestern university. All participants were self-identified as D/N/L American Indian.

Measures

Demographic Questionnaire

The Demographic Questionnaire consisted of 10 questions regarding demographic data including age, gender, education, and religious preference.

Native American Cultural Values and Beliefs Survey

Although the survey was pilot-tested among D/N/L people, it is ultimately intended for use across American Indian/Alaska Native groups; therefore, it is entitled the Native American Cultural Values and Beliefs Survey (NACVBS). The NACVBS is a self-administered survey. The survey is based on Dana's (1993) model in which group identity, individual identity, language, values, and beliefs constitute a group or culture. The survey consists of 12 item domains that assess three dimensions of D/N/L values and beliefs: 1) the importance of D/N/L values and beliefs; 2) if important, whether the individual is practicing those values and beliefs; and 3) if important, and if the individual is not practicing those values and beliefs, the amount of distress this discrepancy may cause the individual. For purposes of this study, distress refers to a level of psychological suffering, anxiety, strain, or anguish related to the importance and practicing of traditional values and beliefs by the respondents. The items for this survey were created and questions were identified through personal interviews of elders, cultural advisors, and knowledgeable individuals, as

well as interpretation of philosophical and spiritual material concerning American Indians and Alaska Natives (emphasizing D/N/L people).

The NACVBS was constructed through the process as follows: 1) Examination of the literature to explore possible reasons for mental health issues among American Indians and Alaska Natives (Dana, 1993; Duran & Duran, 1995; French, 2000; LaFromboise, 1988; Lafromboise & BigFoot, 1988; Locust, 1988; Manson, 2000; Phinney & Rotheram, 1987; Red Horse, 1980); 2) Consultations with mental health professionals concerning the use of existing assessment instruments in diagnosis and treatment of American Indians; 3) Consultations with local Native elders, cultural advisors, and healers with regard to what they felt were essential norms for a positive lifestyle among American Indians and Alaska Natives (South Dakota Training Topics for D/N/L Substance Abuse Programs, 2002; Stolzman, 1995); 4) Development of an initial set of D/N/L values and beliefs; 5) Development of the NACVBS; and 6) Solicitation of additional feed back by presentation of the NACVBS to the 6th Annual Indian Health Service Research Conference, the Annual South Dakota Counselors Conference, and Sinte Gleska University's Human Services Department faculty and students.

The sets of questions are arranged in groups of three. The first question of the set asks about the importance to the individual of specific D/N/L values and beliefs. The response options are on a five-point Likert scale ranging from 1 (*Not Important At All*) to 5 (*Very Important*). The second question of each set asks about the level of participation/belief in D/N/L values. The response options given are on a five-point Likert scale ranging from 1 (*Not At All*) to 5 (*All the Time*). The final question of each set asks whether the individual experiences any distress based on his/her lack of participation in self-professed important D/N/L values and beliefs. According to the instructions, distress would be attributed to the answers to the first two questions. The response options are on a five-point Likert scale ranging from 1 (*Not At All*) to 5 (*A Lot*). Answers from each item within the set are summed together to achieve a total score (see Appendix A).

Procedure

Participation in the study was solicited via the Native American Student Cultural Center and the Native American Student Council. Participants included current and former D/N/L university students. An incentive for participation was offered: Upon completion of the administration phase a drawing was held, and a \$75.00 first-place, a

\$50.00 second-place, and a \$25.00 third-place prize were given. Each survey took about 15 minutes to complete. The primary investigator was present at all times.

Results

The survey examined the relationship between the importance of traditional values and beliefs, the practice of those values and beliefs, and distress caused by not practicing those values and beliefs.

An analysis of the demographic variables indicated there were thirty-seven total participants ($N = 37$) who completed the survey. More females ($n = 27$; 73%) than males ($n = 10$; 27%) completed the survey. Slightly more participants were born on a reservation ($n = 19$; 51.4%) than born off a reservation ($n = 18$; 48.6%). More of the participants were raised in a culturally nontraditional environment ($n = 22$; 59.5%) than were raised in a traditional setting ($n = 15$; 40.5%).

In this sample, six of the participants (16.2%) belonged to the Native American Church. Slightly more than half ($n = 20$; 54.1%) reported practicing traditional tribal spirituality, one (2.7%) belonged to the Protestant faith, nine (24.3%) to the Catholic faith, and just under one-third ($n = 11$; 29.7%) of the participants acknowledged membership in some "other" spiritual affiliation. Of those eight who reported more than one religious/spiritual affiliation, half ($n = 4$; 10.8%) acknowledged the Native American Church and traditional tribal spirituality. Two (0.05%) reported practicing traditional tribal spirituality and being Catholic. One (0.03%) reported practicing traditional tribal spirituality and being Protestant, and one (0.03%) reported attending the Native American Church and the Catholic Church.

The majority of the participants had two American Indian parents ($n = 28$; 75.7%), while respondents with one parent Native and one non-Native parent were substantially fewer ($n = 9$; 24.3%). The majority of participants reported very limited Native language abilities ($n = 26$; 70.3%). Some participants reported having "understanding only" abilities ($n = 4$; 10.8), while an equal amount described themselves as fluent speakers ($n = 4$; 10.8). Those who could speak and understand at the conversational level only ($n = 3$; 8.1%) made up the smallest group.

The ages of the group ranged from 19 years to 58 years, with the average being 34.51 years ($SD = 12.58$). The average years of education was 14.78 ($SD = 2.32$). Finally, the average score for the importance of D/N/L values and beliefs was 53.16 ($SD = 6.70$), and the average score for the practicing of values and beliefs was 43.65 ($SD = 9.96$).

In a post hoc analysis of importance and practice variables, first, the results revealed no significant difference between gender and importance of D/N/L values and beliefs ($F = 1.739, df = 1/35, p > .05$). Second, the results revealed no significant difference between place of birth (reservation vs. non-reservation) and importance of D/N/L values and beliefs ($F = .769, df = 1/35, p > .05$). Third, the results indicated no significant difference between environmental factors (traditional vs. nontraditional) and importance of D/N/L values and beliefs ($F = 2.10, df = 1/35, p > .05$). Finally, the results revealed no significant differences in proficiency in D/N/L language and importance of D/N/L values and beliefs ($F = 1.13, df = 1/35, p > .05$).

The results revealed a significant difference between the race/ethnicity of the parents (both Native vs. one Native parent) and importance of D/N/L values and beliefs ($F = 6.48, df = 1/35, p = .015$). A follow-up test consisting of an independent samples t test revealed that participants whose parents are both American Indian ($M = 54.64, SD = 5.88$) rated importance of D/N/L values and beliefs significantly higher than those participants who had only one American Indian parent ($M = 48.56, SD = 7.33; t(35) = 2.55, p = .015$). The results indicate that those individuals who were born/raised by two American Indian parents found D/N/L values and beliefs more important than those who only had one American Indian parent.

When the effects of gender, place of birth, developmental environment, and race of parents on the practice of D/N/L values and beliefs were assessed, first, the results revealed no significant difference between gender and the practice of D/N/L values and beliefs ($F = .121, df = 1/35, p > .05$). Second, the results revealed no significant difference between place of birth (reservation vs. non-reservation) and the practice of D/N/L values and beliefs ($F = 1.32, df = 1/35, p > .05$). Third, the results indicated a significant difference between environmental factors (traditional vs. nontraditional) and the practice of D/N/L values and beliefs ($F = 14.37, df = 1/35, p = .001$). An independent samples t -test revealed that those participants who were raised in traditional ways ($M = 50.06, SD = 8.59$) practiced traditional values and beliefs more than those raised nontraditionally ($M = 39.27, SD = 8.45; t(35) = 3.79, p = .001$). The results of the analysis indicated that for practice of D/N/L values and beliefs, there were no significant differences for both parents being Native vs. only one parent being Native ($F = 2.72, df = 1/35, p > .05$). Finally, the analysis revealed a significant difference in the proficiency of D/N/L language and practice of D/N/L values and beliefs ($F = 6.64, df = 3/33, p = .001$).

Regression analysis revealed no significance of level of education in relationship to the importance of D/N/L values and beliefs [$F(1, 35) = .004, p > .05$], and the analysis also revealed no significance of level of education in relationship to the practice of D/N/L values and beliefs [$F(1, 35) = .029, p > .05$]. Regression analysis revealed no significance of age in relationship to the importance of D/N/L values and beliefs [$F(1, 35) = .006, p > .05$]. Also, the analysis revealed no significance of age in relationship to the practice of D/N/L values and beliefs [$F(1, 35) = .057, p > .05$].

Because there were no other pre-existing mental health instruments specific to American Indians and Alaska Natives in this particular domain, in this study the investigator was interested in the internal and face value reliability/consistency of the questions asked (as it is premature to explore test-retest, alternate form reliability, and inter-rater or inter-observer reliability). A post hoc Cronbach's alpha analysis for inter-item reliabilities was conducted on the Importance and Practice variables. Cronbach's alphas were found to be acceptable for Importance ($\alpha = .897, M = 53.16, SD = 6.698$). In addition, Cronbach's alpha was found to be acceptable for Practice ($\alpha = .917, M = 43.65, SD = 9.959$).

Discussion

The primary purpose of this pilot study was to examine cultural values and beliefs, with the eventual goal of producing a mental health instrument that could be utilized by service providers working in American Indian and Alaska Native communities. Specifically, such a measure may be useful in the treatment conceptualization process for Native people. For example, if the results of a series of future studies indicated mental, physical, or addiction problems were related to the practice of D/N/L values and beliefs (or lack thereof), treatment for the individual could include or increase participation in tribal ceremonies. This project was conducted in response to the literature calling for mental health instruments and services, which could aid in the diagnosis and treatment of Native people (LaFromboise, 1988; Manson, 2000).

Research has supported the idea that the practice of American Indian and Alaska Native values and beliefs is an important factor for the well-being of Native people (Bates et al., 1997; Dana, 1993; Deloria, 1969; Duran & Duran, 1995; French, 2000; Locust, 1988; Manson, 2000; Phinney & Rotheram, 1987; Tolman & Reedy, 1998; Whitbeck et al, 2002). To date, the literature does not provide any evidence of a mental health instrument that examines the relationship of distress with the practice

of American Indian and Alaska Native values and beliefs system. Thus, the present research to determine important dimensions of D/N/Lakota culture began. The next step was to determine if the elements of the D/N/L culture utilized in the NACVBS were important to D/N/L people, by testing the NACVBS with them to learn whether the content in the items identified had internal consistency and face value reliability.

The first hypothesis simply stated that a D/N/L person who found D/N/L values and beliefs important and who practiced those values and beliefs would be less distressed than a D/N/L person who reported they found D/N/L values and beliefs important but did not practice those values and beliefs. The second hypothesis stated that a D/N/L person who did not find D/N/L values and beliefs as important and who did not practice those values and beliefs would be less distressed than a D/N/L individual who found D/N/L values and beliefs important but who did not practice those self-identified values and beliefs. Each part of the instrument (importance, practice, and distress) was set on a five-point Likert scale, and each part had a threshold level score that indicated whether a participant found overall values or beliefs important or not important (36), practiced or not practiced (24), and, based on the scores from the first two responses, what level of distress the participant experienced. Based on the results, both hypotheses could not be tested. It was suggested that the problem was due to the responses by a majority of the participants.

A possible explanation for the manner in which the participants responded was that the instructions to the instrument seemed confusing. For example, the investigator instructed participants to read the instructions and complete the survey. Participants read the following instructions: "Read each question carefully and circle the response that best illustrates how you feel about the question asked. There are two exceptions. If an item is important to you and you score 3 or above, complete the second part (B) of the question. If you regularly attend or put forth effort to participate or practice that item and score a 3 or above, then do not complete the third (C) part of the question. If a Dakota/Nakota/Lakota value or belief is not important to you and you score below a 3, answer the second part (B) but do not answer the third (C) part of the question." After completion of the survey, several participants reported that they could not understand the instructions. Administration of the NACVBS revealed that participants experienced some confusion about how they should respond to the items, and that the directions for the next administration, of the instrument should be more clearly stated.

Another possible explanation for the inconsistency of participant responses was that, for some participants, their personal level of commitment to the importance and practice of D/N/L values and beliefs, and how it affected their feelings of distress, differed from the criteria set in the instructions. The investigator asked for input from each participant concerning format and content of the questions. Almost all participants felt that the format was good, and the content of the questions represented what is important to D/N/L culture. However, the participants did note that the instructions were confusing. Therefore, even though the main two hypotheses could not be analyzed, further analyses of factors related to the NACVBS were conducted.

The initial analysis consisted of examining whether or not there were any differences in importance or practice of values and beliefs related to gender, being raised on or off a reservation, being raised in a traditional or nontraditional environment, speaking and understanding D/N/L language, and having one or both parents of American Indian ethnic background. Importance of values and beliefs was found to be higher when both parents were Native. One possible explanation is that having two American Indian parents increases the likelihood of exposure to traditional D/N/L values and beliefs, thereby establishing a psychosocial equilibrium that securely anchors the individual in his/her culture (Erikson, 1963). Further examination of the other factors (gender, raised on a reservation vs. non-reservation, traditional vs. nontraditional, and speaking and understanding D/N/L language), did not show any significant differences for importance. Finally, neither age nor years of education accounted for a significant difference for the importance or the practice of D/N/L values and beliefs.

The results suggest that D/N/L values and beliefs have the same degree of importance regardless of age, gender, environmental factors, and education. The literature seems to support the findings from this study that, for American Indians and Alaska Natives, values and beliefs are central to wellness (Garrett, 1999; Neihardt, 2000). This assumption is based on the results from questions one and two plus the conversations with the participants during debriefing. These findings tended to support other research suggesting that wellness, for these populations, rests in the group's cultural commitment (LaFromboise & BigFoot, 1988).

One possible explanation for the results is that the respondents in the sample may be more bicultural in orientation. Some respondents may have spent time on a reservation and currently live off a reservation, thereby having fewer difficulties with culture conflict between Western thought and their own Native worldview. According to research (Bryde,

1969; LaFromboise & Rowe, 1983), American Indians and Alaska Natives who learn traditional values, beliefs, and modes of behavior as a primary frame of reference, but can also meet the expectations and standards of the dominant culture; have fewer personal and social difficulties. These individuals are seen as highly resilient through a strong sense of themselves in their own or the mainstream culture (Garrett & Pichette, 2000). The data further suggest that, because traditional values and beliefs seem to be core elements, and because such individuals are grounded in them, there would not be differences seen between genders, those born on vs. off a reservation, or those raised traditionally vs. nontraditionally.

The results indicated there was no difference in the amount of practicing of D/N/L norms between those who were raised on vs. off a reservation. One possible explanation is that, due to the passage of federal legislation beginning in the 1970s that reinstated individual and religious freedoms, being raised on or off a reservation is not viewed as a marker of whether an individual practices traditional cultural and spiritual ceremonies (Duran & Duran, 1995; Brave Heart, 1998).

The results show a significant difference in language abilities and a significant difference in the practicing of traditional norms for individuals who were raised traditionally vs. nontraditionally. These findings are exciting because they also support the literature stating that, for the wellness of the individual and the community, traditional ceremonies need to be practiced (Bates et al., 1997; Dana, 1993; Duran & Duran, 1995; French, 2000; Manson, 2000; Tolman & Reedy, 1998).

Cronbach's alpha coefficient for the NACVBS's 12 importance items showed that the subscale had acceptable internal consistency ($\alpha = .897, M = 53.16, SD = 6.70$). A Cronbach's alpha coefficient for the NACVBS's 12 practice items revealed that the subscale had acceptable internal consistency ($\alpha = .917, M = 43.65, SD = 9.96$). Due to the confusion in the responses, an internal consistency Cronbach's alpha was not conducted on the distress questions. By established standards of reliability, the alpha coefficients for both importance and practice items were quite high. The alpha coefficients for the importance and practice factors indicate that the set of values and beliefs in the survey are consistent with each other and may be useful in the future development of this scale.

Limitations of the Study

First, readers must be cautioned that the NACVBS discussed here is a pilot version and should not be utilized for any diagnostic or

therapeutic purposes. Second, the sample size in this study was small ($N = 37$), which could account for the lack of significance in the analyses and can also produce a Type I error (Bordens & Abbott, 1999; Judd & McClellan, 2001). The results further suggest that the sample for this study was relatively homogeneous. Participants in this pilot study were recruited from the Native American Student Council, two Lakota cultural classes at the university, the Native American Student Council Annual Wacipi (Pow Wow), and the Building Bridges Conference. These particular events and organizations tend to bring in students and others who are normally seen as having an interest and/or investment in traditional ways. This could account for the high scores for the Importance and Practice items on the NACVBS. Further indications from the results could represent a sample bias due to the respondents being mostly in or from a university setting. In other words, the results could indicate a problem with generalizability for people with different educational backgrounds. In addition, the participants' ages ranged from 19 years to 58 years, which is a wide variance that could obscure possible generational differences.

As stated earlier, the survey instructions were challenging to many respondents. Another limitation could be the complicated and confusing manner in which certain questions were written. Still another important limitation is that, even though the D/N/L values and beliefs used in this study seemed to be valid ones, it is not known whether these are the only ones and/or if they are the most useful ones to use. Finally, the language used in the five levels of the Likert scale for the distress items might have also caused some difficulty for the participants. As the NACVBS is further developed, the first author and his colleagues continue to address the issue of ease of instructions, and strides have been made to make the NACVBS more understandable to respondents.

The primary purpose of this research was to conduct a pilot study looking at cultural values and beliefs that might be incorporated into a mental health instrument. According to Bordens and Abbott (1999), a pilot study is a crucial element of good study design. Pilot studies serve important functions and can provide valuable insight for researchers about procedures and materials to be used in larger studies. Pilot studies do not guarantee success, but they do increase the likelihood for future success of the larger project. Indeed, despite the limitations in the present study and the mixed results in some areas, the high alphas and overall pattern of results are certainly encouraging enough to prompt further work in developing the NACVBS

As previously noted, the results of this pilot study suggest that the NACVBS is consistent with previous literature concerning the importance and practice of American Indian and Alaska Native values and belief systems. Further, the values and beliefs surveyed in this study were shown to be internally consistent.

The next step in the development process is to rewrite the directions and some items in the NACVBS. Focus groups could be conducted to restructure these elements. After restructuring, the instrument will be examined by D/N/L mental health professionals, Native scholars, and elders in different locations throughout South Dakota. For validation purposes, the NACVBS-R needs to be given multiple times to multiple sample populations of D/N/L people. Samples could be taken at the tribal colleges in South Dakota and Native populations within the corrections system. Samples could also be drawn from the substance rehabilitation facilities, both tribal and non-tribal, throughout South Dakota. Another possibility is to administer the NACVBS-R to D/N/L people at Urban Indian Health Service Clinics.

Finally, to examine convergent and divergent validity, the NACVBS-R should be administered with other, already-validated measures that examine levels of distress, ethnic identity, and/or quality of life. According to research (LaFromboise, 1988; Manson, 2000), it is imperative that mental health service providers develop and implement reliable measures and services that are specific to American Indians and Alaska Natives. The NACVBS is a tool that needs further development and testing for validity and reliability. Once revisions are made, the NACVBS-R must be evaluated by practicing therapists to assess its potential use as a therapeutic tool with American Indians and Alaska Natives who are in need of substance abuse and other mental health treatment programs. Readers can contact and request from the primary investigator (Rusty Reynolds) for the revised version of the NACVBS-R and again the pilot version should not be used for any diagnostic or therapeutic purposes.

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Appendix A

Native American Cultural Values and Beliefs Survey

Instructions: This instrument is comprised of 12 items. Each item has three parts. Try to answer all questions. The first part asks how important, to you, a Dakota/Nakota/Lakota value or belief. The second part asks about your participation in the important value and/or belief. The third part asks whether or not you might be experiencing distress due to the responses. Read each question carefully and circle the response that best illustrates how you feel about the question asked. There are two exceptions. If an item is important to you and you score 3 or above, complete the second part (B) of the question. If you regularly attend or put forth effort to participate or practice that item and score a 3 or above, then do not complete the third (C) part of the question. If a Dakota/Nakota/Lakota value or belief is **not** important to you and you score below a 3, answer the second part (B) but do not answer the third (C) part of the question.

- | | | | | | | |
|-------|----|---|---------------|----------------|-----------|---------------|
| 1. | A. | How important to you is being either a Dakota/Nakota or Lakota? | | | | |
| | | | 1 | 2 | 3 | 4 |
| | | | not important | not too impor- | neutral | pretty impor- |
| | | | at all | tant | | tant |
| | | | | | | 5 |
| | | | | | | very impor- |
| | | | | | | tant |
| | B. | How much do you practice Dakota/Nakota/Lakota ways? | | | | |
| | | | 1 | 2 | 3 | 4 |
| | | | not at all | not very much | sometimes | most of the |
| | | | | | | time |
| | | | | | | 5 |
| | | | | | | all the time |
| | C. | If being Dakota/Nakota/Lakota is important to you and you do not show and tell others, how much distress does this cause you? | | | | |
| | | | 1 | 2 | 3 | 4 |
| | | | not at all | somewhat | neutral | quite a bit |
| | | | | | | 5 |
| | | | | | | a lot |
| <hr/> | | | | | | |
| 2. | A. | How important to you is personal knowledge of your tribal heritage/s? | | | | |
| | | | 1 | 2 | 3 | 4 |
| | | | not important | not too impor- | neutral | pretty impor- |
| | | | at all | tant | | tant |
| | | | | | | 5 |
| | | | | | | very impor- |
| | | | | | | tant |
| | B. | Are you making, or have you made the effort to learn about your tribal heritage/s? | | | | |
| | | | 1 | 2 | 3 | 4 |
| | | | not at all | not very much | sometimes | most of the |
| | | | | | | time |
| | | | | | | 5 |
| | | | | | | all the time |
| | C. | If you are not learning more about your tribal heritage/s, how much distress does this cause you? | | | | |
| | | | 1 | 2 | 3 | 4 |
| | | | not at all | somewhat | neutral | quite a bit |
| | | | | | | 5 |
| | | | | | | a lot |
| <hr/> | | | | | | |
| 3. | A. | How important to you is being a member of a Dakota/Nakota/Lakota community? | | | | |
| | | | 1 | 2 | 3 | 4 |
| | | | not important | not too | neutral | pretty impor- |
| | | | at all | important | | tant |
| | | | | | | 5 |
| | | | | | | very impor- |
| | | | | | | tant |
| | B. | How often do you participate in Dakota/Nakota/Lakota community events? | | | | |
| | | | 1 | 2 | 3 | 4 |
| | | | not at all | not very | sometimes | most of the |
| | | | | much | | time |
| | | | | | | 5 |
| | | | | | | all the time |

		C. If you are not involved with a Dakota/Nakota/Lakota community, how much distress does this cause you?				
		1	2	3	4	5
		not at all	somewhat	neutral	quite a bit	a lot
<hr/>						
4.	A.	How important to you is your Dakota/Nakota/Lakota family and extended family?				
		1	2	3	4	5
		not important at all	not too important	neutral	pretty important	very important
		B. How much are you involved with your Dakota/Nakota/Lakota family and extended family?				
		1	2	3	4	5
		not at all	not very much	sometimes	most of the time	all the time
		C. If you are not involved with your Dakota/Nakota/Lakota family and extended family, how much distress does this cause you?				
		1	2	3	4	5
		not at all	somewhat	neutral	quite a bit	a lot
<hr/>						
5.	A.	How important to you is it to hear your tribal language?				
		1	2	3	4	5
		not important at all	not too important	neutral	pretty important	very important
		B. How often are you involved with activities where your tribal language is used?				
		1	2	3	4	5
		not at all	not very much	sometimes	most of the time	all the time
		C. If you are not around your tribal language, how much distress does this cause you?				
		1	2	3	4	5
		not at all	somewhat	neutral	quite a bit	a lot
<hr/>						
6.	A.	How important to you is it to understand your tribal language?				
		1	2	3	4	5
		not important at all	not too important	neutral	pretty important	very important
		B. Are you currently trying to improve your understanding of your tribal language?				
		1	2	3	4	5
		not at all	not very much	sometimes	most of the time	all the time
		C. If you are not currently trying to improve your skills of understanding, how much distress does this cause you?				
		1	2	3	4	5
		not at all	somewhat	neutral	quite a bit	a lot

-
7. A. How important to you is it to speak your tribal language?
- | | | | | |
|-------------------------|------------------------|---------|-----------------------|---------------------|
| 1 | 2 | 3 | 4 | 5 |
| not important
at all | not too impor-
tant | neutral | pretty impor-
tant | very impor-
tant |
- B. Do you speak or are you trying to learn to speak your tribal language?
- | | | | | |
|------------|---------------|-----------|---------------------|--------------|
| 1 | 2 | 3 | 4 | 5 |
| not at all | not very much | sometimes | most of the
time | all the time |
- C. If you do not speak or are not attempting to be more skillful in speaking your tribal language, how much distress does this cause you?
- | | | | | |
|------------|----------|---------|-------------|-------|
| 1 | 2 | 3 | 4 | 5 |
| not at all | somewhat | neutral | quite a bit | a lot |
-
8. A. How important to you would it be to attend a Wacipi (Pow Wow)?
- | | | | | |
|-------------------------|------------------------|---------|-----------------------|---------------------|
| 1 | 2 | 3 | 4 | 5 |
| not important
at all | not too impor-
tant | neutral | pretty impor-
tant | very impor-
tant |
- B. How often do you attend Wacipis (Pow Wows)?
- | | | | | |
|------------|---------------|-----------|---------------------|--------------|
| 1 | 2 | 3 | 4 | 5 |
| not at all | not very much | sometimes | most of the
time | all the time |
- C. If you do not attend Wacipis (Pow Wows), how much distress does this cause you?
- | | | | | |
|------------|----------|---------|-------------|-------|
| 1 | 2 | 3 | 4 | 5 |
| not at all | somewhat | neutral | quite a bit | a lot |
-
9. A. How important to you is the ceremonial use of sacred herbs (i.e., sage, tobacco, cedar, and sweet grass)?
- | | | | | |
|-------------------------|------------------------|---------|-----------------------|---------------------|
| 1 | 2 | 3 | 4 | 5 |
| not important
at all | not too impor-
tant | neutral | pretty impor-
tant | very impor-
tant |
- B. How often do you use sacred herbs (i.e., sage, tobacco, cedar, and sweet grass)?
- | | | | | |
|------------|---------------|-----------|---------------------|--------------|
| 1 | 2 | 3 | 4 | 5 |
| not at all | not very much | sometimes | most of the
time | all the time |
- C. If you are not using sacred herbs (i.e., sage, tobacco, cedar, and sweet grass), how much distress does this cause you?
- | | | | | |
|------------|----------|---------|-------------|-------|
| 1 | 2 | 3 | 4 | 5 |
| not at all | somewhat | neutral | quite a bit | a lot |
-
10. A. If you are not using sacred herbs (i.e., sage, tobacco, cedar, and sweet grass), how much distress does this cause you?
- | | | | | |
|-------------------------|------------------------|---------|-----------------------|---------------------|
| 1 | 2 | 3 | 4 | 5 |
| not important
at all | not too impor-
tant | neutral | pretty impor-
tant | very impor-
tant |

B. How often do you utilize a medicine person or traditional healer for counsel or healing?

1	2	3	4	5
not at all	not very much	sometimes	most of the time	all the time

C. If you have not utilized a medicine person or traditional healer for counsel or healing, how much distress does this cause you?

1	2	3	4	5
not at all	somewhat	neutral	quite a bit	a lot

11. A. How important to you is traditional Dakota/Nakota/Lakota spirituality?

1	2	3	4	5
not important at all	not too important	neutral	pretty important	very important

B. How often do you practice Dakota/Nakota/Lakota spirituality?

1	2	3	4	5
not at all	not very much	sometimes	most of the time	all the time

C. If you do not actively practice Dakota/Nakota/Lakota spirituality, how much distress does this cause you?

1	2	3	4	5
not at all	somewhat	neutral	quite a bit	a lot

12. A. How important to you is participation in spiritual ceremonies such as purification (Sweat) lodge, vision quest, or Sundance?

1	2	3	4	5
not important at all	not too important	neutral	pretty important	very important

B. How often do you participate in spiritual ceremonies such as purification (sweat) lodge, vision quest, or Sundance?

1	2	3	4	5
not at all	not very much	sometimes	most of the time	all the time

C. If you have not been active in spiritual ceremonies, how much distress does this cause you?

1	2	3	4	5
not at all	somewhat	neutral	quite a bit	a lot

THANK YOU FOR COMPLETING THIS SURVEY