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ACADEMIC ACHIEVEMENT OF AMERICAN INDIAN AND ALASKA NATIVE STUDENTS: DOES SOCIAL-EMOTIONAL COMPETENCE REDUCE THE IMPACT OF POVERTY?

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Abstract: Social-emotional competence may be a protective factor for academic achievement among American Indian and Alaska Native (AI/AN) students. This study used Fisher's r to Z transformations to test for group differences in the magnitude of relationships between social-emotional competence and achievement. Hierarchical linear modeling was used to determine the variance in academic achievement explained by student race, poverty, and social-emotional competence, and the schoolwide percentage of students by race. Data are from 335 students across 6 schools. This study suggests that promoting social-emotional competence among AI/AN students could be a strategy for reducing disparities in academic achievement and the consequences of these disparities.

INTRODUCTION

American Indian and Alaska Native (AI/AN) students, on average, experience high rates of adversity and systemic oppression (Alaska Federation of Natives, 2011a, 2011b), such as poverty, racism, and insufficient access to resources and services, as well as the long-term consequences of historical trauma and displacements (Brave Heart & DeBruyn, 1998; Evans-Campbell, 2008; LaFromboise, Albright, & Harris, 2010; Krogstad, 2014; Whitbeck, Adams, Hoyt, & Chen, 2004). In addition, AI/AN students in the U.S. are implicitly asked to acculturate to a "mainstream" education system. Mainstream academic environments may not reflect AI/AN cultures, and an emphasis on assimilation may undermine the value of AI/AN cultures (Fryberg et al., 2013b; Gone, 2013).

The cumulative effects of these risk factors and barriers pose threats to AI/AN students' academic achievement (Brayboy, 2005; Dalla & Kennedy, 2014; DeVoe & Darling-Churchill,

non-Native peers (Aud, Fox, & KewalRamani, 2010; National Center for Education Statistics, 2012). This early achievement gap leads to more AI/AN students disengaging, underperforming, and dropping out of school (Gentry & Fugate, 2012; National Center for Education Statistics, 2012). In the long term, the achievement gap contributes to the persisting disparities observed in employment, rates of poverty, and mental and physical health between AI/AN and other communities (Aud et al., 2010; Gone & Trimble, 2012). This paper explores the achievement gap between AI/AN students and their non-Native peers.

The Native Achievement Gap: A Theory of Cultural Misalignment

Many theoretical and empirical explanations for the observed gap in achievement between AI/AN students and their non-Native peers have been offered (Castagno & Brayboy, 2008; Gentry & Fugate, 2012). Culturally transmitted values and histories of oppression, assimilation, and adaptation of a minority group within a dominant society must be taken into consideration when trying to explain and address these disparities (Ogbu & Simons, 1998). Sue and Okazaki's (1990) theory of relative functionalism, as applied to academic achievement, suggests that academic achievement and vocational preparedness can be understood by their relevance and perceived function for social mobility within ethnic minority communities (Andersen & Ward, 2013; Kao & Tienda, 1998; Wigfield & Eccles, 2000). The theory of relative functionalism therefore suggests that AI/AN students will succeed academically to the extent that their educational experience aligns with their cultural values and perceived opportunities for social mobility.

The cultural alignment of education for AI/AN students could be considered in the context of the boarding school era, a time when schooling was intentionally used as a state-sanctioned tool for the cultural genocide of Native people (Adams, 1995; Beltrán, Olsen, Ramey, Klawetter, & Walters, 2014; Brave Heart & DeBruyn, 1998; Evans-Campbell, 2008; Orona, 2013; Sarche & Whitesell, 2012). The U.S. education system has historically prioritized AI/AN cultural assimilation over preservation (Whitesell, Mitchel, Spicer, & the Voices of Indian Teens Project Team, 2009), and the social mobility of AI/AN peoples has been limited (Akee & Yazzie-Mintx, 2011).

The Native Achievement Gap: A Strength-Based Approach

Although the majority of comparative research on AI/AN students has focused on deficits, many AI/AN students demonstrate resilience (Bergstrom, Cleary, & Peacock, 2003; Brendtro, Brokenleg, & Van Bockern, 2005; Huffman, 2001; LaFromboise, Hoyt, Oliver, & Whitbeck, 2006; Montgomery, Miville, Winterowd, Jefferies, & Baysden, 2000; Whitbeck, Hoyt, Stubben & LaFromboise, 2001). A deficit orientation may serve to perpetuate stereotypes that AI/AN students cannot or will not learn and fails to address readily modifiable factors that have the potential to increase the academic achievement of AI/AN students (Becker & Luthar, 2002; Gone & Alcántara, 2010). A strength-based approach centers the student and community goals, identifies barriers to these goals, and leverages existing strengths to overcome barriers and achieve these goals (Simmons, Shapiro, Accomozzo, & Manthey, 2015). Thus, if used carefully, a strength-based approach could be more culturally responsive and may offer novel strategies for addressing persistent disparities (Chavers, 2000; Shapiro, 2015). Similar to how the theory of relative functionalism can be used to explain some structural determinants of educational outcomes, it can also be used to explain how some AI/AN students have found empowering ways to engage in their education. For example, some AI/AN students pursuing higher education report that they are motivated to gain skills and credentials to serve their communities through social justice activism (Brayboy, 2005). These students strategically pursue academics that align with their Native identities, a strategy that likely requires bicultural competence (LaFromboise et al., 2010).

Bicultural competence is defined as the ability to function across two cultures while maintaining one's sense of self and cultural identity (LaFromboise, Coleman, & Gerton, 1993; Rashid, 1984). Bicultural competence requires cultural frame switching, a complex awareness and understanding of multiple cultures, identities, relationships, and social expectations, and the ability to purposefully alternate one's behavior depending on situational cues and context (Benet-Martínez, Leu, Lee, & Morris, 2002; Nguyen & Benet-Martínez, 2013; Ogbu & Matute-Bianchi, 1986). Scholars have suggested that bicultural competence may require high levels of general cognitive functioning and social and emotional health (Bryant & LaFromboise, 2005; Huffman, 2001; LaFromboise et al., 2010; Oyserman, Kemmelmeier, Fryberg, Brosh, & Hart-Johnson, 2003). The Integrative Psychological Model of Biculturalism suggests that cognitive, social, and

emotional capacities may be antecedents to bicultural competence (Cheng, Lee, Benet-Martínez, & Huynh, 2014).

Thus, social-emotional competence may be important to the development of biculturalism for AI/AN students, which, in the context of relative functionalism, may help AI/AN students achieve academically despite a misalignment of the educational system with AI/AN cultural values and opportunities for social mobility (Fryberg & Leavitt, 2014; Gestsdóttir, Urban, Bowers, Lerner, & Lerner, 2011). Although research has suggested that social-emotional competence may contribute to academic achievement for all children (Greenberg et al., 2003), social-emotional competence may be even more important for the academic success of students who have to navigate misalignment between their cultural values and mainstream educational contexts (Powers, 2005; Stephens, Markus, & Fryberg, 2012).

Social-emotional competence has been conceptualized in many different ways; for the purpose of this paper, we will use the definition supported by the Collaborative for Academic, Social, and Emotional Learning (CASEL, 2014). CASEL defines social-emotional competence as the skills necessary to recognize and regulate emotions, set and achieve positive goals, demonstrate care for others, establish and maintain relationships, make responsible decisions, and manage interpersonal interactions effectively and ethically (Payton et al., 2008). CASEL organizes social-emotional competence into five core domains: self-awareness, social-awareness, self-management, relationship skills, and responsible decision making. Whitesell and colleagues (2009) found that a similar set of skills and personal resources (perceived competencies, an internal locus of control, and problem-focused coping skills) mediated the relationship between self-esteem and academic achievement for AI/AN students. However, limited research has examined the protective mechanism of social-emotional competence for AI/AN students in the mainstream education context. Unlike macrosystemic causes of the achievement gap (e.g., poverty, racism, etc.) that are difficult to remediate through the actions of a single agent in the timeframe of the education of a single child, increasing a student's social-emotional competence is likely within the educator's sphere of influence (Civic Enterprises, Bridgeland, Bruce, & Hariharan, 2013; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).

In this paper, we use the term "race" while recognizing that race is a social construct and that there are many racial groups who share cultural similarities. In addition, we recognize that the AI/AN community includes many tribes and cultures and that the intracultural variability is

large. According to the U.S. Census Bureau (2012), there are 566 federally recognized Indian tribes. In Alaska, there are 11 distinct Native cultures and 22 different dialects (Alaska Native Heritage Center, 2011). According to the Alaska Native Knowledge Network (1998), some cultural values are shared among most AI/AN cultures, while some values are specific to the cultural groups (Barnhardt & Kawagley, 2008). In this study, we investigate the social-emotional competence of AI/AN students, White students, and Other Students of Color with the acknowledgement that the choice to examine differences among three broad groups will mask important features of within group variance and precludes the in-depth study of any group. Although the term "race" is problematic and imperfect, we believe that it captures the common experiences of oppression, cultural genocide, and cultural resilience of Native peoples that merit categorical distinction. Scholars have argued that racial identity is tied to systems of power in this country that cultural identities do not adequately capture (Helms, 2007; Markus & Moya, 2010).

THE PRESENT STUDY

The purpose of the present study is threefold: to examine 1) the direct effect of race and poverty on academic achievement in a racially diverse school district, 2) the strength of the relationship between social-emotional competence and academic achievement for AI/AN students relative to their non-Native peers, and 3) the impact of social-emotional competence on academic achievement over and above race and poverty. Context is likely to play an important role in the development of students' social-emotional competence, since prior analyses have found that characteristics of the overall student body (e.g., school-level poverty, school-level attendance) can explain substantial variance in the average student achievement (Konstantopoulos, 2005; Lee & Bryk, 1989; Moscoso, 2000; Rumberger, 1995). Thus, we included schoolwide percentages of AI/AN students, Other Students of Color, and low-income students in our multilevel analysis.

We expected that race and poverty would be associated with academic achievement (Hypothesis 1), that the strength of the association between social-emotional competence and academic achievement would be stronger for AI/AN students than non-Native peers (Hypothesis 2), and that student social-emotional competence would explain variance in academic achievement beyond the variance explained by race and poverty alone (Hypothesis 3).

METHODS

Inspired by culturally appropriate research methodologies for AI/AN communities (Caldwell et al., 2005; Fisher & Ball, 2003; Gowen, Bandurraga, Jivanjee, Cross, & Friesen, 2012; LaFrance, 2004; Smith, 1999), we formed an advisory committee of AI/AN elders, parents, educators, and administrators to guide this research project. Our common values included respect, equity, and empowerment for the AI/AN communities of Anchorage (Santiago-Rivera, Skawennio Morse, Hunt, & Lickers, 1998). This project emerged from partnerships with Title VII Indian Education Program of Anchorage School District and Cook Inlet Tribal Council. Research questions were derived through conversations and dialogue with stakeholders. The advisory committee provided feedback on the cultural appropriateness of the measures, interpreted the research results from a Native worldview, and identified strategies and interventions for the education of AI/AN students based on the results of this study. This study was approved by the University of Oregon Research Compliance Services and the Anchorage School District Assessment and Evaluation Department. Deidentified administrative data were used that did not require additional parental consent for the ethical protection of human subjects.

Ten AI/AN elders, parents, teachers, and administrators served on the advisory committee. Committee members were from diverse cultures and multiracial backgrounds including Yup'ik, Central Siberian Yup'ik, Mexican American, American Indian, Inupiaq/Inupiat, Alutiiq, Toneedze Gheltseele, African American, Blackfoot Indian, Tlingit, and Filipino. They serve in a variety of roles in the Anchorage School District, including elementary school teacher, historical trauma counselor, consultant, grandparent, parent, Title VII program coordinator, Title VII program director, Title VII program founder, elementary school principal, Alaska Native Heritage Center cultural guide, Alaska Native artist, Alaska Native language teacher, and translator.

Participants

Participants included 350 students from 12 schools in grades 3 through 8. All students were enrolled in the Anchorage School District during the 2009-2010 academic year. Six schools had fewer than 5 students participating in the study and were removed from hierarchical analysis. This resulted in removing 15 students from the hierarchical model. The final data consisted of 335 students from 6 schools. The remaining students in the sample were evenly distributed

across gender (169 female, 166 male). Age ranged from 8 through 15 years with a mean of 10.2 years ($SD = 1.28$). From this sample, 11.0% ($N = 37$) of students identified as either monoracial AI/AN or multiracial AI/AN. The remainder of students identified as follows: 49.6% White ($n = 166$), 21.2% multiracial of races other than AI/AN ($n = 71$), 5.7% Black ($n = 19$), 4.5% Latino ($n = 16$), 4.5% Asian ($n = 15$), 2.7% Hawaiian ($n = 9$), and .9% other ($n = 3$). In terms of language skill, 8.7% ($n = 29$) identified as English Language Learners. In addition, 20.0% ($n = 67$) received special education or disability services. For analysis purposes, students' race was coded into AI/AN ($n = 37$), Other Students of Color ($n = 132$), and White ($n = 166$). Multiracial students who identified as partly AI/AN were included in the AI/AN category. Otherwise, multiracial students were included in the Other Students of Color category.

Students were designated by the Anchorage School District as socioeconomically disadvantaged if they were: 1) qualified for free and reduced lunches, 2) members of the Alaska Temporary Assistance Program, 3) members of a Community Eligible Provision (CEP) School, 4) migrant students, 5) siblings of a student who falls into the aforementioned categories, 6) enrolled in a self-contained Special Education facility, and/or 7) enrolled in the Child in Transition/Homeless Program. The Alaska Temporary Assistance Program provides employment services and resources to low-income families. CEP schools have a population income level that meets the National School Lunch Act eligibility to serve all students meals at no charge. Child in Transition/Homeless Program provides protection, assistance, and transportation to ensure that homeless students have the right to stay in their schools for the duration of the school year. Out of the student participants, 51.0% ($n = 171$) were designated as socioeconomically disadvantaged or low-income status.

Given the sample size, the minimally detectable effect size was 0.64, with an intraclass correlation (ICC) of 0.05. Thus, the sample size was powered to detect medium to large effects.

Measures

Social-emotional competence

Social-emotional competence was measured by the Devereux Student Strengths Assessment (DESSA; LeBuffe, Shapiro, & Naglieri, 2014). The DESSA is a nationally standardized, norm-referenced behavior rating scale measuring student social-emotional competence for students from kindergarten to 8th grade that can be completed by caregivers or

educators. The DESSA is a conceptually derived assessment tool that is organized into eight subscales: Self-Awareness, Social-Awareness, Self-Management, Goal-Directed Behavior, Relationship Skills, Personal Responsibility, Decision Making, and Optimistic Thinking. A Social-Emotional Composite Score provides an overall indication of the child's social-emotional competence. The DESSA T-scores range from 28 to 72, with a standardized mean of 50 and standard deviation of 10. Each item on the DESSA asks educators to indicate how often the student demonstrated behaviors in the past 4 weeks from *never* to *very frequently*. Scores ≥ 60 indicate a strength, whereas scores ≤ 40 indicate a need for social-emotional instruction. The DESSA has been studied in school (Shapiro, Kim, Robitaille, & LeBuffe), after-school (Shapiro, Accomazzo, Claassen, & Fleming, 2015), and child welfare (Smith, Shapiro, Sperry, & LeBuffe, 2014) settings. In this study, teacher ratings were completed concurrently with the assessment of academic achievement.

The reliability and validity of the DESSA has been demonstrated in previous research (LeBuffe et al., 2014; Naglieri, LeBuffe, & Shapiro, 2013; Nickerson & Fishman, 2009; Shapiro, Accomazzo, Robitaille, 2017). The DESSA was normed on a nationally representative sample; 1.9% of the standardization sample was AI/AN children, relative to 1.2% of the U.S. population at that time (LeBuffe et al., 2014). In the standardization sample, negligible to small differences (*d*-ratio ≤ .31) were found when comparing the subscales of children from different races and ethnicities as rated by teachers. In the norming procedures, the researchers did not find significant variabilities across grades, indicating an absence of age trends. Although the data indicated small gender differences when comparing subscales of boys and girls (*d*-ratio = ≤ .42), LeBuffe and colleagues (2014) established the same social-emotional competence expectations for students of all genders. The internal reliability coefficients of the subscales range from .89 to .99 for teachers. The test-retest reliability correlation coefficients range from .86 to .94 for teachers. Criterion validity was demonstrated through significant mean score differences between students with social, emotional, or behavioral problems relative to their typically developing peers (LeBuffe et al., 2009). Strong convergent and construct validity has been demonstrated (Nickerson & Fishman, 2009) with the Behavioral and Emotional Rating Scale-Second Edition (BERS-2; Epstein, 2004) and the Behavioral Assessment System for Children-Second Edition (BASC-2; Reynolds & Kamphaus, 2004).

Academic achievement

Academic achievement was measured through Alaska Standards-Based Assessment (SBA). This statewide assessment, administered in grades 3 through 10, is designed to measure student academic achievement against the Grade Level Academic Performance Standards for reading, writing, and math. The scale scores range from 100 to 600. The state proficiency standard is set to a score of 300. The tests were written for, and normed within, the Alaska State school system. Results are used to assess a school's Adequate Yearly Progress based on the No Child Left Behind legislation. According to the Alaska Department of Education & Early Development (2011), the SBA demonstrates content validity and reliability. Scholars have suggested that standards-based assessment can be culturally responsive for AI/AN students when AI/AN cultures are infused into the standards against which students are assessed (Fox, 2000). Alaska SBA has been shown to be aligned with other standardized achievement tests, such as a curriculum-based measure of reading (Legg, 2013).

Analysis Plan

Analyses were conducted using SPSS 22 and HLM 7. First, descriptive statistics and patterns of missingness for all variables were examined. Assumptions of normality were checked. Grand mean imputation was used to address missing data and full maximum likelihood estimates were used. Alpha for all statistical analyses was set to .05.

To examine the effect of race and poverty on academic achievement (Hypothesis 1), hierarchical linear modeling (HLM) was used. HLM is ideal for the analysis of nested data and allows for the examination of within group and between groups variances (Raudenbush & Bryk, 2002). We examined the null model to understand the variance in academic achievement within and between schools. The level 1 model included the student characteristics: AI/AN (0 = Other Students of Color and White students, 1 = AI/AN), Other Students of Color (0 = AI/AN and White students, 1 = Other Students of Color), and low income (0 = not low income, 1 = low income). Racial identities were entered into the model first (Model 1) and low income was entered second (Model 2) to examine the unique contributions of race and poverty. The level 2 model included school characteristics: percentage of low-income students, percentage of AI/AN students, and percentage of all Other Students of Color (Model 3). At each stage of model

building process, slopes were fixed to increase model fit if the random effects were not significant. The HLM equations are presented below:

Null Model

$$\text{Academic Achievement} = \beta_{0j} + r_{ij}$$
$$\beta_{0j} = \gamma_{00} + u_{0j}$$

Level 1 Model

$$\text{Academic Achievement}_{ij} = \beta_{0j} + \beta_{1j}\left(\text{AIAN}_{ij}\right) + \beta_{2j}\left(\text{Other Students of Color}_{ij}\right) + \beta_{3j}\left(\text{Low Income}_{ij}\right) + e_{ij}$$

Level 2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\left(\text{School AIAN}_j\right) + \gamma_{02}\left(\text{School Other Students of Color}_j\right) + \gamma_{03}\left(\text{School Low Income}_j\right) + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + u_{1j}$$
$$\beta_{2j} = \gamma_{20} + u_{2j}$$
$$\beta_{3j} = \gamma_{30} + u_{3j}$$

Correlation analyses and Fishers r to Z transformations were conducted to explore the strength of the relationship between social-emotional competence and academic achievement for AI/AN students relative to their non-Native peers (Hypothesis 2). We examined correlations between each DESSA subscale and the Social-Emotional Composite with the SBA average score for AI/AN students, White students, and Other Students of Color. We conducted Fishers r to Z analyses to examine whether the correlations between social-emotional competencies and SBA scores were significantly different between AI/AN students and their peers.

To determine the impact of social-emotional competence on the variance explained in academic achievement by race and poverty, another HLM analysis was conducted (Hypothesis 3). This final analysis is identical to the previous HLM analysis, except the Social-Emotional Composite Score was added at the individual level, centered on the grand mean (Model 4). The HLM equations are presented below:

Null Model

$$\text{Academic Achievement} = \beta_{0j} + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

Level-1 Model

$$\text{Academic Achievement}_{ij} = \beta_{0j} + \beta_{1j}\left(\text{AIAN}_{ij}\right) + \beta_{2j}\left(\text{Other Students of Color}_{ij}\right) +$$

$$\beta_{3j}\left(\text{Low Income}_{ij}\right) + \beta_{4j}(\textbf{Social Emotional Composite}_{ij}) + e_{ij}$$

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}\left(\text{School AIAN}_{j}\right) + \gamma_{02}\left(\text{School Other Students of Color}_{j}\right) +$$

$$\gamma_{03}\left(\text{School Low Income}_{j}\right) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

$$\beta_{3j} = \gamma_{30} + u_{3j}$$

$$\beta_{4j} = \gamma_{40} + u_{4j}$$

RESULTS

Preliminary Analysis

No significant violations to statistical test assumptions were found. The percentage of students who were socioeconomically disadvantaged significantly differed by race (χ^2 (2,335) = 14.48, $p < .01$). In other words, students from low-income backgrounds were more often AI/AN students (64%) or Other Students of Color (61%) than White students (41%).

Correlational analysis revealed significant ($p < .001$) associations between SBA reading and writing ($r = .81$), reading and math ($r = .74$), and math and writing ($r = .77$). As a result of these correlations, the scores were combined into a single SBA average score. The SBA average scores ranged from 194 to 562, with a mean of 358 ($SD = 66.91$). Two students had missing reading and math scores. Grand mean imputation was used to impute the missing scores for these students before computing their SBA average scores. Students identified as White had, on average, higher SBA scores ($M = 371.45$, $SD = 64.30$) than students identified as AI/AN ($M = 357.57$, $SD = 68.98$) or Other Students of Color ($M = 338.19$, $SD = 65.84$). A between groups

comparison of SBA mean scores by race was significant (F (2,332) = 8.36, $p < .001$). This result suggests a small ($d = .21$) achievement gap between White and AI/AN students, a small ($d = .29$) achievement gap between AI/AN students and Other Students of Color, and a medium achievement gap between White students and Other Students of Color ($d = .51$).

Consistent with the standardization sample, the Social-Emotional Composite score ranged from 28 to 72 ($M = 50.80$, $SD = 10.32$). A between groups comparison of DESSA subscales and Social-Emotional Composite scores by race was not significant. Social-Emotional Composite scores significantly correlated with academic achievement ($r = 0.45$, $p < .01$). This relationship can be interpreted as between medium ($r = .3$) and large ($r = .5$; Cohen, 1988).

The percentage of students from low-income backgrounds within each school ranged from 20% to 100%. The percentage of AI/AN students ranged from 2% to 14%. The percentage of Other Students of Color ranged from 10% to 70%. A correlation analysis suggests a significant correlation between percentages of low-income students and percentages of Other Students of Color ($r = .83$, $p < .001$). No other significant correlations were found. This finding suggests that schools with higher percentages of Other Students of Color were more likely to have higher percentages of students from low-income backgrounds.

Hypothesis 1: Race and Poverty Will Be Associated with Academic Achievement

The unconditional model examined within and between school variance in the SBA average scores. There were significant differences between schools in average SBA scores, τ (11) = 1128.69, $p < .001$. The significant ICC was .23, which indicates that the 23% of the variance of the SBA scores is attributable to differences between schools and the remaining 77% of the variance is attributable to differences between individual students. All HLM results are presented in Table 1.

Results showed that identification as AI/AN or Other Students of Color were each significantly associated with lower academic achievement. Holding poverty constant, AI/AN student identity predicted 25 fewer points on the SBA ($\beta = -25.24$, $p < .05$). Similarly, Other Students of Color identity also predicted 25 fewer points on the SBA ($\beta = -25.13$, $p < .001$). The model comparison test showed that adding race as a predictor significantly reduced the error variance from the null model (χ^2 (2) = 17.99, $p < .001$). Student income status was added to the model. Holding race constant, identification as a low-income student predicted 31 less points on

the SBA (β = -31.65, $p < .001$). The model comparison test showed that adding low-income status as a predictor beyond race significantly reduced the error variance from the null model (χ^2 (1) = 19.79, $p < .001$). Although there was no direct measure of variances accounted for by HLM models, a pseudo R^2 as a measure of effect size was calculated by comparing the variance component in the race-only model to the variance component in the race and poverty model. The proportional reduction in unexplained variance by considering poverty in addition to race was 10%.

Table 1
The Extent to Which Academic Achievement is Explained by Race, Low-Income Status, and Social-Emotional Competence

Fixed Effect	Null Model	Model 1	Model 2	Model 3	Model 4
Intercept, γ_{00}	351.58***	365.16***	381.39***	411.92***	425.41***
Level 1					
AI/AN, γ_{20}		-32.26**	-25.24*	-24.56*	-16.75
Other Students of Color, γ_{30}		-28.60***	-25.13***	-24.18**	-24.37***
Low income, γ_{40}			-31.65***	-30.89***	-22.24***
Social-Emotional Composite, γ_{50}					2.77***
Level 2					
School Native, γ_{01}				26.32	26.39
School Other Students of Color, γ_{02}				-101.49	-168.84
School low income, γ_{03}				20.93	47.12
Random Effect					
Intercept, u_{0j}	1128.69***	1093.54**	838.68***	728.65***	362.20***
Level-1 effect, e_{ij}	3682.62	3487.65	3308.48	3308.25	2684.97
Model Comparison					
χ^2		17.99***	19.79***	1.39	74.41***
Deviance	3724.45	3706.46	3686.67	3685.28	3610.87

Note: AI/AN = American Indian and Alaska Native.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Schoolwide percentages of AI/AN students, Other Students of Color, and low-income students were then added into the model. Results showed that, after controlling for school-level factors, race and poverty remained significantly associated with academic achievement. None of the school-level factors were significant. The model comparison test showed that adding the school-level variables did not significantly reduce the error variance from the null model. The proportional reduction in unexplained variance accounted for by school factors was 0%.

Hypothesis 2: The Strength of the Association between Social-Emotional Competence and Academic Achievement Will Be Stronger for AI/AN Students than Their Non-Native Peers

All DESSA scales were significantly and positively correlated to academic achievement for each student group. The associations between social-emotional competence and academic achievement for AI/AN students, Other Students of Color, and White students ranged in size from medium ($r = .32$; Relationship Skills) to large ($r = .66$; Goal-Directed Behavior). A Fisher's r to Z transformation was conducted to compare the size of the correlation coefficients between AI/AN students, Other Students of Color, and White students. The correlation between Decision Making and SBA was significantly stronger ($Z = 1.80$) for AI/AN students ($r = .62$) than for Other Students of Color ($r = .40$). The correlations between Personal Responsibility and SBA and between Decision Making and SBA were each significantly stronger ($Z = 1.94$ and $Z = 2.20$, respectively) for AI/AN students ($r = .62$) than for White students ($r = .40$ and $r = .39$, respectively). No other differences by racial group reached statistical significance (Table 2).

Hypothesis 3: Social-Emotional Competence Will Explain Unique Variances in Academic Achievement beyond Race and Poverty

To test the third hypothesis, student Social-Emotional Composite scores were added to the previous HLM model. Other Students of Color, low income, and Social-Emotional Composite scores continued to be significantly associated with academic achievement, while school level factors continued to be unassociated with academic achievement. Interestingly, AI/AN racial identity was no longer associated with academic achievement, once Social-Emotional Composite scores were considered. Holding other variables constant, for every point increase on the DESSA, there is a corresponding 2.77 points increase on the SBA. This model significantly reduced the error variance from previous models (χ^2 (1) = 74.41, $p < 0.001$). The

proportional reduction in unexplained variance that results from adding social-emotional competence to the model was 19%.

Table 2
Relationship Between Dimensions of Student Social-emotional Competence and Student Test Scores

	AI/AN Students	Other Students of Color	White Students	Fisher's Z Test (one tailed)	
	SBA Average	SBA Average	SBA Average	AI/AN students and Other Students of Color	AI/AN students and White students
Personal Responsibility	.62**	.53**	.40**	0.80	1.94*
Optimistic Thinking	.47**	.46**	.38**	0.08	0.71
Goal-Directed Behavior	.66**	.56**	.51**	0.95	1.48
Social-Awareness	.43**	.34**	.36**	0.63	0.54
Decision Making	.62**	.40**	.39**	1.80*	2.02*
Relationship Skills	.45**	.30**	.32**	1.05	0.99
Self-Awareness	.59**	.50**	.45**	0.77	1.24
Self-Management	.57**	.42**	.41**	1.19	1.37
Social-Emotional Composite	.59**	.47**	.42**	1.00	1.48

Note: AI/AN = American Indian and Alaska Native; SBA = Standards-Based Assessment.
* $p < .05$, ** $p < .01$, *** $p < .001$.

DISCUSSION

The purpose of this study was to examine 1) the effect of race and poverty on academic achievement, 2) the strength of the relationship between social-emotional competence and academic achievement for AI/AN students relative to their non-Native peers, and 3) the impact of social-emotional competence on academic achievement over and above race and poverty. Aligned with previous research, we found that race is associated with academic achievement (Sirin, 2005; Stephens, Markus, & Phillips, 2014). We found that considering low-income status in addition to race improved our ability to explain the variance in academic achievement scores.

The relationship between social-emotional competence and academic achievement was reliable and sizable across all social-emotional domains and for children in all racial groups, even when sample sizes were small. This finding affirms prior research indicating that social-emotional competence is related to academic achievement for all children (Wanless et al., 2011) and raises the possibility that interventions to promote social-emotional competence may universally benefit students from all cultural backgrounds (Becker & Luthar, 2002). The advisory committee members suggest that social-emotional competence is important for AI/AN students' academic success because the social-emotional competencies are tied to cultural values and aligned with the Alaska standards for culturally responsive schools (Alaska Native Knowledge Network, 1998). Consistent with prior analyses (e.g., Konstantopoulos, 2005), the effect of student body characteristics on achievement did not persist when individual characteristics were also modeled.

The results of the Fisher's *r* to *Z* transformation support the hypothesis that the function of social-emotional competence may vary across race. Although all eight social-emotional scales were strongly correlated with academic achievement for AI/AN students, Personal Responsibility and Decision Making were found to be more strongly correlated with academic achievement for Native students relative to their non-Native peers. There are a number of possible explanations for the strong correlation between social-emotional competence and academic achievement for AI/AN students, including the role of social-emotional competence in bicultural competency development. CASEL (2014) combines Personal Responsibility and Decision Making into one social-emotional domain—Responsible Decision Making. The skills that constitute Responsible Decision Making, as measured by the DESSA, (e.g., serve an important role at home or school, encourage positive behavior in others, follow the example of a positive role model, seek advice, follow the advice of a trusted adult, use available resources [people or objects] to solve a problem) may be a salient precursor of bicultural competence that help AI/AN students function in environments that are otherwise culturally misaligned (Gestsdottir et al., 2011; Whitesell et al., 2009).

It should also be considered whether the assessment of Responsibility and Decision Making among AI/AN students, as completed by their teachers, reflects the dominant cultural values of the school (Chen & French, 2008). If this were the case, students who scored high on these scales may be perceived by their teachers as acculturated to the norms of the school

(Fryberg et al., 2013b). Therefore, it could be the case that social-emotional competence is a proxy, rather than a prerequisite, for biculturalism, and biculturalism is a predictor of academic achievement (Oyserman et al., 2003).

The final multilevel model provides further evidence that social-emotional competence is related to academic achievement for all students. While holding all measures of race and poverty constant, students with higher social-emotional competence, on average, had higher standardized test scores. When social-emotional competence was taken into account, the negative association between poverty and academic achievement decreased for all students. Furthermore, when social-emotional competence was considered, the negative association between AI/AN racial identity and academic achievement disappeared entirely. This finding suggests that the achievement gap between AI/AN students and their White peers may be largely attributed to differences in levels of student poverty and social-emotional competence. Ultimately, poverty and social-emotional competence had a larger effect than race on academic achievement for Native students. If these results hold across studies, promising approaches to closing the achievement gap for AI/AN students could include poverty remediation strategies, school reform efforts aimed at cultural alignment, as well as social and emotional learning opportunities. The results of this study provide some initial support for the adoption of social and emotional learning initiatives as a potential mechanism for closing the achievement gap.

A number of limitations to the current study exist. One limitation is the small sample size. In particular, the small sample size at the school level was powered to detect only medium to large effects and may not have been large enough to detect cross-level interactions (Garson, 2013). Therefore, results need to be interpreted with caution given the small number of schools. The sample of AI/AN students was smaller than other groups. We maintain that AI/AN research should be done, even when sample sizes are small, in order to build research knowledge that pertains to this group. However, results do need to be interpreted cautiously, as small sample sizes have a greater potential for type II errors (underpowered to detect relationships that exist).

Another limitation is that AI/AN students were compared to White students and Other Students of Color. This comparison was suggested by the advisory committee as more culturally appropriate than comparing Native students to only White students. However, this comparison aggregated all Other Students of Color, which may mask some important cultural similarities between AI/AN and other racial minority groups. Another limitation, as mentioned in the

introduction, is that the AI/AN monoracial and multiracial categories used in this study cannot distinguish the nuances and complexities within AI/AN cultural identities, which limits the generalizability of the findings. It is unclear whether analyses of data from AI/AN students of diverse cultures, multiracial backgrounds, rural areas, and other geographical locations would yield the same results. In addition, bicultural competence and bicultural frame switching were not assessed directly in this study.

Lastly, the race and ethnicity of the students were taken from the district database and then translated by teachers into the data collection system for this project. Unintentional errors or well-intended adjustments in the reporting of race identification cannot be ruled out. Studies have suggested that racial identification varies across time, context, ethnic salience, and stages of ethnic identity development (Harris & Sim, 2002; Yip, 2005), and that teacher ratings of social-emotional competence can be influenced by the extent to which respective teachers perceive their students, in general, to face barriers to learning (Shapiro, Kim, Accomazzo, & Roscoe, 2016). It is unclear if such a rater bias persists in this context, but, if so, this unmeasured construct could be associated with multiple variables. The bias could also vary systematically based on individual characteristics (e.g., race) of the student being rated, although this assumption has never been tested, and DESSA scores did not vary by race in this sample. Finally, a complex history of institutionalized racism exists in the state, of which education is only a small part. The racial demographics of a school population are only one aspect of the social environment that impacts AI/AN students' academic achievement.

In future research, researchers should determine if these findings are replicated within different samples of youth. Further, researchers should explore the relationship between biculturalism and social-emotional competence for ethnic minority students more directly. Researchers could consider other mediator and moderator variables at the student, teacher, or school levels (e.g., students' ethnic identity development, students' perception of cultural misalignment, students' perceived discrimination, teachers' ethnic identity or cultural humility, school climate, school resources, school policy), on the relationship between assessed social-emotional competence and academic achievement. To further test the theory of relative functionalism, students could be asked about their values, experiences, and aspirations directly. The dataset for this study included students from third through eighth grade, and the analysis was cross sectional. Future longitudinal research could explore whether the relationship between

social-emotional competence and academic achievement is time-ordered and varies across development or in response to intervention. Finally, the DESSA assessments in this study were completed only by teachers. Reporting by AI/AN students, family members, or elders may show different relationships between social-emotional competence and academic achievement.

Implications for Practice

The findings from this study and others like it suggest that social and emotional learning curricula delivered through culturally responsive pedagogy should be tested as a strategy to narrow the achievement gap for AI/AN students (Castagno & Brayboy, 2008). The Anchorage School District is an increasingly diverse education environment. The administrators of the Anchorage School District have implemented a Culturally Responsive Education Plan that emphasizes "professional development programs to heighten teachers' awareness of the impact of teacher attitude, background, culture and socio-economic status on teaching" (Anchorage School District, 2006, p.2). Under this plan, teachers are encouraged to create culturally responsive social and emotional learning goals for their students. Without further study, it is unclear what impact this project has had.

More culturally appropriate and affirming social and emotional learning programs and pedagogies are needed for AI/AN students (Dalla & Kennedy, 2014). An example of such a pilot program is Project Ki'L, tailored to the needs of Native boys. Project Ki'L provides cultural education for AI/AN boys from preschool to 5th grade. The program invites Native elders and community members to teach afterschool and summer programs on AI/AN cultural values and Indigenous knowledge (Alaska Native Knowledge Network, 2001), and reinforces the coexistence of multiple worldview and knowledge systems that are associated with well-being (Barnhardt & Kawagley, 2008; Bryant & LaFromboise, 2005). The curriculum includes activities such as creating ceremonial masks, skinning seals, making akutaq, cooking fry bread, throwing rabbit sticks and atlatls, going on canoe trips, participating in talking circles, and bringing families together on family nights. In this program, culture is the intervention (Kenyon & Hanson, 2012). Designing and testing culturally responsive strategies for promoting social-emotional competence among AI/AN students could be a strategy for reducing disparities in academic achievement and their consequences.

REFERENCES

Adams, D. W. (1995). *Education for extinction: American Indians and the boarding school experience, 1875-1928*. Lawrence, KS: University Press of Kansas.

Akee, R. Q., & Yazzie-Mintz, T. (2011). "Counting experience" among the least counted: The role of cultural and community engagement in educational outcomes for American Indian, Alaska Native, and Native Hawaiian students. *American Indian Culture and Research Journal, 35*(3), 119-150. http://dx.doi.org/10.17953/aicr.35.3.c4xu43p5160m2jtn

Alaska Department of Education & Early Development. (2011). *Participation guidelines for Alaska students in state academic assessments: Students identified as limited English proficient and students with disabilities*. Retrieved from https://www.yumpu.com/en/document/view/30248813/participation-guidelines-for-alaska-students-in-state-assessments-

Alaska Federation of Natives. (2011a). *Legal empowerment & Indigenous Peoples: Toward a U.S. agenda for change.* Anchorage, AK: Author. Retrieved from http://www.nativefederation.org/wp-content/uploads/2012/10/2011-afn-legal-empowerment-and-indigenous-peoples.pdf

Alaska Federation of Natives. (2011b). *2011 federal priorities.* Anchorage, AK: Author. Retrieved from http://www.nativefederation.org/wp-content/uploads/2012/09/2011-afn-federal-priorities.pdf

Alaska Native Heritage Center. (2011). *Cultures of Alaska*. Anchorage, AK: Author. Retrieved from http://www.alaskanative.net/en/main-nav/education-and-programs/cultures-of-alaska/

Alaska Native Knowledge Network. (1998). *Alaska standards for culturally-responsive schools.* Fairbanks, AK: Author. Retrieved from http://ankn.uaf.edu/Publications/CulturalStandards.pdf

Alaska Native Knowledge Network. (2001). *Guidelines for nurturing culturally-healthy youth.* Fairbanks, AK: Author. Retrieved from http://ankn.uaf.edu/Publications/Youth.pdf

Anchorage School District. (2006). *Population trends confirm need for district's culturally responsive education plan.* Anchorage, AK: Author. Retrieved from https://asdk12.org/CulturalResp/PDF/PopTrends_ConfirmNeed.pdf

Andersen, L. & Ward, T. J. (2013). Expectancy-value models for the STEM persistence plans of ninth-grade, high-ability students: A comparison between Black, Hispanic, and White students. *Science Education, 98*(2), 216-242. http://dx.doi.org/10.1002/sce.21092

Aud, S., Fox, M. A., & KewalRamani, A. (2010). *Status and trends in the education of racial and ethnic groups* (NCES 2010-015). Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Barnhardt, R., & Kawagley, A. (2008). Indigenous knowledge systems and education. *Yearbook of the National Society for the Study of Education, 107*(1), 223-241. http://dx.doi.org/10.1002/9781444307214.ch16

Becker, B. E., & Luthar, S. S. (2002). Social-emotional factors affecting achievement outcomes among disadvantaged students: Closing the achievement gap. *Educational Psychologists, 37*(4), 197-214. http://dx.doi.org/10.1207/S15326985EP3704_1

Beltrán, R., Olsen, P., Ramey, A., Klawetter, S., & Walters, K. (2014). Digital tapestry: Weaving stories of empowerment with Native youth. In P. McCarde, & V. Berninger (Eds.), *Narrowing the achievement gap for Native American students: Paying the educational debt.* (pp. 9-21). New York, NY: Routledge.

Benet-Martínez, V., Leu, J., Lee, F., & Morris, M. W. (2002). Negotiating biculturalism: Cultural frame switching in biculturals with oppositional versus compatible cultural identities. *Journal of Cross-Cultural Psychology, 33*(5), 492-516. http://dx.doi.org/10.1177/0022022102033005005

Bergstrom, A., Cleary, L., & Peacock, T. (2003). *The seventh generation: Native youth speak about finding the good path.* Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools.

Brave Heart, M. Y., & DeBruyn, L. M. (1998). The American Indian Holocaust: Healing historical unresolved grief. *American Indian and Alaska Native Mental Health Research, 8*(2), 56-78. http://dx.doi.org/10.5820/aian.0802.1998.60

Brayboy, B. M. J. (2005). Transformational resistance and social justice: American Indians in Ivy League Universities. *Anthropology and Education Quarterly, 36*(3), 193-211. http://dx.doi.org/10.1525/aeq.2005.36.3.193

Brendtro, L. K., Brokenleg, M., & Van Bockern, S. (2005). The circle of courage and positive psychology. *Reclaiming Children and Youth, 14*(3), 130-136. Retrieved from http://graingered.pbworks.com/f/Circle+of+Courage-Positive+Psychology.pdf

Bryant, A., Jr., & LaFromboise, T. (2005). The racial identity and cultural orientation of Lumbee American Indian high school students, *Cultural Diversity and Ethnic Minority Psychology, 11*, 82-89. http://dx.doi.org/10.1037/1099-9809.11.1.82

Caldwell, J. Y., Davis, J. D., Du Bois, B., Echo-Hawk, H., Hillabrant, W., Johnson, S. R., . . . Stone, B. (2005). Culturally competent research with American Indians and Alaska Natives: Findings and recommendations of the First Symposium of the Work Group on American Indian Research and Program Evaluation Methodology. *American Indian and Alaska Native Mental Health Research, 12*(1), 1-21. http://dx.doi.org/10.5820/aian.1201.2005.1

Castagno, A., & Brayboy, B. M. J. (2008). Culturally responsive schooling for Indigenous youth: A review of the literature. *Review of Educational Research, 78*(4), 941-993. http://dx.doi.org/10.3102/0034654308323036

Chavers, D. (Ed.). (2000). *Deconstructing the myths: A research agenda for American Indian education.* Albuquerque, NM: Catching the Dream.

Chen, X., & French, D. C. (2008). Children's social competence in cultural context. *Annual Review of Psychology, 59*, 591-616. http://dx.doi.org/10.1146/annurev.psych.59.103006.093606

Cheng, C. Y., Lee, F., Benet-Martínez, V., & Huynh, Q. L. (2014). 13 variations in multicultural experience: Influence of bicultural identity integration on socio-cognitive processes and outcomes. In V. Benet-Martinez and Y. Hong (Eds), *The Oxford handbook of multicultural identity* (pp. 276-299). New York, NY: Oxford University Press.

Civic Enterprises, Bridgeland, J., Bruce, M., & Hariharan, A. (2013). *The missing piece: A national teacher survey on how social and emotional learning can empower children and transform schools.* Chicago, IL: Collaborative for Academic, Social, and Emotional Learning. Retrieved from http://static.squarespace.com/static/513f79f9e4b05ce7b70e9673/t/526a2589e4b01768fee91a6a/1382688137983/the-missing-piece.pdf

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Collaborative for Academic, Social, and Emotional Learning. (2014). *Social and emotional learning core competencies.* Retrieved from http://www.casel.org/social-and-emotional-learning/core-competencies/

Dalla, R. L., & Kennedy, H. R. (2014). "I want to leave – go far away – I don't want to get stuck on the res[ervation]": Developmental outcomes of adolescent-aged children of Navajo Native American teen mothers. *Journal of Adolescent Research, 30*, 113-139. http://dx.doi.org/10.1177/0743558414552322

DeVoe, J. F., & Darling-Churchill, K. E. (2008). *Status and trends in the education of American Indians and Alaska Natives: 2008* (NCES 2008-084). Washington DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405-432. http://dx.doi.org/10.1111/j.1467-8624.2010.01564.x

Epstein, M. H. (2004). *Behavioral and emotional rating scale examiner's manual* (2nd ed.). Austin, TX: PRO-ED.

Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence, 23*(3), 316-338. http://dx.doi.org/10.1177/0886260507312290

Fisher, P. A., & Ball, T. J. (2003). Tribal participatory research: Mechanisms of a collaborative model. *American Journal of Community Psychology, 32*(3), 207-216. http://dx.doi.org/10.1023/B:AJCP.0000004742.39858.c5

Fox, S. J. (2000). *Standards-based reform and American Indian/Alaska Native education.* Washington, DC: U.S. Department of Education, Office of Elementary and Secondary Education, Indian Education Programs.

Fryberg, S. A., & Leavitt, P. A. (2014). A sociocultural analysis of high-risk Native American children in schools. In J. A. Burack, & L. A., Schmidt (Eds.), *Cultural and contextual perspectives on developmental risk and well-being* (pp. 57-80). Cambridge, England: Cambridge University Press.

Fryberg, S. A., Troop-Gordon, W., D'Arrisso, A., Flores, H., Ponizovskiy, V., Ranney, J. D. . . . Burack, J. A. (2013b). Cultural mismatch and the education of Aboriginal youths: The interplay of cultural identities and teacher ratings. *Developmental Psychology, 49*(1), 72-79. http://dx.doi.org/10.1037/a0029056

Garson, G. D. (2013). *Hierarchical linear modeling: Guide and applications*. Thousand Oaks, CA: Sage Publications.

Gentry, M., & Fugate, C. M. (2012). Gifted Native American students: Underperforming, under-identified, and overlooked, *Psychology in the Schools, 49*(7), 631-646. http://dx.doi.org/10.1002/pits.21624

Gestsdóttir, S., Urban, J. B., Bowers, E. P., Lerner, J. V., & Lerner, R. M. (2011). Intentional self-regulation, ecological assets, and thriving in adolescence: A developmental systems model. *New Directions for Child and Adolescent Development, 133*, 61-76. http://dx.doi.org/10.1002/cd.304

Gone, J. P. (2013). Redressing First Nations historical trauma: Theorizing mechanisms for Indigenous culture as mental health treatment. *Transcultural Psychiatry, 50*(5), 683-706. http://dx.doi.org/10.1177/1363461513487669

Gone, J. P., & Alcántara, C. (2010). The ethnographically contextualized case study method: Exploring ambitious achievement in an American Indian community. *Cultural Diversity and Ethnic Minority Psychology, 16*(2), 159-168. http://dx.doi.org/10.1037/a0013873

Gone, J. P., & Trimble, J. E. (2012). American Indian and Alaska Native mental health: diverse perspectives on enduring disparities. *Annual Review of Clinical Psychology, 8*, 131-160. http://dx.doi.org/10.1146/annurev-clinpsy-032511-143127

Gowen, L. K., Bandurraga, A., Jivanjee, P., Cross, T., & Friesen, B. J. (2012). Development, testing, and use of a valid and reliable assessment tool for urban American Indian/Alaska Native youth programming using culturally appropriate methodologies. *Journal of Ethnic and Cultural Diversity in Social Work, 21*(2), 77-94. http://dx.doi.org/10.1080/15313204.2012.673426

Greenberg, M. T., Weissberg, R. P., O'Brien, M. U., Zins, J. E., Fredericks, L., Resnik, H., & Elias, M. J. (2003). Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. *American Psychologists, 58*(6/7), 466-474. http://dx.doi.org/10.1037/0003-066X.58.6-7.466

Harris, D. R., & Sim, J. J. (2002). Who is multiracial? Assessing the complexity of lived race. *American Sociological Review, 67*(4), 614-627. http://dx.doi.org/10.2307/3088948

Helms, J. E. (2007). Some better practices for measuring racial and ethnic identity constructs. *Journal of Counseling Psychology, 54* (3), 235-246. http://dx.doi.org/10.1037/00220167.54.3.235

Huffman, T. (2001). Resistance theory and the transculturation hypothesis as explanation of college attrition and persistence among culturally traditional American Indian students. *Journal of American Indian Education, 40*(3), 1-39. Retrieved from http://www.jstor.org/stable/24398349

Kao, G. & Tienda, M. (1998). Educational aspirations of minority youth. *American Journal of Education, 106* (3), 349-384. http://dx.doi.org/10.1086/444188

Kenyon, D. B., & Hanson, J. D. (2012). Incorporating traditional culture into positive youth development programs with American Indian/Alaska Native youth. *Child Development Perspectives, 6*(3), 272-279. http://dx.doi.org/10.1111/j.1750-8606.2011.00227.x

Konstantopoulos, S. (2005). Trends of school effect on student achievement: Evidence from NLS:72, HSB:82, and NELS:92. *Teachers College Record, 108*(12), 2550-2581. Retrieved from ftp://repec.iza.org/pub/SSRN/pdf/dp1749.pdf

Krogstad, J. M. (2014). *One-in-four Native Americans and Alaska Natives are living in poverty.* Washington, DC: Pew Research Center. Retrieved from http://www.pewresearch.org/fact-tank/2014/06/13/1-in-4-native-americans-and-alaska-natives-are-living-in-poverty/

LaFrance, J. (2004). Culturally competent evaluation in Indian country. *New Directions for Evaluation, 102*, 39-50. http://dx.doi.org/10.1002/ev.114

LaFromboise, T. D., Albright, K., & Harris, A. (2010). Patterns of hopelessness among American Indian adolescents: Relationships by levels of acculturation and residence. *Cultural Diversity and Ethnic Minority Psychology, 16*(1), 68-76. http://dx.doi.org/10.1037/a0016181

LaFromboise, T. D., Coleman, H. L. K., & Gerton, J. (1993). Psychological impact of biculturalism: Evidence and theory. *Psychological Bulletin, 114*(3), 395-412. http://dx.doi.org/10.1037/0033-2909.114.3.395

LaFromboise, T. D., Hoyt, D. R., Oliver, L., & Whitbeck, L. B. (2006). Family, community, and school influences on resilience among American Indian adolescents in the upper Midwest. *Journal of Community Psychology, 34*(2), 193-209. http://dx.doi.org/10.1002/jcop.20090

LeBuffe, P. A., Shapiro, V. B., & Naglieri, J. A. (2014). *The Devereux Student Strengths Assessment (DESSA): Assessment, technical manual, and user's guide.* Charlotte, NC: Apperson, Inc. (Original work published 2009).

Lee, V. E., & Bryk, A. S. (1989). A multilevel model of the social distribution of high school achievement. *Sociology of Education, 62*, 172-192. http://dx.doi.org/10.2307/2112866

Legg, D. E. (2013). The utility of curriculum-based measurement within a multitiered framework: Establishing cut scores as predictors of student performance on the Alaska standards-based assessment (Doctoral dissertation, Pepperdine University, 2013). *ProQuest Digital Dissertations*, 3557477.

Markus, H. R., & Moya, P. M. (Eds.). (2010). *Doing race: 21 essays for the 21st century.* New York, NY: WW Norton & Company.

Montgomery, D., Miville, M. L., Winterowd, C., Jefferies, B., & Baysden, M. F. (2000). American Indian college students: An exploration into resiliency factors revealed through personal stories. *Cultural Diversity and Ethnic Minority Psychology, 6*(4), 387-398. http://dx.doi.org/10.1037//1099-9809.6.4.387

Moscoso, R. Y. (2000). *The effects of school characteristics on student academic performance*. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, Falls Church.

Naglieri, J. A., LeBuffe, P. A., & Shapiro, V. B. (2013). Assessment of social-emotional competencies related to resilience. In S. Goldstein & R. Brooks (Eds.), *Handbook of Resilience in Children* (pp. 261-272). New York, NY: Springer.

National Center for Education Statistics. (2012). *National Indian Education Study 2011* (NCES 2012-466). Washington, DC: Institute of Education Sciences, U.S. Department of Education.

Nickerson, A. B., & Fishman, C. (2009). Convergent and divergent validity of the Devereux Student Strengths Assessment. *School Psychology Quarterly, 24*(1), 48-59. http://dx.doi.org/10.1037/a0015147

Nguyen, A. T. D., & Benet-Martínez, V. (2013). Biculturalism and adjustment: A meta-analysis. *Journal of Cross-Cultural Psychology, 44*(1), 122-159. http://dx.doi.org/10.1177/0022022111435097

Ogbu, J. U., & Matute-Bianchi, M. A. (1986). Understanding sociocultural factors: Knowledge, identity, and social adjustment. In California State Department of Education; Bilingual Education Office (Ed.), *Beyond language: Social and cultural factors in schooling language minority students* (pp. 73-142). Los Angeles, CA: AACP Inc/Asian American Curriculum Project.

Ogbu, J. U., & Simons, H. D. (1998). Voluntary and involuntary minorities: A cultural-ecological theory of school performance with some implications for education. *Anthropology & Education Quarterly, 29*(2), 155-188. http://dx.doi.org/10.1525/aeq.1998.29.2.155

Orona, C. C. (2013). Efficacy and utility beliefs of mothers and children and predictors of mathematics achievement for American Indian students (Doctoral dissertation, Oklahoma State University, 2013). *ProQuest Digital Dissertations*, 3598951.

Oyserman, D., Kemmelmeier, M., Fryberg, S., Brosh, H., & Hart-Johnson, T. (2003). Racial-ethnic self-schemas. *Social Psychology Quarterly, 66*(4), 333-347. http://dx.doi.org/10.2307/1519833

Payton, J., Weissberg, R. P., Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Schellinger, K. B., & Pachan, M. (2008). *The positive impact of social and emotional learning for kindergarten to eighth-grade students: Findings from three scientific reviews.* Chicago, IL: Collaborative for Academic, Social, and Emotional Learning.

Powers, K. (2005). Promoting school achievement among American Indian students throughout the school years. *Childhood Education, 81*(6), 338-342. http://dx.doi.org/10.1080/00094056.2005.10521323

Rashid, H. M. (1984). Promoting biculturalism in young African-American children. *Young Children, 39*, 13-23. Retrieved from http://psycnet.apa.org/psycinfo/1984-27146-001

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods.* Thousand Oaks, CA: Sage Publications.

Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior Assessment Scale for Children.* Bloomington, MN: Pearson Assessments.

Rumberger, R. W. (1995). Dropping out of middle school: A multilevel analysis of students and schools. *American Educational Research Journal, 32*(3), 583-625. http://dx.doi.org/10.3102/00028312032003583

Santiago-Rivera, A. L., Skawennio Morse, G., Hunt, A., & Lickers, H. (1998). Building a community-based research partnership: Lessons from the Mohawk Nation of Akwesasne. *Journal of Community Psychology, 26*(2), 163-174. http://dx.doi.org/10.1002/(SICI)1520-6629(199803)26:2<163::AID-JCOP5>3.0.CO;2-Y

Sarche, M. C., & Whitesell, N. R. (2012). Child development research in North American Native communities – Looking back and moving forward: Introduction. *Child Development Perspectives, 6*(1), 42-48. http://dx.doi.org/10.1111/j.1750-8606.2011.00218.x

Shapiro, V. B. (2015). Resilience: Have we not gone far enough? A response to Larry Davis. *Social Work Research, 39*(1): 7-10. http://dx.doi.org/10.1093/swr/svv001

Shapiro, V. B., Accomazzo, S., Claassen, J., & Fleming, J. L. (2015). Multi-method social emotional assessment in out of school time settings: Choices, challenges, and lessons learned. *Journal of Youth Development: Bridging Research and Practice, 10*, 32–45. Retrieved from http://jyd.pitt.edu/ojs/jyd/index

Shapiro, V. B., Accomazzo, S., & Robitaille, J. L. (2017). In the same ballpark or a whole new ball game? Staff as raters of youth behavior. *Journal of Child and Family Studies, 26*(4), 1051-1055. http://dx.doi.org/10.1007/s10826-016-0632-1

Shapiro, V. B., Kim, B. K. E., Accomazzo, S., & Roscoe, J. N. (2016). Predictors of rater bias in the assessment of social-emotional competence. *International Journal of Emotional Education, 8*(2), 25-44. Retrieved from https://www.um.edu.mt/ijee

Shapiro, V. B., Kim, B. K. E., Robitaille, J. L., & LeBuffe, P. A. (2016). Protective factor screening for prevention practice: Sensitivity and specificity of the DESSA-Mini. *School Psychology Quarterly*: Advance online publication. http://dx.doi.org/10.1037/spq0000181

Simmons, C. A., Shapiro, V. B., Accomazzo, S., & Manthey, T. (2015). Strengths-based social work: A meta-theory to guide social work research and practice. In N. Coady & P. Lehmann (Eds.), *Theoretical perspectives for direct social work practice.* New York, NY: Springer.

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*(3), 417-453. http://dx.doi.org/10.3102/00346543075003417

Smith, L. T. (1999). *Decolonizing methodologies: Research and Indigenous peoples*. New York, NY: Zed Books.

Smith, G. T., Shapiro, V. B., Sperry, R. W., & LeBuffe, P. A. (2014). A strengths-based approach to supervised visitation in child welfare. *Child Care in Practice, 20*, 98–119. http://dx.doi.org/10.1080/13575279.2013.847056

Stephens, N. M., Markus, H. R., & Fryberg, S. A. (2012). Social class disparities in health and education: Reducing inequality by applying a sociocultural self model of behavior. *Psychological Review, 119*, 723-744. http://dx.doi.org/10.1037/a0029028

Stephens, N. M., Markus, H. R., & Phillips, L. T. (2014). Social class culture cycles: How three gateway contexts shape selves and fuel inequality. *Annual Review of Psychology, 65*, 611-634. http://dx.doi.org/10.1146/annurev-psych-010213-115143

Sue, S., & Okazaki, S. (1990). Asian-American educational achievements: A phenomenon in search of an explanation. *American Psychologist, 45*(8), 913-920. http://dx.doi.org/10.1037/0003-066x.45.8.913

U.S. Census Bureau (2012). *American Indian and Alaska Native heritage month: November 2012*.Suitland, MD: Author. Retrieved from https://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb12-ff22.html

Wanless, S. B., McClelland, M. M., Acock, A. C., Ponitz, C. C., Son, S. H., Lan, X., . . . Li, S. (2011). Measuring behavioral regulation in four societies. *Psychological Assessment, 23*(2), 364-378. http://dx.doi.org/10.1037/a0021768

Whitbeck, L. B., Adams, G. W., Hoyt, D. R., & Chen, X. (2004). Conceptualizing and measuring historical trauma among American Indian people. *American Journal of Community Psychology, 33*(3-4), 119-130. http://dx.doi.org/10.1023/B:AJCP.0000027000.77357.31

Whitbeck, L. B., Hoyt, D. R., Stubben, J. D., & LaFromboise, T. (2001). Traditional culture and academic success among American Indian children in the upper Midwest. *Journal of American Indian Education, 40*(2), 48-60. Retrieved from http://www.jstor.org/stable/24398333

Whitesell, N. R., Mitchell, C. M, Spicer, P., & the Voices of Indian Teens Project Team (2009). A longitudinal study of self-esteem, cultural identity, and academic success among American Indian adolescents. *Cultural Diversity and Ethnic Minority Psychology, 15*(1), 38-50. http://dx.doi.org/10.1037/a0013456

Wigfield, A., & Eccles, J. S. (2000). Expectancy-values theory of achievement motivation. *Contemporary Educational Psychology, 25*, 68-81. http://dx.doi.org/10.1006/ceps.1999.1015

Yip, T. (2005). Sources of situational variation in ethnic identity and psychological well-being: A palm pilot study of Chinese American students. *Personality and Social Psychology Bulletin, 31*(12), 1603-1616. http://dx.doi.org/10.1177/0146167205277094

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HEALING THE SPIRIT: EXPLORING SEXUALIZED TRAUMA AND RECOVERY AMONG INDIGENOUS MEN IN TORONTO

Allison Reeves, PhD and Suzanne Stewart, PhD

Abstract: Colonial policies in Canada have led to social disruption and intergenerational trauma across Indigenous nations, contributing to high rates of sexualized violence within many communities. While mental health and social science discourse has identified the harmful impacts of violence against Indigenous women in Canada, there continues to be a lack of focus on the unique mental health needs of Indigenous men in this regard. This article reviews the results of a nationally funded research study which looked at the mental health and healing needs of Indigenous men in Toronto who have experienced sexualized trauma. This study followed Indigenous protocols for research and was conducted in partnership with Anishnawbe Health Toronto, a culture-based community health center. The methodology utilized a narrative inquiry and interviewed six community men about their recovery journeys and ten community healers and counselors about recovery through a gendered lens. The results explore the discourses that contribute to the social construction of masculinity(ies) and the impacts of these social norms on help-seeking behaviors. These results inform culturally appropriate and gender-relevant mental health service provision for Indigenous male clients recovering from sexualized trauma.

INTRODUCTION

Mental health outcomes for survivors of sexualized trauma and violence[1] have been well documented in the psychological literature and can include post-traumatic stress disorder, mood disorders, difficulties with trust and forming intimate bonds with others, and low self-worth (Baima & Feldhousen, 2007; Edwards, Freyd, Dube, Anda, & Felitti, 2012). Higher rates of

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[1] Psychologists use the term "sexualized" and argue that terms such as "sexual abuse" and "sexual assault" fall short of conveying the central fact that these interactions are primarily a form of violence and an abuse of power and that sexual gratification is secondary to this violence (see, for instance, Barnes & Josefowitz, 2014).

sexualized violence within some Indigenous communities have been identified as an outcome of intergenerational trauma due to colonization (Pearce et al., 2008). However, Western mental health services typically lack an Indigenous worldview and, therefore, risk being incomplete or even inappropriate for Indigenous clients (Stewart, 2008; Vicary & Bishop, 2005).

Context of Historical Trauma for Indigenous Men

Trends related to sexualized trauma in Indigenous communities must be understood through a historical lens that takes into account colonial policies, such as residential schooling and widespread adoption of Indigenous children into non-Indigenous families, which led to cultural disruption, social issues, and intergenerational trauma (Aboriginal Healing Foundation, 2010; Hylton, 2006; Kirmayer et al., 2007). Intergenerational trauma is a result of colonial policies that have disrupted cultural and social practices. For instance, Kirmayer et al. (2007) reviewed the transgenerational effects of residential schooling, including loss of cultural knowledge, language, and tradition; disruption of family and kinship networks; models of parenting and child rearing based on institutional experiences; repetition of physical and sexualized abuse; the undermining of individual and collective identity and self-esteem; and individual and collective disempowerment.

A qualitative study of First Nations men's health[2] and well-being found that "colonization took away men's roles as providers and protectors, and racism often prevented men from getting jobs or developing businesses that would allow them to be self-supporting" (Mussell, 2005, p. 36). Another qualitative study among Mi'kmaq men in New Brunswick explored the impacts of colonization on Mi'kmaq men's traditional masculinity practices, which included business, trade, governing, protecting the community, and working alongside family members in egalitarian relationships (Getty, 2013). Due to Euro-Western colonizers eroding Mi'kmaq land rights, men lost access to their land-based economies and were eventually labeled "lazy" by the colonizers (Getty, 2013). Additionally, loss of spiritual practices and political roles and the experience of racism and abuse in institutional settings such as residential schooling, led to trauma, anger, and marginalization among Mi'kmaq men (Getty, 2013). Given these health

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[2] Given the wide diversity between and within Indigenous communities in Canada, any discussion on "Indigenous men's health" is problematic in its implied uniformity. We acknowledge past and present diversity among Indigenous men and take a 'purposeful universalization' approach (Wesley-Esquimaux & Smolewski, 2004, p.10) to recognize shared characteristics of historical trauma to Indigenous communities.

and social outcomes of colonization, it is important to consider Indigenous men's gender roles in both historical and contemporary contexts, if they are to undergo individual and community healing (Kirmayer et al., 2007).

Context of Gender Constructions for Men

Hegemonic masculinity is a term that refers to an idealized notion of masculinity within a particular cultural context and time period. Currently, Euro-Western cultures dictate dominant notions of masculinity within a North American context through imperialism, Judeo-Christian influences, capitalism, and modern media and mass communication (Connell, 1993). Hegemonic masculinity includes themes of independence, self-reliance, stoicism, heteronormitivity, strength, invulnerability, risk taking, financial success and power, and high desire for sex (Addis & Mahalik, 2003; Courtenay, 2000; Riska, 2002; Schofield, Connell, Walker, Wood, & Butland, 2000).

Performances of gender can vary by social class, sexual orientation, level of education, ethnicity, and other markers of social location (Messner, 1998; Numer, 2009). Within the context of hegemonic masculinity, marginalized men often take on more risky behavior to compensate for their subordinated status (Courtenay, 2000, 2003). In this sense, Indigenous men in Canada may be at increased risk for health and social issues due to contemporary gender norms (Schofield et al., 2000). Further, Indigenous men who have survived sexualized trauma may hesitate to pursue mental health treatment due to contemporary gender norms that enforce invulnerability, stoicism, and other norms of masculinity that can interfere with help-seeking behavior.

Indigenous men's experiences of normative masculinities have a complicated history. Prior to colonization, diverse Indigenous nations across North America had multiple expressions of masculinity that were dynamic and evolving (Duran, Duran, & Yellow Horse Brave Heart, 1998). Depending on the social structure of each community, men occupied various social roles (some were women-centered, some egalitarian, and others male-centered; Allen, 1992). Men were providers through hunting, warriors who protected communities, medicine people and spiritualists, active participants in trade and politics, and parents who mentored the next generation (Alfred & Lowe, 2005; Allen, 1992; Paul, 2000). Varied roles, from warrior-hunters to caretakers, allowed a range of gender expression for men; however, these roles and gender

norms were destabilized by the hegemonic masculine norms of the Euro-Western colonizer (Mussell, 2005).

Euro-Western ways of socialization, including gender norms, undermine traditional values in many Indigenous cultures related to cooperation, empathy, nurturing, gender equity, and mutual respect (Mussell, 2005; Sneider, 2015). Morgensen (2015) writes that traditional Indigenous masculinities were delegitimized through colonial tools of racism, and Sneider (2015) argues that principles of equanimity between genders threatened patriarchy and European gender dynamics. Due to colonization and assimilation, traditional gender norms for Indigenous men that would have promoted a healing and caring ethic became less available, replaced by stereotypes that position men as, for example, "bloodthirsty warriors" or "drunken absentees" (McKegney, as cited in Sneider, 2015, p. 71) and that place them in what Mussel refers to as a "gender straightjacket" (2005, p. 37), which limits emotional expression.

Impacts of Sexualized Assault on Masculinities

Although a growing body of research in Canada looking at intergenerational effects of colonial trauma exists, there is a paucity of research looking at mental health outcomes for Indigenous men who are survivors of sexualized assault specifically. Empirical studies looking at mental health outcomes among men in the general population who are survivors of childhood sexualized assault and adult sexualized assault indicate that these men experience post-traumatic stress, depression, anxiety disorders, anger and hostility, substance use issues, risky sexual behaviors, damaged self-image and self-esteem, issues in relationships, and suicidal ideation and attempts (Aosved, Long, & Voller, 2011; Easton, 2013; Turchik, 2012; Walker, Archer, & Davies, 2005). Although the rate of sexual victimization among men is lower than among women (Tewksbury, 2007), a national study in the U.S. found that male survivors reported higher levels of distress than female survivors on eight of the ten scales on the Trauma Symptom Inventory (Elliott, Mok, & Briere, 2004). Researchers note that male sexualized assault is severely underreported (Tewksbury, 2007) and reluctance to discuss traumatic experiences can often increase distress (Easton, 2013).

Cultural rape myths state that men should be able to stop rape, that men cannot be forced into sex, and that men who are raped are less masculine or are gay (Chapleau, Oswald, & Russell, 2008; Davies, 2002). These false beliefs can create additional shame, guilt, and self-

blame among survivors and can contribute to a reluctance to discuss their experience, to delayed disclosure, and to avoidance coping strategies such as self-medicating with substances (Easton, 2013; Turchik, 2012; Walker et al., 2005). Confusion around one's masculinity due to a perceived violation of normative gender roles (Elliot et al., 2004) can lead to further psychological distress among survivors (Tewksbury, 2007).

It is clear from this discourse of gender construction and colonial trauma that Indigenous survivors experience multiple disadvantages in this regard. Through the colonial process, normative masculinities have restricted gender roles and range of emotional expression among Indigenous men and have created barriers to seeking help. This has occurred alongside the increase in multiple, intersecting traumas in the lives of Indigenous men, including loss of culture, compromised community roles, and sexualized violence. In his report, Mussel (2005) states that while many First Nations men have suffered sexualized abuse and trauma, few have sought mental health supports, and, as a result, they continue to have unresolved grief and personal issues. Abused children who have not yet healed as adults often enter into cycles of violence and become perpetrators themselves (Aboriginal Healing Foundation, 2010); it is therefore imperative that healing solutions are identified for wounded men.

RESEARCH STUDY

A previous study carried out by these authors looked at whether Indigenous mental health and healing services were culturally appropriate alternatives for Indigenous women who had experienced sexualized trauma. The study identified that Indigenous clients are less likely to use services that are not culturally adapted to their understandings of healing (Reeves & Stewart, 2015). Participants in the study cited that helpful aspects of mental health services were positive identity work through connection with Indigenous cultures' wisdom teachings and spirituality as well as integrative practices that included Western psychotherapy. However, mental health workers noted a lack of focus on, and open discussion about, the unique healing needs of Indigenous men. The current project (conducted with the same research partner) aims to address this gap, both at an organizational level and in the Indigenous psychology literature.

The major focus of this project was to explore the research question: Within the context of sexualized trauma and recovery, what makes Indigenous men's mental health unique? In this study, we collected and explored discourses on the social construction of masculinity(ies) and the

impacts of these social norms on help-seeking behaviors and mental health outcomes among Indigenous men who have experienced sexualized traumas. Results from this investigation seek to inform culturally appropriate and "gender-relevant" (Schofield et al., 2000, p. 254) mental health service provision for clients like these.

METHODS

This study employed a narrative inquiry, which utilizes participant storytelling in data collection (Pinnegar & Daynes, 2007), allowing community men to share their stories of recovery from sexualized trauma and allowing counselors and healers to describe Indigenous healing through a gendered lens. Narrative inquiry is considered to be a culturally appropriate methodology in an Indigenous context (Barton, 2004; Stewart, 2008) because it validates participant stories that have historically been made silent and invisible by dominant culture, and it emphasizes and recognizes historical pain and Indigenous epistemologies (Benham, 2007; Dunbar, 2008). Narrative methods have also been noted to be potentially therapeutic for participants, as the telling of one's story facilitates self-discovery, especially around memory, reassessment, resilience, justification, and embracing the self (Riessman & Speedy, 2007). The project was decolonizing in its intent (Tuhiwai Smith, 1999) as it sought to honor Indigenous knowledge and epistemologies, promote community healing using Indigenous methods, and frame client mental health issues as belonging to larger structural inequities (Benham, 2007).

Setting and Participants

This study was carried out in partnership with Anishnawbe Health Toronto (AHT), a culture-based, multi-service health center that has been serving the diverse Indigenous community in Toronto since 1989. AHT's mental health services are provided by an integrated team of Indigenous elders, healers, and counsellors, as well as Western-trained social workers, counsellors, psychiatrists, and psychologists. The research questions were raised by AHT, and the research was approved by the staff and the board of directors and took place under the guidance of the executive director at AHT, who received ongoing project updates.

Two groups of participants were interviewed for the study. The first group consisted of AHT mental health frontline workers who regularly treat men that are recovering from

sexualized trauma. Ten staff members participated, including four women, five men, and one two-spirit person.[3] All identified as having Indigenous ancestry, and all were traditional Indigenous counselors (who bring Indigenous cultural knowledge and teachings into talk therapy) or traditional Indigenous healers (who identify as 'Medicine People,' and use herbal remedies, spiritual practices, ceremonies, and other sacred rituals in their work). Indigenous counselors and healers were included in order to provide culturally-relevant findings. Participants in this group ranged in age from late 20s to late 60s. This study also recruited men who had used mental health and healing services at AHT to recover from sexualized trauma. The study did not screen out gender variant two-spirit people; however, none came forward to participate. In total, six survivors of sexualized trauma were interviewed for this study, ranging in age from 30 to 60 years.

Procedures

Participants were recruited through email advertisement, posters around AHT, and word of mouth. Once participants made contact with the researchers through email or telephone, they were given an overview of the study, an explanation of risks and benefits of their participation, and a copy of the interview guide to prepare for the interview. Given the sensitive nature of the topic area, interview questions with clients avoided asking about trauma histories and instead focused on exploring journeys of recovery, experiences of gender, and healing needs as men. The researchers conducted an initial screening interview with interested clients to minimize the risk of psychological harm (e.g., how would you describe your current level of mental well-being, what is your comfort level speaking about the topic area, how long have you been receiving mental health supports, and what current supports do you have inside and outside of the agency). All clients who came forward to participate had been engaging in mental health treatment for a minimum of six months (some had completed several years of therapy and had been discharged from care), and all identified being stable in their mental health.

Ethical approval for the study was obtained from the University of Toronto Research Ethics Board. This study also followed Indigenous research protocols, including the OCAP

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[3] The term *two-spirit* is used within some contemporary Indigenous communities to refer to sexual and gender variance, including lesbian, gay, bisexual, transgender, and/or queer (Ristock, Zoccole, & Potskin, 2011, p. 4). In this context, the counselor uses this term to reflect gender variance.

principles (Ownership, Control, Access, and Possession; Schnarch, 2004), which ensure that the community has control over the research process and its own cultural knowledge, and has access to the results. Participants signed a consent form at the outset of the research interview, which stated that participation is voluntary and they may withdraw from the study at any time without consequence. The content of the consent form was also discussed orally. Participants were presented with traditional tobacco in thanks and compensated with a gift card for a bookstore or coffee shop. Participants were also asked to provide a pseudonym for the project to be used when presenting quotes. Data collection consisted of one long interview and one shorter interview to review results.

Measures

The first interview was 1-2 hours in length, was semi-structured, asked open-ended questions, and took place at a private location that was convenient for the participants (typically office spaces at AHT). The first author of this study carried out the interviews. The following interview guide was used with Indigenous counselors and healers:

1. In terms of your male clients, what kinds of wounds (mental, emotional, and spiritual) are left in the wake of sexual traumas?

2. Have you observed any gender differences in your clients who have experienced sexual abuse and trauma? For instance, do the presentations or disclosures differ between men and women in therapy? Any other differences?

3. Are there any Indigenous healing approaches that tend to assist men on their healing journeys following sexual assault? If so, what?

    a. Are there different treatment approaches for male and female clients in this regard?

4. What is unique to the healing needs of Indigenous men? Do we need a unique healing model for addressing men's needs? Is so, what might this look like?

5. What challenges/barriers do men face in accessing mental health services?

6. What are the needs of men in the community generally? What should happen in mental health or community health to support men's healing?

7. Is there anything we haven't discussed that you feel is important to share on this topic?

The following interview guide was used with client survivors of sexualized trauma:

1. What does healing mean for you? What are/were your goals for healing?

2. What has helped you on your healing journey?

3. How has your gender (i.e., being a man) affected your healing journey?

   a. For instance, did you feel comfortable coming in for help/therapy?

   b. Does your social/peer group of men tend to cope with problems in particular ways?

4. What challenges/barriers do men face in accessing mental health services?

5. What are the needs of men in the community generally? What should happen in mental health or community health to support men's healing?

6. Is there anything we haven't discussed that you feel is important to share on this topic?

Follow-up interviews lasted approximately 20 minutes and are described in the analysis section.

Analysis

The first interviews were audiotaped and transcribed verbatim. Based on the principles of grounded narrative analysis (Burnell, Hunt, & Coleman, 2009), interview transcripts were analyzed by the first author for narrative "meaning units" (Mishler, 1986) and were reviewed for the following qualities: orientation (introduction of characters in the narrative, context of time and place); structure of storytelling; affect (emotional content, congruence of verbal and nonverbal cues); and integration (meanings of experiences expressed within the context of the larger story). This analysis highlights the importance of context and meaning within qualitative, constructivist research (Burnell et al., 2009). Thematic analysis proceeded using thematic coding (Burnell et al., 2009), which involved searching the data for categories between themes, similarities and differences, and negative case analysis. Following thematic analysis, the second author reviewed transcripts, codes, and the first author's emergent themes. The themes were further refined through a discussion process between authors.

The authors then created narrative maps (Stewart, 2008) of the preliminary findings for each participant, which were then used to facilitate member checking during second interviews. The narrative maps offered a visual representation of emerging key words and themes from the participant's first interview as well as a selection of quotations from their interview within each thematic category. During second interviews, participants were asked to comment on the

narrative maps and were given the option to challenge themes or to remove any quotations. Following the verification of themes by participants, both authors began to link emerging ideas and models from this data to existing theory (Henwood & Pidgeon, 2003).

RESULTS

Results from the qualitative interviews presented two major thematic areas:

1. Traumatic Wounds for Men
    a. Colonial History: What is the trauma legacy within which men live?
    b. Sexualized Trauma: What are the mental, emotional, physical, and spiritual impacts?
2. The Counseling Experience
    a. Supports & Barriers: What is it like for men to come into counseling?
    b. Ways of Helping: What are some stories of healing?

Each thematic area contains stories about men's experiences with sexualized violence and their healing journeys.

Theme One: Traumatic Wounds for Men

The first theme examines the pervasive colonial wounds that continue to impact the mental well-being of Indigenous men and their communities, as well as the proximal wounds of sexualized assault.

Colonial History: What is the trauma legacy within which men live?

Healers and counselors, as well as some clients, spoke directly of the harmful effects of colonization on Indigenous men's mental health. As with many stories revealed through national reports in Canada, such as the Truth and Reconciliation Commission, several participants shared accounts of sexualized assault against children in residential schools, as well as trauma legacies for entire Indigenous communities spanning several generations, which continue to impact the lived experiences of Indigenous families in present day. Participants discussed the ongoing lack of trust in medical, educational, and religious institutions within communities as a result of systemic racism and cognitive imperialism over generations. One client shared that younger generations in his reserve community experience low self-esteem, loss of identity, and cultural

confusion and that residential schooling taught older generations to believe that "everything Aboriginal is evil" (Standsinwater).

With respect to men's mental health specifically, participants spoke of the deep colonial wounds to Indigenous men caused by Euro-Western patriarchy. Whereas traditionally, men's roles in some Anishnawbe cultures were to "take care of the fire," according to one male counselor (Lynx), to act as caring and compassionate warriors rather than violent or militant warriors, according to one male healer (Charles), to show "great respect for women," according to one client (Standsinwater), and to be "truthful and share their inner feelings" (Standsinwater), Western society now dictates that men are "not supposed to express those feelings" according to another male healer (Eagle Flies High Man). Indeed, the prevailing message that men now receive, according to one female counselor, is to "just suck it up, and don't show that you're sad and don't show that anything's wrong. Just keep moving forward and be strong" (Alice). One client emphasized that being "strong" and not showing emotion was considered to be "normal" for men and boys within his family when he was growing up; as a result, he hid his pain from others:

> Because we had to be strong, we had to be this way, we don't cry, all those 'normal' things. […] They used to always use the word 'tough' all the time in my family, my uncles and stuff like that. I had to be a certain way but yet inside the pain and all the trauma that they were putting on me as a kid. […] I think that men [have] a hard time dealing with feelings. And the honest feelings of what comes with, let's say, being abused. I didn't want to be looked at as weak. (Little Thunderbird)

This healer agreed that men are often "locked into this role" where they cannot "express themselves how they want to" (Onenya eksa'a).

Counselors generally felt that patriarchal norms interrupt men's ability to heal from sexualized abuse. One female counselor stated, "It's not part of a Western male narrative to be a victim [or] to be a receiver of sex," which is considered "feminine" within the Western social construction of gender (Winona). Another female counselor recalled hearing the erroneous statement that "it's not possible for men to be raped" because men have control over their bodies

(Alice). She argued that this entrenched belief creates shame and stigma among victims because it teaches them that they "should have been able to stop it" (Alice). As a result, many victims feel that sexualized abuse "happens to women but it doesn't happen to me" (Simone) and remain silent, according to this female counselor.

Sexualized Trauma: What are the mental, emotional, physical and spiritual impacts?

Participants shared stories of mental, emotional, physical, and spiritual wounds that male survivors of sexualized violence carry. Participants spoke primarily of the wound of shame. One female counselor noted that, for men, "it's embarrassing. The shame and guilt around having been sexually abused in any way […] Sharing is not normalized. Men do, very much, feel that they're alone in this," whereas "women's abuse and trauma is much more open" (Simone). One client stated that men "fear talking" (Cheebaa jing), and counselors stated that men "carry that stigma" about attending therapy (Nick) and that some plan on taking their abuse narrative "to their grave" (Alice). Another counselor noted, "There's sex shame and then there's the sexual abuse shame and then, you know, being male and—yeah! I think it's a big cauldron…no wonder nobody wants to talk about it!" (Simone). One client agreed that the experience of hiding his pain due to fear of stigma greatly impacted his sense of self: "For a very long time that destroyed me, you know? And I was too embarrassed to talk about it with anyone. It really made me feel 'less than'" (Grey Cloud).

Some counselors noted that men turn to other outlets, such as anger and addiction, to cope with grief and express their pain. Expressing anger over more vulnerable emotions was thought to be more comfortable for contemporary men. One client noted that anger was a safe channel for him to express emotion, as it allowed him to feel protected:

[I was] angry, resentful, bitter—what's the word?—withdrawn, and put up all these barriers. […] It's a way of protecting myself. I thought that I ain't going to be hurt anymore. So I put up this mask. […] But there's moments that the guard would be down, I'd be crying for no reason. And I wanted healing, but I just didn't know how to go about the healing. (Grey Cloud)

This client went on to recall that, as a result of having barriers and wearing a mask, he "missed out" on a lot of positive relationships (Grey Cloud). Another female counselor connected anger to addiction for male survivors of abuse:

> There's a lot of justifiable anger in a lot of ways because of the historical traumas and, you know, men may be demonstrating anger in those ways, right? And then you add the addiction piece into it, and then you can have a lot of that sort of outward display of anger and antisocial behavior. (Simone)

Another female healer reported, "It's easier for men now to admit they may have an addiction issue, but not what's actually causing the addiction issue" (Onenya eksa'a). These statements suggest that anger and addiction can often be rooted in unresolved trauma.

One male healer suggested that men often live with identity wounds such as "very little self-esteem, very little self-worth, very low acceptance of the whole self" (Eagle Flies High Man). One client explained this experience of having a fractured identity:

> I developed, I guess, really strong walls. And I felt like I'd build armor around me and inside. I used to imagine when I was a kid that I had concrete inside me. So that way I wouldn't feel vulnerable. But I always was raised up with, I guess, the feeling of inadequacy. I've never felt whole. (Little Thunderbird)

In terms of physical identity, clients also spoke of hating their bodies; according to one client, his body represented a "hostile place" that "betrayed" him (Jordan). Repairing the relationship to identity and body could therefore be a focus of counseling for some survivors.

Some counselors noted that men have suffered relational wounds and now struggle to form healthy relationships with others, feel a sense of broken trust toward others, and experience issues with attachment, such as co-dependency. One female counselor noted that several of her clients described feeling emotionally disconnected during sexual experiences (Alice). A male counselor suggested that men may continue to engage in "cycles of re-traumatizing" those around them based on what they learned through their abuse experiences (Lynx). A female healer noted that survivors often struggle within challenged relationships.

Many get into a relationship that's very similar in nature to the things that they've gone through or people in their life that have perpetrated those things against them. So that's why, to me, there's so much short term relationships, a lot of divorce, a lot of addiction issues, mental health […] a lot of co-dependency. I think that someone sexually abused as a child learns that's what love is from a trusting—or supposedly trusting—adult, and they carry that through their life. (Onenya eksa'a)

Other participants echoed the notion that survivors struggle to know how to interact in healthy ways with appropriate boundaries after their experiential learning from past traumatic encounters.

Overall, this theme of trauma highlights various mental, emotional, physical, and spiritual wounds that affect men's mental health and often drive them to seek counseling as well as the larger colonial wounds that continue to negatively impact communities.

Theme Two: The Counseling Experience

This theme considers counseling experiences for men and looks at early therapy experiences as well as stories of healing.

Supports & Barriers: What is it like for men to come into counseling?

Participants shared that men do not necessarily self-select to engage in counseling to address sexualized trauma. Some are court mandated to attend counseling due to violent behavior or issues with addiction, and some risk losing work or relationships if they do not attend counseling. Counselors also noted that some male clients have difficulty sharing vulnerable experiences once in therapy. Both counselors and clients acknowledged that men are particularly reluctant to discuss sexualized abuse initially in counseling. One client stated that he had tried to hold a peer-support circle for male survivors in his community but that "nobody came to the circles." He said, "I know that they don't want to go and share. [It's] extremely hard" (Standsinwater). Another client agreed, stating that "sexual abuse is one of the hardest things that I think a man comes to terms with" (Jordan). However, participants noted that, once men disclose their pain in the therapeutic context, it often comes as a significant relief.

To encourage disclosure, counselors suggested easing into difficult topics such as sexualized abuse during therapy. One male counselor noted that men "still find it hard to identify with the issue of trauma and they're still so very, very sensitive and very cautious and…vulnerable. And you don't want to chase them back into the closet" (Lynx). Likewise, a healer used the term "ease" to define the pace and sensitivity of counseling so that men can "gently look at some of the things that have gone on and the feelings that are associated with that" (Onenya eksa'a).

Healers and counselors reported that, due to the pervasive silence and stigma around trauma, it is important to normalize men's experiences of trauma within the context of colonization. One female counselor noted that clients feel relief when they know, "okay, it's not just me. It's not just my family," which "decreases how stigmatized people feel" (Alice). This client agreed: "I'm glad to know other people are in the same boat. I'm not the outsider. I'm not weird. I'm not abnormal" (Jordan).

The following vignette summarizes these early therapy experiences as a client shares his own struggles to enter into the process of therapy as well as his decision to commit to his healing.

Vignette 1. I wasn't even sure why I came here. All I know is that something had to change because I was getting carried away. And I just remember just really…like, just [a] feeling of needing help. And so when I got here, I had a hard time opening up [in the sharing circles]. And I had real trust issues with…anybody. It didn't matter who they were. I was really quiet and I do remember I'd act out angrily. Like, not to harm anyone, but I would leave really angrily because I heard something that I didn't want to hear, or somebody brought up abuse issues. And every time I would hear accountability, I'd get really mad because it really bothered me. […] And I used to be that kind of person, like eff the world, eff you, it's your effing problem. It's your fault I'm like this. And they always say this: It's going to be death or prison or a mental institution. And I just didn't want that kind of life. But [my counselor] really helped me come out of my shell, because I think I kept quiet here for a really long time. I wasn't sure if I really wanted to quit. I wasn't even really sure what I wanted. I don't even know

what I was really actually doing here to be honest, because I would leave here and I'd start drinking. And I'd come back the next day.

Interviewer: I wonder what kept you coming back?

Change I think. I believe it has to be change. I know I wanted something different in my life than just the same old same old. And [my counselor] really helped me a lot to open up. And there were some key clients that were here that were here longer than me that helped me to be able to talk about stuff. But I think knowing some people that…actually, I wasn't the only one that went through crazy stuff like that. It really helped me a lot. And I felt really, well…Okay. I can start talking. (Little Thunderbird)

Here this client shares his challenges in engaging meaningfully in therapy, stating that he initially had difficulty trusting others and being vulnerable. He shares that ultimately the strong desire to change his life helped him to push through his silence. He also notes the importance of building relationships with clients and counselors. Other clients likewise identified that deciding to engage in healing was itself a lengthy process, due to their difficulty acknowledging and speaking about their trauma.

Ways of Helping: What are some stories of healing?

Participants offered a variety of techniques, suggestions, and stories related to healing approaches for men who have experienced sexualized abuse. The following examples include narratives related to psychoeducation around colonization, exploring Indigenous cultural values and teachings with clients, engaging clients in spiritual healing, addressing isolation and identity issues, and offering client-centered talk therapy.

Education and teachings were primary tools used by counselors and healers at AHT to help clients understand how their families and communities have been affected by colonization. One counselor noted that he would often discuss with his clients how "[Indigenous] thinking has been invaded in different ways" through colonization with his clients (Lynx). Another counselor noted that she explores traditional roles for Indigenous men and contrasts them with what contemporary men are being taught by "talking about what it means to be a man and getting to the root of some of those messages [to ask], does it fit for you?" (Simone). A third counselor

stated that the "dominant culture currently has a very pathological construct [of masculinity]" (Nick) and engages in conversations related to colonization with clients:

> Part of what I'm here to do is just take a magnifying glass on colonization. And how can I have forgiveness, how can I have freedom from hate and resentment, if I don't understand what's happened to me? So part of what I see as part of sexual violence is rigid unconscious enforcement of gender roles for men, without any discussion. […] This unconsciousness is a silent form of violence. […] I talk about dominant culture a lot [with survivors]. Part of our recovery is the impact of dominant culture on [survivors]. This might be through residential schools, Sixties Scoop. […] People often feel very freed when they realize it hasn't always been this way. Five hundred years ago it wasn't like this. And part of recovery is [deciding] how much you want to participate in [current] roles for men. […] I remind them: This is a consequence of colonization. This gender role is not a traditional role for a man. (Nick)

This counselor leads survivors on a journey of uncovering and exploring their masculinities. Another healer noted, "A warrior is not what you think it is, you know. It's not a Hollywood version. It's about a man that can take care of people, family…without being asked to. That's responsibility" (Charles). This healer went on to describe the importance of exploring Indigenous identity through culture-based talk therapy and Indigenous healing services at AHT. These modalities promote the restoration of traditional roles for men and support the notion that "culture is treatment" (Charles).

Traditional Anishnawbe teachings on identity, the stages of life, and recovery following adversity can offer pathways for healing. Counselors spoke of "filling the void left by abuse with our culture" (Bob), "reconnecting clients with culture in a gentle, positive way" (Alice), sharing teachings about "identity, relationship to the earth, purpose, and journey" (Lynx), and emphasizing personal responsibility in engaging in healing (Eagle Flies High Man). One counselor noted the importance of being proactive in healing, as with any other survival need:

We need to take care of those traumas, healing those traumas. So we don't cause an individual to become unstable over and over again. […] It goes right back to how we survived in the bush with my family: we took care of things. If we didn't cut wood, we'd freeze. If we didn't carry water, if we didn't go hunting, we'd starve. So we always took care of things and made sure we were healthy. (Lynx)

Here, this counselor likens his experiences growing up on the land to each individual's responsibility in his or her own healing.

Counselors also discussed the importance of engagement with cultural rites of passage. In the following vignette, a female counselor shares traditional teachings on rites of passage for men, as well as teachings on male and female equanimity:

Vignette 2. There's a huge movement now about the revival of rites of passage, especially for men who have experienced any kind of challenges...whether they were adopted away from their homes, whether it was abuse, whether it was institutionalization or incarceration. Rites of passage. Moving through the stages of development into...well, every stage is something that's loved and cared for. […] So, whether there's coming out ceremonies or first hunt or, you know, all the way up...all the way through the life cycle that all these moments of our lives are celebrated, and we can see ourselves as being an important part of society. […] A lot of these rites of passage—and we talk about men's teachings—so much are about learning how to be in balance with women, with females. […] And men's role is also to hear and listen and to support the, you know, support the feminine. You can't even have men's rites of passage without having this understanding. And what's stunting that true understanding from happening? Patriarchy. […] Because what is a warrior? They're about preserving peace and nourishing and caring for and supporting the community, which is made up of men, women, two spirit, children, old, you know. That's what it's about. So you can't have this kind of warrior/men's teachings outside of that context. And you can't have that context unless you've challenged this patriarchy. (Winona)

In this vignette, the counselor noted the connections among traditional rites of passage, Indigenous gender roles, and relationships within community. Importantly, she noted that contemporary gender norms rooted in patriarchy need to be challenged in order for healing to take place within and between genders. She later shared her views that all counselors (Indigenous and non-Indigenous) have a responsibility in addressing colonial patriarchy with clients in order to promote healing and reconciliation at a societal level.

Other counselors and clients discussed spiritual healing and ceremony as pathways to healing as well as the benefits for men who engage in spiritual practices. "I see the power of men going to ceremonies and men drumming, and men connecting with healers and being by the sweat lodge" (Alice). Another female counselor agreed: "We've seen some great healing take place for men who were involved in fire keeping. […] They've done the fast, they do the sweat lodge, they do shake tent" (Simone). In fact, some counselors noted that, for male clients who may initially feel reluctant to engage in talk therapy, spiritual practice may be a more ideal entry point. One client also described the role of spirituality in his healing:

> Healing to me is healing on the medicine wheel, which includes physically, mentally, spiritually, and emotionally. I smudge daily. I exercise every day. I've gone back to my traditional Native dancing. I am getting back to the big drum. […] So I'm going full force in our culture. (Standsinwater)

This client later noted that, through his "spiritual awakening," he "realized the importance of life—[he] wanted to live it" (Standsinwater). Likewise, another client noted that his "whole path was based around the spiritual, traditional" (Cheebaa jing). A third client felt that his spiritual experiences were central to his healing:

> [Spirituality] has changed my life. It gives me hope that I'm not alone. I know a Great Spirit walks beside me. He'll hold me. He's basically my rock. [During my abuse] I never felt alone. I've always felt comforted by something which I never understood at the time. But I believe it was probably a Great Spirit. (Little Thunderbird)

These passages emphasize the groundedness, connectedness, and sense of secure attachment that spirituality can provide.

One male healer noted that AHT offers a sacred and unique form of healing, the sweat lodge ceremony, where clients can share difficult and painful memories either with a group or in an individual sweat with a healer (Strong Wings). In her interview, Onenya eksa'a offered a teaching on the power of spiritual healing within the sweat lodge. She noted that individuals entering the lodge experience a "rebirth" in a safe environment, where they can "go to a depth they would never go" in a counseling session and experience an "openness within the sweat lodge to talk about sexual abuse as children and how that's impacted them." One client who attended an individual healing session stated that, in the lodge, "you're able to speak honestly and it's a safe environment" (Little Thunderbird). He went on to explain that,

> When I went into my first sweat, I didn't want to come out. I wanted to stay in there because I felt from my experience that I got to see myself without dysfunction—if that makes sense—without trauma. And I could see a man that was whole. (Little Thunderbird)

Finally, participants spoke of the importance of engaging in healing in a culturally safe environment where they could reconnect with community and relations and break cycles of isolation and self-silencing as a result of stigma. AHT offers community circles and healing events, such as weekly sweat lodge ceremonies, medicine picking, and seasonal fasting trips, to bring the community together. Counselors spoke of the positive benefits of role modelling at AHT (e.g., exposing male clients to counselors who themselves are survivors) to "demonstrate what it means to be a gentle warrior" (Simone). Another female counselor noted that men benefit from "connection to land and connection to community" as well as forming "healthy relationships with other genders" (Winona). One client agreed that breaking barriers to reconnect with others and speak about trauma is essential to healing:

> Developing a support network and being able to believe that I'm not alone…and that's the very reality of sexual abuse, is the identity and mask of anger, which is very much an 'alone' kind of process. (Cheebaa jing)

Disclosing one's abuse narrative in a safe environment was a central aspect of healing for men who experienced sexualized violence. One male healer stated, "Honestly, one hundred percent, I believe to help the men, we need to get them to talk" (Eagle Flies High Man). Likewise, a male counselor noted, "We're all one community and we need to heal together" (Lynx).

At a broader level, participants also called for a wider availability of male-centered mental health services. One female counselor noted, "As a society in general, we don't do a very good job of promoting male help-seeking behavior" (Alice). One client recalled an experience looking for "a shelter for battered men. But I couldn't find anything. I had to go to a women's battered shelter…but then had to leave and I was just wandering the streets" (Standsinwater). Other participants called for "sharing circles just for people who identify as male" (Nick), a "male-specific crisis line" (Alice), "a healing lodge for men" (Lynx), and "shelters for men coming out of abusive relationships" (Bob). Interviews typically closed with participants considering initiatives like these to promote positive changes in the mental health community that would support men's wellness and healing.

DISCUSSION

This study identified the legacy of trauma within which Indigenous men live, and the mental, emotional, physical, and spiritual wounds stemming from sexualized trauma for men; summarized barriers to and supports for entering counseling; and explored stories of healing and recovery. This discussion will consider major themes emerging from these findings, including patriarchy as a colonial wound to Indigenous men, sexualized trauma as a psychological trauma (focusing on isolation and shame), and therapy and healing for Indigenous men.

Patriarchy as a Colonial Wound to Men

Through policies such as residential schooling and forced adoption, Indigenous peoples have been systematically marginalized and have subsequently experienced cultural loss, chronic stress, and intergenerational trauma. Participants discussed the relationship between family breakdown and inherited grief, as traditional identities were made 'inferior' by the dominant culture. According to participants, the de-legitimization of Indigenous men's gender constructs and assimilation into Euro-Western ways represents a silent form of trauma, as gender roles

appear to individuals as a 'natural' part of identity and often go unchallenged. Specifically, participants noted that Anishnawbe constructs of men's roles typically involved care, compassion, respect for women, and emotional expression. Participants spoke of supporting the feminine and of being "compassionate warrior[s]" (Charles). However, sharing trauma with others stands in contrast to Euro-Western messages about masculinity that enforce self-reliance and restrict emotionality.

The psychological literature suggests that health-promoting and help-seeking behaviors can depend on an individual's level of agreement with gender norms (Addis & Mahalik, 2003), and the more a man endorses dominant Euro-Western norms of masculinity, such as risk-taking behaviors, competitiveness, and physical dominance, the worse his health outcomes become (Courtenay, 2000). For instance, normative masculinity is associated with higher rates of anxiety, depression, psychological stress, and maladaptive coping patterns in men (Courtenay, 2003). In her study on Mi'kmaq men and masculinity, Getty (2013) identified that male survivors of sexualized assault experienced self-blame and avoided disclosure due to fear of public shaming. She also identified attempting suicide as a reaction to sexualized assault for some of her participants. One individual experienced shame regarding his failure to complete suicide, as he perceived this failure to be a sign of weakness and an indication that he was not masculine.

Indigenous men continue to experience negative health outcomes related to historical and ongoing traumas and abuse, yet, in many cases, they internalize these issues and remain silent in an effort to uphold the dominant culture's standards of masculinity. Participants in this study spoke of lacking trust in the mainstream helping professions due to colonization of health and education systems. Therefore, multiple barriers to health service access may interfere with help-seeking behaviors for Indigenous men. Building culturally safe counseling clinics where clinicians acknowledge colonial harms and ongoing marginalization, and promote Indigenous cultural knowledges and practices, will begin to address these barriers.

Sexualized Trauma as Psychological Trauma: Isolation and Shame

Common among many who have survived sexualized trauma, no matter their cultural background, is an enduring sense of shame related to the experience of victimization (Easton, 2005; Feiring & Taska, 2005). Due to fear of judgment and stigmatization, those experiencing shame often do not disclose abusive events (Courtois, 2012). This shame relates to self-

condemnation and a sense of being defective, with an accompanying need to hide these defects from others (Feiring & Taska, 2005), or stems from having been part of socially denigrated behaviors that are associated with strict taboos. Participants spoke of taking their abuse secrets "to their grave" (Alice), of the damaging effect of shame on one's sense of self (e.g., "I should have been able to stop it;" Alice), of survivors turning to anger and addiction to cope with pain, and of experiencing relational issues with others as a secondary injury.

While both male and female clients experience similar challenges stemming from experiences of sexualized violence, such as grief, anger, depression, self-blame, and attachment issues (Baima & Feldhousen, 2007; Edwards et al., 2012), participants in this study emphasized particular differences between men's and women's experiences. They stated that men receive more cultural messages telling them that they should not be victimized and telling them to be strong, to be tough, not to cry, and not to be weak. This results in more pervasive silence, guilt, and embarrassment when they come into therapy, and creates more barriers to sharing about their experiences in counseling.

Shame is a relational experience: It is created relationally, and, therefore, it is healed relationally. In her groundbreaking text *Trauma and Recovery*, Judith Herman (1992) noted that because the core wounds of psychological trauma are disempowerment and disconnection from others, recovery must occur in the context of relationships. She explains that the counseling relationship can assist to rebuild a sense of trust, identity, and relational intimacy with others and that healing in community can also provide a sense of social solidarity with others who have overcome similar adversities. Herman notes, "Trauma isolates; the group re-creates a sense of belonging. Trauma shames and stigmatizes; the group bears witness and affirms" (1992, p. 214). In the present study, counselors and healers spoke of assisting survivors to overcome shame by normalizing men's experiences of victimization, by role modelling recovery through self-disclosure of their own abuse and healing (where relevant), and by encouraging men to heal in community (e.g., through group circles and the sweat lodge, where common experiences are shared). These types of affirmation can help to rebuild relationships between survivors and support systems and to reconnect survivors to others. Participants described their experiences of reconnection through therapy and mental health programs at AHT.

Therapy and Healing

Counselors, healers, and clients described various forms of healing that facilitate recovery from sexualized trauma—specifically, Indigenous ways of healing that promote an understanding of Anishnawbe spiritual views, traditional teachings for navigating life's challenges, rites of passage to celebrate and mark personal evolution, and healing practices for processing trauma. Participants emphasized the healing benefits of spirituality. One survivor noted that "a Great Spirit walks beside me," signifying that he was never alone (Little Thunderbird). This statement echoes other literature on mental health and spirituality that positions Creator as a secure attachment relationship from which comfort and reassurance can be drawn during times of hardship (Hill & Pargament, 2008).

Participants also described the importance of decolonizing ways of thinking that keep clients bound to normative views that can undermine a sense of gender autonomy and emotional expression. Decolonizing one's thinking can promote equitable gender norms and healthy individual and interpersonal functioning (Kirmayer et al., 2007). As described by one counselor, the process of taking a "magnifying glass on colonization" (Nick) and examining the impacts of Euro-Western cultures on gender involves helping clients to discover the freedom to un-fix the fixed gender roles for men that have been passed through Euro-Western scripts as a 'silent' form of violence.

In addition, traditional teachings that promote "culture as treatment" (Charles) offer important lessons on healthy identity construction (Aboriginal Healing Foundation, 2010). Across most interviews, participants were in agreement that men can thrive in their recovery when engaging in culture and spirituality, including sweat lodge and shake tent ceremonies, fire keeping, chopping wood, drumming, spending time in nature, fasting, and smudging, all of which promote a sense of pride around Indigenous identity.

In summary, participants shared that healing in an Anishnawbe view emphasizes spirituality, de-colonization, and self-determination. It also promotes a sense of pride in one's identity, embodies both feminine and masculine values, and encourages holistic self-healing (mental, emotional, physical, and spiritual aspects).

These findings regarding the mental health benefits of connecting with nature and spirituality are consistent with other literature on the topic of well-being generally (Baetz & Toews, 2009; Louv, 2005) and Indigenous healing specifically (Aboriginal Healing Foundation,

2010; Hunter, Logan, Goulet, & Barton, 2006; Kirmayer et al., 2007). Spirit-based medicines have always been integral to Indigenous healing, as spirituality offers a sense of meaning and purpose in life, encouragement to accept challenges, and pathways to transcend ego boundaries and connect with all creation. Spirituality has been associated with health promotion and positive lifestyles (Baetz & Toews, 2009) and connection with nature allows for personal restoration amongst the soothing tranquility of the outdoors (Louv, 2005). These healing modalities offer directions for achieving mental wellness and connection in an Indigenous context, and specific guidance for men healing from sexualized violence who may be experiencing disconnection.

CONCLUSIONS

In this study's exploration of gender constructs and the healing needs of Indigenous men recovering from sexualized abuse, we sought to contribute to trauma and cultural psychology research. We explored how norms of hegemonic masculinity are implicated in Indigenous men's contact with health services and how Anishnawbe healing practices may bring about healing for men. By examining the unique healing needs of Indigenous men, as well as the cultural offerings at AHT, this project sought to identify adaptive helping tools for clients who use these services (Addis & Mahalik, 2003) and inform Indigenous mental health service delivery. Because health services operate within social, political, and cultural contexts (Verde & Li, 2003), Indigenous culture-based services should be intentionally designed to recognize gender and racism as social determinants of health (Numer, 2009).

Few studies examine sexualized violence against Indigenous women and even fewer examine sexualized violence among Indigenous men in Canada; more research in this area has been called for (Devries, Free, Morison, & Saewyc, 2009). Participants suggested that more male-specific healing groups be formed to raise awareness of and to normalize the existence of sexualized violence against men, as well as to promote healing for men. Future intervention research could evaluate the effectiveness of such programs. Other studies may consider the differing needs of gay, two-spirit, and heterosexual service users, as an examination of these trends was beyond the scope of this study. In this sense, future studies may consider the interplay of heterosexual versus non-heterosexual status, degree of compliance with hegemonic roles, and mental health outcomes for Indigenous men.

All counselors working with Indigenous clients must educate themselves on colonial history and the unique regional histories of their clients' communities in order to become culturally safe clinicians (Reeves & Stewart, 2014). As one counselor in this study noted, collective trauma amongst Indigenous peoples should be met with a collective response at a societal level. Those in the field of psychology can adopt a social justice framework in their clinical work to promote respectful and collaborative relationships with clients in order to provide effective mental health treatments. Anti-oppressive psychology practice in this context involves challenging the patriarchy that harms all men and women in Canada, as well as engaging in reconciliation efforts with Indigenous communities outside of the clinical office. This could involve advocacy for Indigenous communities in dominant culture spaces and joining political efforts geared toward reconciliation and equality. At psychology conferences and gatherings, culturally safe psychologists can acknowledge and validate colonial traumas and support collective recovery using culture-based and trauma-informed treatments.

REFERENCES

Aboriginal Healing Foundation. (2010). *A compendium of Aboriginal Healing Foundation research*. Ottawa, ON: Author. Retrieved from http://www.ahf.ca/downloads/research-compendium.pdf

Addis, M. E., & Mahalik, J. R. (2003). Men, masculinity, and the contexts of help seeking. *American Psychologist, 58*(1), 5-14. http://dx.doi.org/10.1037/0003-066X.58.1.5

Alfred, T., & Lowe, L. (2005). *Warrior societies in contemporary indigenous communities*. Ipperwash Inquiry. Retrieved from https://taiaiake.files.wordpress.com/2015/01/gta-warriorsocietiesinindigenouscommunities.pdf

Allen, P. (1992). *The sacred hoop: Recovering the feminine in American Indian traditions*. Boston, MA: Beacon Press.

Aosved, A. C., Long, P. J., & Voller, E. K. (2011). Sexual revictimization and adjustment in college men. *Psychology of Men & Masculinity*, *12*(3), 285. http://dx.doi.org/10.1037/a0020828

Baetz, M., & Toews, J. (2009). Clinical implications of research on religion, spirituality, and mental health. *The Canadian Journal of Psychiatry*, *54*(5), 292-301. http://dx.doi.org/10.1177/070674370905400503

Baima, T. R., & Feldhousen, E. B. (2007). The heart of sexual trauma: Patriarchy as a centrally organizing principle for couple therapy. *Journal of Feminist Family Therapy, 19*(3), 13-36. http://dx.doi.org/10.1300/J086v19n03_02

Barnes, R., & Josefowitz, N. (2014). Forensic assessment of adults reporting childhood sexualized assault: A lifespan developmental analysis. *Psychological Injury and Law, 7*, 18-33. http://dx.doi.org/10.1007/s12207-014-9185-z

Barton, S. S. (2004). Narrative inquiry: Locating Aboriginal epistemology in a relational methodology. *Journal of Advanced Nursing, 45*(5), 519-526. http://dx.doi.org/10.1046/j.1365-2648.2003.02935.x

Benham, M. (2007). Mo'olelo: On culturally relevant story making from an Indigenous perspective. In D. J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 3-34). Thousand Oaks, CA: Sage Publications Inc.

Burnell, K. J., Hunt, N., & Coleman, P. G. (2009). Developing a model of narrative analysis to investigate the role of social support in coping with traumatic war memories. *Narrative Inquiry, 19*(1), 91-105. http://dx.doi.org/10.1075/ni.19.1.06bur

Chapleau, K. M., Oswald, D. L., & Russell, B. L. (2008). Male rape myths: The role of gender, violence, and sexism. *Journal of Interpersonal Violence*, *23*(5), 600-615. http://dx.doi.org/10.1177/0886260507313529

Connell, R. (1992). A very straight gay: Masculinity, homosexual experience, and the dynamics of gender. *American Sociological Review, 57*(6), 735-751. Retrieved from http://www.jstor.org/stable/2096120

Connell, R. (1993). The big picture: Masculinities in recent world history. *Theory and Society, 22*(5), 597-623. http://dx.doi.org/10.1007/BF00993538

Courtenay, W. (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science & Medicine, 50*(10), 1385-1401. http://dx.doi.org/10.1016/S0277-9536(99)00390-1

Courtenay, W. (2003). Key determinants of the health and the well-being of men and boys. *International Journal of Men's Health, 2*(1), 1-30. Retrieved from http://www.mensstudies.info/OJS/index.php/IJMH/index

Courtois, C. (2012, June). *Psychological trauma: The hidden epidemic*. Proceedings from the Trauma Talks: Advancing the Dialogue on Trauma-Informed Care Conference. Women's College Hospital, Toronto.

Davies, M. (2002). Male sexual assault victims: A selective review of the literature and implications for support services. *Aggression and Violent Behavior*, *7*(3), 203-214. http://dx.doi.org/10.1016/S1359-1789(00)00043-4

Devries, K. M., Free, C. J. Morison, L., & Saewyc, E. (2009). Factors associated with the sexual behavior of Canadian Aboriginal young people and their implications for health promotion. *American Journal of Public Health, 99*(5), 855-862. http://dx.doi.org/10.2105/AJPH.2007.132597

Dunbar, C. (2008). Critical race theory and Indigenous methodologies. In N. K. Denizin, Y. S. Lincoln, & L. Tuhiwai Smith (Eds.), *Handbook of critical indigenous methodologies* (pp. 85-100). Thousand Oaks, CA: Sage Publications Inc.

Duran, E., Duran, B., & Yellow Horse Brave Heart, M. (1998). Healing the American Indian soul wound. In Y. Danieli (Ed.), *International handbook of multigenerational legacies of trauma* (pp. 341-354). New York, NY: Plenum Press.

Easton, S. D. (2013). Disclosure of child sexual abuse among adult male survivors. *Clinical Social Work Journal*, *41*(4), 344-355. http://dx.doi.org/10.1007/s10615-012-0420-3

Edwards, V., Freyd, J., Dube, S., Anda, R., & Felitti, V. (2012). Health outcomes by closeness of sexual abuse perpetrator: A test of betrayal trauma theory. *Journal of Aggression, Maltreatment & Trauma, 21*, 133-148. http://dx.doi.org/10.1080/10926771.2012.648100

Elliott, D. M., Mok, D. S., & Briere, J. (2004). Adult sexual assault: Prevalence, symptomatology, and sex differences in the general population. *Journal of Traumatic Stress*, *17*(3), 203-211. http://dx.doi.org/10.1023/B:JOTS.0000029263.11104.23

Feiring, C., & Taska, L. (2005). The persistence of shame following sexual abuse: A longitudinal look at risk and recovery. *Child Maltreatment, 10*(4), 337-349. http://dx.doi.org/10.1177/1077559505276686

Getty, G. (2013). *An Indigenist Perspective on the Health/Wellbeing and Masculinities of Mi'kmaq men* (Doctoral dissertation, Dalhousie University Halifax). Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.941.4283&rep=rep1&type=pdf

Henwood, K., & Pidgeon, N. (2003). Using grounded theory in psychological research. In P. M. Camic, J. E. Rhodes, & L. Yardley (Eds.), *Qualitative research in psychology: Expanding perspectives in methodology and design* (pp. 245-273). Washington, DC: American Psychological Association.

Hill, P. C., & Pargament, K. I. (2008). Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *Psychology of Religion and Spirituality, S*(1), 3-17. http://dx.doi.org/10.1037/0003-066X.58.1.64

Herman, J. (1992). *Trauma and recovery*. New York, NY: Basic Books.

Hunter, L. A., Logan, J., Goulet, J., & Barton, S. (2006). Aboriginal healing: Regaining balance and culture. *Journal of Transcultural Nursing, 17*(1), 13–22. http://dx.doi.org/10.1177/1043659605278937

Hylton, J. (2006). *Aboriginal sexual offending in Canada*. Ottawa, ON: The Aboriginal Healing Foundation. Retrieved from http://www.ahf.ca/downloads/revisedsexualoffending_reprint.pdf

Kirmayer, L., Brass, G., Holton, T., Paul, K., Simpson, C., & Tait, C. (2007). *Suicide among Aboriginal people in Canada*. Ottawa, ON: The Aboriginal Healing Foundation. Retrieved from http://www.ahf.ca/downloads/suicide.pdf

Louv, R. (2005). *Last child in the woods: Saving our children from nature-deficit disorder.* Chapel Hill, NC: Algonquin Books.

Messner, M. (1998). The limits of "the male sex role": An analysis of the men's liberation and men's rights movements' discourse. *Gender and Society, 12*(3), 255-276. http://dx.doi.org/10.1177/0891243298012003002

Mishler, E. G. (1986). *Research interviewing: Context and narrative.* Cambridge, MA: Harvard University Press.

Morgensen, S. (2015). Cutting to the roots of colonial masculinity. In R. A. Innes, & K. Anderson (Eds.), *Indigenous men and masculinities: Legacies, identities, regeneration* (pp. 38-61). Winnipeg, Canada: University of Manitoba Press.

Mussell, B. (2005). *Warrior caregivers: Understanding the challenges and healing of First Nation men*. Ottawa, ON: The Aboriginal Healing Foundation. Retrieved from http://www.ahf.ca/downloads/healingmenewebrev.pdf

Numer, M. (2009). The dilemma of young gay men's sexual health promotion and homosexual hegemonic masculinity. In L. Chamberlain, B. Frank, & J. Ristock (Eds.), *Sexual diversities and the constructions of gender*. Montreal, Canada: Presses de l'université du Québec.

Paul, D. N. (2000). *We were not the savages*. Halifax, Canada: Fernwood Publishing.

Pearce, M., Christian, W., Patterson, K., Norris, K., Moniruzzaman, A., Craib, K., . . . Spittal, P. (2008). The Cedar Project: Historical trauma, sexual abuse and HIV risk among young Aboriginal people who use injection and non-injection drugs in two Canadian cities. *Social Science & Medicine, 66*(11), 2185-94. http://dx.doi.org/10.1016/j.socscimed.2008.03.034

Pinnegar, S., & Daynes, J. (2007). Locating narrative inquiry historically. In D. J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 3-34). Thousand Oaks, CA: Sage Publications.

Reeves, A., & Stewart, S. (2015). Exploring the integration of Indigenous healing and Western psychotherapy for sexual trauma survivors who use mental health services at Anishnawbe Health Toronto. *Canadian Journal of Counseling and Psychotherapy, 48*(4), 57-78. Retrieved from http://cjc-rcc.ucalgary.ca/cjc/index.php/rcc/article/view/2741

Riessman, C., & Speedy, J. (2007). Narrative inquiry in the psychotherapy professions. In D.J. Clandinin (Ed.), *Handbook of narrative inquiry: Mapping a methodology* (pp. 426-456). Thousand Oaks, CA: Sage Publications.

Riska, E. (2002). From Type A man to the hardy man: Masculinity and health. *Sociology of Health and Illness, 24*(3), 347- 358. http://dx.doi.org/10.1111/1467-9566.00298

Ristock, J., Zoccole, A., & Potskin, J. (2011). *Aboriginal Two-Spirit and LGBTQ Migration, Mobility and Health Research Project Final Report*. Retrieved from http://www.2spirits.com

Schnarch, B. (2004). Ownership, access, control, and possession (OCAP) or self-determination applied to research. *Journal of Aboriginal Health, 1*(1), 80-95. Retrieved from http://www.naho.ca/jah/english/jah01_01/journal_p80-95.pdf

Schofield, T., R., Connell, L., Walker, J., Wood, J., & Butland, D. (2000). Understanding men's health and illness: A gender-relations approach to policy, research, and practice. *Journal of American College Health, 48*, 247-256. http://dx.doi.org/10.1080/07448480009596266

Sneider, L. (2015). Complementary relationships: A review of Indigenous gender studies. In R. A. Innes, & K. Anderson (Eds.), *Indigenous men and masculinities: Legacies, identities, regeneration* (pp. 62-79). Winnipeg, Canada: University of Manitoba Press.

Stewart, S. L. (2008). Promoting Indigenous mental health: Cultural perspectives on healing from Native counselors in Canada. *International Journal of Health Promotion and Education, 46*(2), 49-56. http://dx.doi.org/10.1080/14635240.2008.10708129

Tewksbury, R. (2007). Effects of sexual assaults on men: Physical, mental and sexual consequences. *International Journal of Men's Health*, *6*(1), 22-35. http://dx.doi.org/10.3149/jmh.0601.22

Tuhiwai Smith, L. (1999). *Decolonizing methodologies*. London, UK: Zed Books Ltd.

Turchik, J. A. (2012). Sexual victimization among male college students: Assault severity, sexual functioning, and health risk behaviors. *Psychology of Men & Masculinity*, *13*(3), 243-255. http://dx.doi.org/10.1037/a0024605

Verde, M., & Li, H. (2003). Are Native men and women accessing the health care facilities? Findings from a small Native reserve. *The Canadian Journal of Native Studies, 23*(1), 113-133. Retrieved from http://www3.brandonu.ca/cjns/23.1/cjnsv23no1_pg113-133.pdf

Vicary, D. A., & Bishop, B. J. (2005). Western psychotherapeutic practice: Engaging Aboriginal people in culturally appropriate and respectful ways. *Australian Psychologist, 40*(1), 8-19. http://dx.doi.org/10.1080/00050060512331317210

Walker, J., Archer, J., & Davies, M. (2005). Effects of rape on men: A descriptive analysis. *Archives of Sexual Behavior, 34*(1), 69-80. http://dx.doi.org/10.1007/s10508-005-1001-0

Wesley-Esquimaux, C., & Smolewski, M. (2004). *Historic trauma and Aboriginal healing*. Ottawa, Canada: The Aboriginal Healing Foundation. Retrieved from http://www.ahf.ca/downloads/historic-trauma.pdf

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RESIDENTIAL SUBSTANCE ABUSE TREATMENT FOR URBAN AMERICAN INDIANS AND ALASKA NATIVES

PART I: SERVICES AND STAFF

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Abstract: Although residential substance abuse treatment is utilized extensively by urban American Indians and Alaska Natives (AI/ANs), there are few detailed descriptions of this care. This study delineated services provided by and interviewed staff working at residential programs designed for chemically dependent urban AI/ANs. Study agencies were compared to national data from residential programs serving general population clients. Study agencies delivered arrays of services substantially broader than those provided by general population programs. As well as culturally specific programs tailored for AI/ANs plus so-called "mainstream" substance abuse treatments, study facilities provided numerous ancillary services, such as care for clients' children.

INTRODUCTION

Substance misuse is a major component of health disparities for urban American Indians and Alaska Natives (AI/ANs; Castor et al., 2006; Johnson, Bartgis, Worley, Hellman, & Burkhart, 2010; Urban Indian Health Institute [UIHI], Seattle Indian Health Board [SIHB], 2011). For example, during the 1990s, alcohol-related death rates were 28 per 100,000 among AI/ANs in 34 metropolitan areas, versus 10 for the general population (Castor et al., 2006). UIHI and SIHB (2011) examined health conditions related to alcohol among people living in 34 metropolitan areas during the late 2000s and found that 20% of AI/AN adults reported binge drinking in the previous month, versus 16% for all races. Similarly, the AI/AN annual liver cirrhosis death rate in these urban areas was 22 per 100,000, versus an all-races rate of 9 (UIHI, SIHB, 2011).

These findings reflect health disparities related to chemical dependency problems experienced by AI/ANs nationwide (Beauvais, 1998; Frank, Moore, & Ames, 2000; Gray & Nye, 2001; Greenfield & Venner, 2012; Spicer, 2001; Wright et al., 2011). For example, looking at both urban and rural areas, Castor et al. (2006) found annual alcohol-related death rates of 27 per 100,000 for AI/ANs nationally, versus 7 for the general population. Thus, treatment intended to help people with chemical dependency is especially important for urban AI/ANs (Dickerson, Brown, Johnson, Schweigman, & D'Amico, 2016). More recently, the Urban Indian Health Program (a component of the Indian Health Service) reported to Congress that "alcohol-induced death rates are 2.8 times greater for urban AI/AN people than all races in urban areas" (U.S. Department of Health and Human Services, 2015, p. 8).

Agencies providing substance treatment services for urban AI/ANs face a dilemma. As Hartmann and Gone (2012) noted, "On one hand, many of these (urban) agencies wish to provide both standard Western and traditional healing services, but on the other hand, they lack concrete guidance for the design and integration of such services" (p. 543). Moreover, Legha et al. (2014) pointed out that chemical dependency treatment programs for AI/ANs must deal with "pressure to use Evidence-Based Treatments (EBTs)" (p. 7). However, in a recent survey of chiefly rural substance abuse treatment programs for AI/ANs, Novins et al. (2016) found that "only two of the commonly implemented psychosocial EBTs (Motivational Interviewing and Relapse Prevention Therapy) were endorsed as culturally appropriate by a majority of programs that had implemented them" (p. 214).

Consequently, "the fundamental challenge becomes how to accommodate substantive cultural divergences in psychosocial experience using narrowly prescriptive clinical practices and approaches without trivializing either professional knowledge or cultural difference" (Gone, 2015, p. 139). Indeed, as stated by Moghaddam and Momper (2011), "providing effective substance user treatment that incorporates both Western and traditional Native healing is challenging" (p. 1431).

And, adding to the challenges, "detailed descriptions of approaches for making traditional healing available for urban AI communities do not exist in the literature" (Hartmann & Gone, 2012, p. 542). Consequently, Hartmann and Gone (2012) noted that these information deficiencies "invite the development of urban-specific guidelines for making traditional healing available for these AI populations" (p. 543).

In addition to lack of information about services, few (if any) data are available about staff members at substance abuse treatment programs designed for urban AI/ANs. National substance abuse treatment workforce survey participants described substantial concerns, including staff recruitment and retention (Ryan, Murphy, & Krom, 2012). But there appear to be no comparable data pertaining to providers of chemical dependency services for urban AI/ANs. And, speaking about treatment providers in general, the authors of the national Action Plan for Behavioral Health Workforce Development noted "the paucity of available data about workforce characteristics" (Hoge et al., 2009, p. 885).

This project addressed these issues by obtaining data on services and staff at substance abuse treatment programs designed for urban AI/ANs.

When examining specialty substance abuse treatment services, it is helpful to distinguish between residential versus outpatient care. By definition, residential clients spend nights at a treatment facility, whereas outpatient clients do not (Reif et al., 2014). Residential substance abuse treatment is a key service setting for AI/ANs (McFarland, Gabriel, Bigelow, & Walker, 2006), especially for those who live in urban areas. For example, the nationwide 2012 Treatment Episode Data Set compiled by the Substance Abuse and Mental Health Services Administration (as analyzed by the authors) showed that residential care accounted for 27% of some 31,729 chemical dependency admissions for AI/AN clients served by either outpatient or nonhospital inpatient (i.e., residential) rehabilitation programs. Conversely, for non-Natives, residential care represented only 22% of 1,296,650 rehabilitation admissions. And in urban areas, residential treatment accounted for 28% of AI/AN chemical dependency rehabilitation admissions, versus only 24% for non-Natives.

It should be noted that AI/AN residential admissions in urban areas need not be to programs that focus on this population. Indeed, the (admittedly limited) California data on program characteristics reported by Evans, Spear, Huang, and Hser (2006) suggest that most AI/AN substance abuse treatment admissions are to agencies designed to serve the general population.

Along these lines, in a review examining effectiveness of residential services, Reif et al. (2014) stated that "implementing effective and culturally responsive care is essential," recommended that researchers "analyze the role of culture-specific approaches," and suggested that "studies should examine the components of residential treatment that might relate to

effectiveness, such as types of clinical staff" (p. 310). To facilitate such an examination, it is helpful to distinguish Indigenous/traditional (Gone, 2012) culturally specific healing approaches (see Wright et al., 2011, for examples) from what might be called *mainstream* (Moore, Arons, Davis, & Novins, 2015) or *conventional* substance abuse treatment services (such as cognitive-behavioral therapy) as described by the National Institute on Drug Abuse (2012). It is also useful to differentiate staff members who deliver culturally specific services from providers of conventional substance abuse treatment (such as licensed chemical dependency counselors).

Studies have addressed the value of traditional healing activities (such as sweat lodges) for urban AI/ANs with substance abuse problems. Edwards (2003) asked clients of an AI/AN residential treatment program in San Francisco to list transformational experiences and found that traditional values were mentioned frequently. Moghaddam and Momper (2011) reported that providers at an urban AI/AN outpatient substance abuse treatment program emphasized the importance of traditional activities for healing. And in their qualitative work with both urban and reservation providers, Legha and Novins (2012) found that clinicians often mentioned ceremonies and rituals as key aspects of treatment for AI/ANs with substance abuse problems. Dickerson et al. (2012) reported similar findings. Unfortunately, data about programs aimed at urban AI/ANs are limited because national information systems that describe substance abuse treatment do not identify culturally specific services and no longer describe client race or ethnicity (McFarland et al., 2006).

Indeed, very few data are available about the services delivered at, or the providers of, residential substance abuse care for urban AI/ANs. There have been reports on AI/AN clients of urban residential substance abuse treatment programs, including those in Anchorage (Hesselbrock, Segal, & Hesselbrock, 2000; Parks, Hesselbrock, Hesselbrock, & Segal, 2001), Los Angeles (Spear, Crèvecoeur, Rawson, & Clark, 2007), Phoenix (Chong & Lopez, 2005, 2007), and the San Francisco Bay Area (Edwards, 2003; Nebelkopf & King, 2003; Nebelkopf & Penagos, 2005; Saylors, 2003; Wright et al., 2011). Rieckmann et al. (2012) described AI/AN clients of an urban treatment center that included a residential program. Saylors (2003) described services provided to AI/AN clients of residential programs in Oakland and San Francisco. And Wright et al. (2011) discussed services (especially traditional healing programs) for outpatient and residential clients of an agency in Oakland that focuses on AI/ANs.

However, there have been few (if any) comparisons of services and staff between agencies focusing on AI/ANs and mainstream treatment programs. Dickerson et al. (2011) and Evans et al. (2006) compared outcomes for AI/ANs versus non-Natives who received substance abuse treatment in California. But concerns have been raised about loss to follow up in the California studies (Greenfield & Venner, 2012) which, in any event, did not address traditional healing services or staff composition. Indeed, Evans et al. (2006) called for investigation of culturally specific components of treatment. And Novins et al. (2011) stated that "there are no reliable surveillance data regarding the nature and scope of substance abuse services for AI/ANs" (p. 4). Similarly, Wright et al. (2011) emphasized that "research must address appropriate cultural practices among this population (urban AI/ANs obtaining treatment for substance misuse)" (p. 1428). Put differently, a key question is: How can residential treatment agencies serving urban AI/ANs deliver both traditional and what has been called "comprehensive" (Ducharme, Mello, Roman, Knudsen, & Johnson, 2007) care?

Therefore, the purposes of this project were to 1) describe two residential substance abuse treatment programs focused on urban AI/ANs, 2) discuss the services delivered by the agencies, 3) delineate the providers of care, and 4) compare the study facilities with information from general population programs. The hypotheses to be tested were: 1) the AI/AN agencies would provide more varied mixtures of services than mainstream urban residential treatment programs, and 2) study agency staff would be more heterogeneous than those in conventional facilities. In addition, this study provides background for findings on treatment costs, which are presented in a companion paper ("Residential substance abuse treatment for urban American Indians and Alaska Natives Part II: Costs," in this issue).

METHODS

Selection of Study Sites

Agencies to be studied were selected based on the following criteria: 1) chiefly serving urban AI/ANs, 2) providing residential substance abuse treatment, and 3) offering short-term and/or long-term residential programs. In this context, "urban" refers to metropolitan areas (also known as Core Based Statistical Areas; i.e., cities), as defined by the U.S. Census Bureau. Residential substance abuse treatment, as defined by the Substance Abuse and Mental Health

Services Administration (SAMHSA, 2007), is a nonhospital, nondetoxification rehabilitation program whose clients stay overnight at the facility. Short-term programs typically have 30-day (or less) planned lengths of stay, according to SAMHSA, whereas long-term programs have planned lengths of stay greater than 30 days. Given resource constraints, the sample was limited to two study agencies. Data were obtained for study years 2006 through 2008.

Locations

The project took place in two cities in the western U.S. that had populations of approximately 500,000 (within metropolitan areas of roughly 1 to 2 million each, and state populations of 3 million and 7 million, respectively). As shown in Table 1, AI/ANs comprised approximately 1% of each study city's population. Table 1 also shows that fewer than two thirds of the AI/ANs were employed and approximately one quarter were below the poverty level. Moreover, AI/AN per capita personal incomes were less than $20,000 annually (compared with some $40,000 annually in the general population). Substance abuse treatment admissions were frequent for AI/ANs in the study cities—roughly 20 per 100 population (vs. 3 per 100 in the general population). Residential (vs. outpatient) treatment was provided for 24% of AI/AN admissions, compared with 12% of the general population admissions.

Table 1
American Indian and Alaska Native (AI/AN) Populations

	City A	City B
N	5,418	5,645
Female	50%	48%
Age 18 and over	88%	91%
Employed	63%	55%
High school or more	80%	77%
Below poverty level	23%	29%
Per capita income	$14,788	$16,738
Substance abuse treatment admits per hundred	16	23
Residential substance abuse treatment	14%	33%

Sources: Census 2000 (U.S. Bureau of the Census); Treatment Episode Data Set for 2000 (Substance Abuse and Mental Health Services Administration)

Overview of Study Agencies

The two study agencies largely serve urban AI/ANs, are closely connected with general medical care, provide numerous treatment modalities for individuals with substance abuse problems, and include culturally specific services. While the focus is AI/ANs, the agencies provide services to all racial and ethnic groups. Both agencies are private not-for-profit entities founded in1970, and both are funded by numerous entities, including the Indian Health Service (IHS) and Medicaid.

Agency A Overview

According to its website, the mission of Agency A is "to provide education, physical and mental health services, and substance abuse treatment that are culturally appropriate to AI/ANs and other vulnerable people." The agency's vision "is to achieve the highest level of physical, mental, and spiritual well-being for (AI/AN) people."

In 1970, a group of AI/AN men recovering from substance abuse established Agency A as an all-male residential treatment center for clients with alcohol and drug problems. They wrote a grant to provide AI/AN treatment services and purchased a large house in City A, now known to the community as Totem Lodge, which was the original home of the residential treatment program. Eventually Agency A also established a women's treatment center in City A. The men's program remained at Totem Lodge. In 1989 Agency A established a family treatment program using a cultural approach to the Alcoholics Anonymous (A.A.) and Narcotics Anonymous (N.A.) 12 steps. The residential program moved to its current location on the outskirts of City A in 1994.

Agency A now serves both genders and operates a residential family substance abuse treatment program, an outpatient chemical dependency treatment program, and a primary health care clinic that provides physical examinations, prenatal care, immunizations, women's health care, nutritional counseling, sexually transmitted disease diagnosis and treatment, family planning, well-baby checks, and mental health services. Note that for both study Agency A and for study Agency B substance abuse treatment is another term for chemical dependency treatment.

The health clinic emphasizes early intervention services in pediatrics, women's health, and mental health services. The Agency A outpatient treatment center provides outpatient

substance abuse treatment, relapse prevention counseling, a "parents as teachers" program, and community outreach linking clients with resources for housing, transportation, child care, and other social services. The health clinic and outpatient programs serve the five counties of the City A metropolitan area. Agency A depends on Medicaid for approximately half of its revenue, with IHS providing the remainder.

Agency A also operates a family wellness program (a culturally based service designed to give support to parents, grandparents, aunts, and uncles in their roles as caregivers of children). Agency A has several grant-funded programs such as tobacco cessation and wraparound services. These projects are located at three different facilities in City A.

Agency B Overview

Summarizing its website, Agency B is a private not-for-profit multiservice community health center chartered in 1970 to serve the health care needs of AI/ANs living in the greater City B region. The agency is governed by a 15-member board of directors, at least 51% of whom are of AI/AN heritage. The mission of Agency B is to assist AI/ANs in achieving the highest possible physical, mental, emotional, social, and spiritual well-being through the provision of culturally appropriate services and to advocate for AI/AN people, especially the most vulnerable members of the community.

Services at Agency B are divided into four functional areas: 1) physical health, which operates the medical, dental, laboratory, pharmacy, and nutrition programs; 2) community and behavioral health, which operates community education, case management, outpatient mental health, and outpatient substance abuse treatment programs; 3) the residential treatment center, which is a chemical dependency facility for both adults and adolescents; and 4) drug and alcohol prevention programs, which have included the Healthy Nations project (sponsored by the Robert Wood Johnson Foundation). Special programs are available for adolescents and for people with HIV/AIDS.

In addition to substance abuse treatment, Agency B offers primary medical care; general practice dental care; mental health services; domestic violence services; traditional health liaison services; Women, Infants, and Children (WIC) programs; nutrition services; laboratory services; and pharmacy services. Agency B is nationally accredited and licensed through the state. Services are provided at an outpatient substance abuse treatment clinic near the administrative

building, at the clinical center across the street from the administrative building, and at the residential treatment center.

The Agency B residential treatment center is the largest treatment center in the nation focusing on urban AI/ANs. It was established in 1973 as a recovery house with a loosely knit treatment program, which became more formalized over time. The residential treatment center moved to its current location in 1986 when Agency B purchased the property, which consists of several cottages that provide housing for residents, a cafeteria, and medical services situated on four acres in a quiet residential area of City B.

Quantitative Measures

Agency staff members were asked to complete a questionnaire regarding demographics, education, and professional certification. The instrument included the Transcultural Self-efficacy Scale (described below). In addition, AI/AN staff members were asked to complete the Adult Biographical Questionnaire (described subsequently). Only one staff member at each agency declined to complete the surveys. Thus, the staff response rates were 97% at both Agency A and Agency B.

Transcultural Self-efficacy Scale (TSET)

This instrument is designed to measure health care providers' comfort and confidence in working with individuals from many cultures. The questionnaire was developed and validated chiefly with nursing students. Sample prompts and items include "Rate your degree of confidence or certainty for each of the following interview topics. Please use the scale below and mark your response accordingly"

- …Interview clients of different cultural backgrounds about
    - …meaning of nonverbal behaviors
    - …folk medicine tradition & use.

and "Please rate YOUR degree of confidence or certainty for each of the following items. Use the scale below and mark your response accordingly"

- …Among clients of different cultural backgrounds you are AWARE OF
    - …traditional caring behaviors
    - …comfort and discomfort when entering a culturally different world?"

Responses range from 1 (*not confident*) through 10 (*totally confident*). The scale has several factors, such as "recognition," which explained 36% of variance, and "kinship and social," which explained 8% of variance (Jeffreys & Smodlaka, 1998). The questionnaire has good test-retest reliability, with subscales showing correlations of .63 to .75 for measures completed at an interval of 2 weeks (Jeffreys, 2000). A test of known groups validity was also favorable in that advanced nursing students showed higher scores than novices. There are three subscales addressing cognitive, practical, and affective aspects of self-efficacy. Advanced nursing student subscale scores averaged 7 through 8 (Jeffreys & Smodlaka, 1999). Among staff participants at the study agencies, the subscales were highly reliable, with Chronbach's alpha scores of 0.97, 0.99, and 0.95 for cognitive, practical, and affective, respectively.

Adult Biographical Questionnaire (ABQ)

This instrument collects extensive cultural information and includes the Orthogonal Cultural Identification Scale (Oetting & Beauvais, 1990-1991). Owing to missing data on items pertaining to family activities or children, this project used a 4-item version of the scale. These items pertained to personal ethnic identity (How do you see yourself?/What is your ethnic identity?), family tradition (How many of these special activities or traditions does your family have that are based on American Indian culture?), ways family lives by (Does your family live by or follow the American Indian way of life?), and personal (Do you live by or follow the American Indian way of life?). Response options range from 0 (*not at all*) through 3 (*all or nearly all*). These 4 items showed excellent reliability, with Cronbach's alpha exceeding 0.76 for 21 AI/AN staff respondents. As with the original scale (Oetting & Beauvais, 1990-1991), total scores greater than 7 were considered evidence of "high" American Indian cultural identification.

National Comparison Data

National data sets were used to provide comparisons. This information was accessed online via the Substance Abuse and Mental Health Data Archive, then at the Inter-University Consortium for Political and Social Research maintained by the University of Michigan. For the national data sets, "urban" admissions, discharges, and agencies, respectively, were defined as those within Core Based Statistical Areas.

The SAMHSA-supported Treatment Episode Data Set (TEDS) compiles information about admissions to and discharges from virtually all publicly funded substance abuse treatment programs in the U.S. (Albrecht, Lindsay, & Terplan, 2011; Mutter, Ali, Smith, & Strashny, 2015;

Stahler, Mennis, & DuCette, 2016; Terplan, Smith, Kozloski, & Pollack, 2010). Both study agencies provide data to this system. Consequently, variables in the national data (such as a client's primary substance of abuse) match variables describing the study agencies. The unit of analysis is generally the admission (or the discharge), so that a given person may be represented more than once.

Data were examined pertaining to discharges during 2006 of AI/ANs from residential rehabilitation programs located in Core Based Statistical Areas. There were 2,075 discharges from short-term programs and 2,668 discharges from long-term programs.

Another data set provided by SAMHSA is the National Survey of Substance Abuse Treatment Services (NSSATS). This mail, telephone, and Internet survey encompasses the overwhelming majority of publicly funded chemical dependency treatment agencies (with a response rate above 95%). Both study agencies contribute data to this system. Therefore, variables in the national data (such as numbers of admissions) match data describing the study agencies. Data from the survey are used to populate the online Substance Abuse Treatment Facility Locator. The survey includes a checklist where respondents indicate which services are provided by their agencies. In addition, the survey asks respondents about numbers of admissions, current census, and numbers of residential treatment beds. However, client demographic data (such as race and ethnicity) are not included. Data from the 2006 survey were obtained pertaining to 3,539 agencies in Core Based Statistical Areas that offered either short- or long-term residential (nonhospital) treatment services. For convenience, agencies responding to the national survey will be referred to as "mainstream" programs.

Nationwide staff data were obtained from an older project supported by SAMHSA. The Alcohol and Drug Services Study (ADSS) was a national examination of publicly funded substance abuse treatment agencies conducted from 1996 through 1999 (Reif, Horgan, & Ritter, 2011; Woodward, Das, Raskin, & Morgan-Lopez, 2006; Woodward, Raskin, & Blacklow, 2008). Briefly, the study included a stratified random sample of substance abuse treatment agencies (with a response rate of 91%). Analyses focused on the "nonhospital residential-only" stratum. There were 366 urban nonhospital residential-only programs whose census on the survey date averaged 27 clients (with median of 24). Facility administrators responding to "phase one" telephone interviews in 1996 provided information about the agency (such as number of clients in residence on the survey date) and about staff members, including numbers of

employees, education, and credentials. These responses appear to be the most recent nationally representative data about urban residential treatment center staff. A more recent substance abuse treatment workforce survey (Ryan et al., 2012) did not distinguish between outpatient and residential facilities. Also, variables in the ADSS project that describe program staff correspond approximately to educational backgrounds, credentials, and job titles of staff at the study agencies. The national ADSS data pertaining to full-time staff were analyzed using the facility "phase one" final sampling weight.

Procedures

Both qualitative and quantitative approaches were employed to describe services and staff at the study agencies. Study agencies were selected to represent programs focusing on urban AI/ANs. The researchers had worked for several years with staff at both study agencies. The work was motivated in part by concerns at both study agencies regarding requests by payors for documentation of service provision. Building on study agency concerns regarding documentation of service provision, the researchers approached study agency leaders to suggest the project.

The project began with extensive discussions between agency staff (including senior leaders) and members of the research team, leading to agreement on the study protocol.

In addition, the meetings served to introduce the project to agency staff members. Each agency hired a Native researcher (a masters-level individual who had years of experience collecting quantitative data from publicly funded substance abuse treatment programs) who facilitated quantitative data acquisition. In addition, the directors of the study agencies served as consultants to the project. Additional qualitative information came from agency websites and documents. State substance abuse agency data in both study states were also reviewed.

Qualitative approaches were then employed to obtain detailed descriptions of services provided by the study agencies. The work involved triangulation, defined by Cohen and Crabtree (2008) as "using multiple data sources in an investigation to produce understanding" (p. 334). Information collected via qualitative means included referral sources, histories of the two agencies, treatment practices, counselor activities, treatment staff, employee evaluation procedures, and residential funding. The Native researcher interviewed staff members at the residential treatment program to collect this information. Table 2 shows the training and experience of the interviewees.

Table 2
Substance Abuse Treatment Staff Interviewees

	Agency A			Agency B		
	Demographics	Training	Experience	Demographics	Training	Experience
Treatment director	46 / m / Am Ind	College / CADC-II	14 / 14	56 / m / white	College / CDP	16 / 10
Clinical supervisor	57 / f / Am Ind	College / CADC-II	28 / 7	62 / f / white	BA / CADC	6 / 11
Counselor	49 / f / Am Ind	BS / CADC-II	9 / 9	37 / f / Am Ind	BA / CDP	4 / 4
Counselor	49 / f / Am Ind	College / CADC-I	1 / 1	65 / f / Am Ind	NA / CDP	15 / 1
Cultural advisor	65 / m / Am Ind	NA	NA	57 / m / Am Ind	BA / NA	12 / 12

Demographics = age / gender / race
Training = education / certification
Experience = years in field / years with agency

BA = Bachelor of Arts
BS = Bachelor of Science
College = some college education
CADC = certified alcohol and drug counselor
CDP = chemical dependency professional
NA = not applicable / not available

The Native qualitative researcher visited the Agency A residential treatment center on July 19-20, 2006. The researcher interviewed the treatment director, the clinical supervisor, and two AI/AN counselors; attended two treatment groups, one on grief and the second on alcohol and drug education; and conducted additional interviews with the cultural director and the early childhood education program director.

The Native qualitative researcher visited the Agency B residential treatment center on July 27-28, 2006. The researcher interviewed the treatment director, the clinical supervisor, two AI/AN counselors, and the cultural teacher; attended an alcohol education group; and visited the outpatient treatment facility to talk with a longtime counselor.

The authors reviewed notes (including quotations) compiled by the qualitative researcher. Themes were identified from the notes (Marshall & Rossman, 2015; Perakyla & Ruusuvuori, 2011). The qualitative data were then summarized according to the themes.

The investigators conducted multiple regression analyses with TSET scores as dependent variables using site, age, gender, race, and counselor status as predictors.

The researchers also conducted multiple regression analyses using AI/AN staff members' Orthogonal Cultural Identification Scale scores as dependent variable with age and gender as predictors.

Study years were 2004 through 2010. The project was approved and overseen by the Oregon Health & Science University Institutional Review Board. Data analysis used SPSS version 20.

RESULTS

It will be helpful to understand the flow of clients to and through the study agencies. Therefore, the following sections describe study agency referral sources, intake procedures, arrays of outpatient and residential services available, and client treatment schedules. Detailed descriptions of residential services are then provided. The last sub-section describes characteristics of residential staff.

Referral Sources for Residential Substance Abuse Treatment

Both agencies served members of numerous tribes and, as shown in Table 3, received referrals from several sources (including self or family, reservations, courts, welfare agencies, and detoxification programs). Sources for Agency A referrals included tribes, county and state facilities, the justice and court systems, family members, caregivers, tribal members acting individually (rather than for the tribe as a whole) for themselves and-or their families, and private individuals. In addition, clients were referred by human services agencies (especially a family involvement team), tribes (often at the tribal government level), a detoxification center, hospitals, and other treatment programs, including Agency A's outpatient component.

Every county in State B has its own assessment center which refers people to treatment. Referrals to Agency B also came from legal systems, hospitals (including Veterans Affairs), outreach programs at community locations (for example, at cultural events), family members, and self-referral. The Agency B residential treatment center also worked with tribes (both within and out of state) who referred clients. Agency B was one of the few treatment programs in the state serving people with co-occurring disorders.

Table 3
Urban Substance Abuse Treatment Processes and Programs

	United States [a]	Agency A	Agency B
Referral sources			
Self		Yes	Yes
Family		Yes	Yes
Reservation		Yes	Yes
Courts		Yes	Yes
Welfare		Yes	Yes
Detoxification programs		Yes	Yes
Intake procedures			
ASAM patient placement criteria [b]		Yes	Yes
Detoxification		Offsite	Offsite
Outpatient program			
Groups		4 / week	3 / week
Individual		4-8 hrs / month	1 hr / month
Drunk driving rehabilitation	11%	Yes	No
Residential program			
Capacity	33	54 adult beds	76 adult beds
Occupancy	84%	100%	72-86%
Blackout period		7 days	No
Residential treatment components			
Individual therapy	94%	Yes	Yes
Addiction physiology	94%	Yes	Yes
Group therapy	93%	Yes	Yes
Discharge planning	92%	Yes	Yes
Relapse prevention	91%	Yes	Yes
Self-help groups	78%	Yes	Yes
Life skills	77%	Yes	Yes
Aftercare	74%	Yes	Yes
Family stabilization	73%	Yes	Yes
Housing assistance	68%	Yes	Yes
Women's groups	57%	Yes	Yes
Job readiness	56%	Yes	Yes
Mental health services	42%	Yes	Offsite
Modified twelve step		Yes	Yes
Motivational enhancement		Yes	Yes
Sobriety coping		Yes	Yes
Cognitive behavioral		Starting [c]	Starting [c]

Table 3, Continued
Urban Substance Abuse Treatment Processes and Programs

	United States [a]	Agency A	Agency B
Culture-specific services in residential programs			
Treatment work book		No	Yes
Talking circle		Yes	Yes
Native crafts		Yes	Yes
Sweat lodge		Yes	Offsite
Flute playing		Yes	No
Drumming		Yes	No
Fire ceremony		Yes	No
Beds for clients' children	16%	Yes	No
Adolescents accepted	80%	No	Yes

[a] National Survey of Substance Abuse Treatment Services 2006 urban residential facilities. [b] ASAM = American Society of Addiction Medicine. [c] as of 2002.

Assessment, Triage, and Residential Intake Procedures

Agency A has never advertised its services, although it does have a website. People telephoned the Agency A residential center for information, and the intake team sent an intake packet. Once the intake, including a physical examination and tuberculosis (TB) test, was completed, a client could be admitted.

During the study years, a client referred to Agency A was assessed at the agency's outpatient facility utilizing the American Society of Addiction Medicine (ASAM, 2001) patient placement criteria, as required by the state. Based on the assessment, clients were typically referred to Agency A's outpatient program or, in more severe cases of addiction, to Agency A's residential facility. From residential treatment, clients moved to Agency A's outpatient follow up and aftercare services.

No records were kept regarding the numbers and sources of referrals, but Agency A intake files remained open for 6 months. If a client had not enrolled in the program within 6 months, the file was destroyed. The Agency A residential program was not able to admit someone with a violent background as determined by self-report or by information from the referral source (such as the criminal justice system) because of the presence of women and children in the facility.

Clients arriving at the Agency A residential center went to the admissions office, where their bags were checked for contraband, and they were given needed paperwork and release

forms. They were then connected with a counselor or peer leader who gave them a tour of the facility and introduced them to other clients and staff. They then went for a medical intake. During the first two days, clients rested, became acquainted with their schedules, and began group sessions addressing topics such as the physiology of addiction, family issues, the 12 steps, and relapse prevention. Clients had their initial meeting with their counselors during the first day or two. Clients were under a "blackout" for the first seven days, allowed no visitors or trips to attend outside A.A. meetings, and not able to attend sweat lodge ceremonies.

Individuals presenting at Agency B were evaluated by clinicians using the ASAM patient placement criteria, as required by the state. Treatment options included detoxification (almost always provided at an offsite facility), residential care, and an outpatient program at the clinic. On average, clients addicted to drugs other than heroin remained in the detoxification facility for 24-48 hours. Clients addicted to heroin typically stayed in detoxification for a week or more.

Clients arriving for Agency B residential treatment underwent an intake interview at the reception area where they were given registration forms, case management forms, and a consent-to-treatment form; they also read and signed the rules of the center. Clients then went to the medical building for a brief medical history and physical examination. From the medical building, they were taken to their cottage where the residential assistant welcomed them. The residential assistant went over the rules and expectations and gave the clients their daily schedules. Clients saw a counselor for a one-on-one session within 24-48 hours of arrival. In the meantime, clients started attending group sessions, such as a morning men's or women's group, followed by an education group dealing with the physiology of addiction, family issues, the 12 steps, and relapse prevention.

The first session with the Agency B counselor was devoted to an interview in which the counselor asked about addiction history, number of times in treatment, and mental health history. The counselor kept a written document of all sessions. During the initial session, the counselor determined the client's motivational level and, in consultation with the client, devised an individualized treatment plan. Thereafter, clients generally had weekly one-on-one sessions with their counselors.

Substance Abuse Treatment Services at the Study Agencies

Reviews of the agencies' websites and documents, as well as discussions with staff, indicated that both study agencies provided several mainstream services (as well as numerous ancillary or wraparound programs), including individual and group therapy, substance abuse education (incorporating addiction physiology), relapse prevention, discharge planning, case management, self-help groups, life skills and social skills training, sobriety coping instruction, aftercare counseling, family counseling and stabilization training, social services, housing assistance, peer support, general health education, special groups for men and women, transportation assistance, job readiness preparation, employment assistance, mental health care, and domestic violence programs for women (Table 3). Both agencies facilitated self-help programs, including A.A. and N.A. The agencies had residential and outpatient programs but referred clients to offsite detoxification facilities. Both programs provided mental health care but Agency B did so offsite.

As shown in Table 3, the agencies also offered comprehensive, culturally specific treatment programs, chiefly via groups; including a sweat lodge (described below). In addition, the agencies had adapted for AI/ANs and incorporated into their treatment programs standardized therapies, including Motivational Enhancement and cognitive-behavioral treatment.

The Agency A substance abuse program also included HIV/AIDS prevention and education, TB and hepatitis C virus testing, routine urine screens, medical treatment, recreational activities, diet and nutritional advice, personal budgeting education, a child development center (CDC), early intervention services, preschool program (ages 0-4 years), school-age program (ages 5-8 years), fetal alcohol syndrome education, child care, and parenting classes.

The Agency B outpatient substance abuse treatment facility employed a 12-step recovery program modified to include cultural activities. In keeping with Agency B's commitment to providing a continuum of care in the recovery process, outpatient treatment typically consisted of group sessions in which parenting, anger management, budgeting, and job search skill training, were addressed. Agency B outpatient services also included group therapy, family involvement, physical exercise, and nutritional assessments and regimens.

If deemed necessary by the treatment counselor or team, Agency B outpatients could be given up to three group sessions per week. Patients typically had 1 hour of one-on-one

counseling for every 20 hours of group work, which generally amounted to about 1 hour per month. The Agency B outpatient facility had an average caseload of 50 clients.

Table 3 shows that Agency A provided more outpatient groups per week than Agency B and offered more individual treatment. The programs also differed in that Agency A had residential beds for clients' children and provided outpatient driving while intoxicated programs.

Schedules of Residential Substance Abuse Treatment at the Study Agencies

The residential treatment schedules shown in Table 4 summarize the programs. Notice that Table 4 provides both short- and long-term schedules for Agency B, whereas Agency A has only a long-term program. However, the Agency A schedule included parenting programs and parent-child group activities.

Table 4
Residential Substance Abuse Treatment Schedules 2006

	Agency A	Agency B	
		Short Term	Long Term
Monday AM	Men and women process group	Men meditation Women meditation Chemical dependency and family Stress management	Meditation Education/computer
Monday PM	Relapse prevention group Alcohol and drug education	Men study period Women study period Computer class Men intensive process group Women intensive process group Cottage meeting	Beginning computer Education Cottage meeting
Tuesday AM	Alcohol and drug process group Domestic violence for women group	Men meditation Women meditation Educational/vocational presentation Smoking cessation	Meditation Education
Tuesday PM	Men and women process group Coin ceremony	Arts and crafts Men intensive process group Women intensive process group Life skills Narcotics Anonymous	Arts and crafts Education Computer Narcotics Anonymous
Wednesday AM	Parenting group Parenting process group Men process group	Men meditation Women meditation Alcohol and drug education	Meditation Employment basics Nutrition group

Table 4, Continued
Residential Substance Abuse Treatment Schedules 2006

	Agency A	Agency B	
		Short Term	Long Term
Wednesday PM	Socialization group Alcohol and drug education Parent child play group	Men study period Women study period Computer class Alcohol and drug presentation Speakers meeting	Beginning computer Alcohol and drug video Education
Thursday AM	Men process group Women process group	Men meditation Women meditation Twelve step education	Meditation Education/vocational guidance Housing resources
Thursday PM	Case management groups	Talking circle or spirituality pathways Men intensive process group Women intensive process group Alcoholics Anonymous	Talking circle or spirituality pathways Alcoholics Anonymous
Friday AM	Alcohol and drug education	Men meditation Women meditation Men clothing run Women domestic violence group	Meditation Men clothing run
Friday PM	Men process group Women process group Cultural education	Community meeting Women clothing run Hepatitis C presentation Men intensive process group Women intensive process group	Community meeting Women clothing run
Saturday AM	Medical sessions Mental health group	Meditation Relapse prevention	
Saturday PM	House meeting Cultural film Arts and crafts Sweat lodge		
Sunday AM	Big Book Family group Alcohol and drug education	Education group	
Sunday PM	Visiting Cultural film	Visitors (except blackout) Women Narcotic Anonymous Men Narcotic Anonymous	Women Narcotic Anonymous Men Narcotic Anonymous

Specifics of Agency A Residential Substance Abuse Treatment

The Agency A residential center is a regional resource serving 44 tribes as well as the urban AI/AN population, comprised of individuals from more than 150 tribes. The Agency A

residential facility could house up to 54 clients and was typically full to capacity (Table 3). The residential program served adults ages 17 years and older. Parents were able to bring infants and children up to 5 years of age with them to treatment.

The Agency A facility is a former school building, located on 11 acres of land. The area is bordered by trees on one side and homes on the other sides. There are two sweat lodges (men's and women's), a fire circle, an outdoor track, and a small gymnasium which also serves as a dining hall and a location for cultural activities, including graduations. The Agency A facility is handicap accessible, with elevator access between the lower floor, where the gym is located, and the upper floor, which has approximately 60 treatment beds, offices, a large meeting room, and the CDC.

Agency A incorporated AI/AN cultural practices such as talking circles, flute playing, drumming, and bead work into the residential treatment program. In addition to alcohol and drug treatment, Agency A had mental health therapists on staff and during the study years began working toward a cohesive dual diagnosis approach to alcohol/drug and mental health treatment.

Clients at Agency A participated in three process group sessions and one small group session per week during the day. Groups were also offered throughout the week for parenting skills, relapse prevention, life skills, alcohol and drug education, and meditation, along with medical and/or health lectures. Mixed group sessions typically had women sitting on one side of the room and men on the other. Some smaller group sessions, such as process groups, featured separate sessions for men and for women. Agency A also provided gender-specific groups addressing mental health issues as well as grief and loss groups.

At the Agency A residential program, A.A. and N.A. meetings were held four nights per week, with one evening devoted to Big Book study. Other evenings were devoted to AI/AN traditional talking circles and guest speaker meetings. Pregnant women were encouraged to attend the parenting group and to work with the marriage and family counselor. Residential clients also participated in culturally relevant activities, including sweat lodge ceremonies (defined below), talking circles, flute playing, arts and crafts, singing and drumming, and fire ceremonies. Near the end of treatment the counselor or case manager assisted clients in finding housing and employment. Clients were required to have at least a temporary A.A. sponsor to provide support in the early days after treatment. Residential clients often went to the Agency A outpatient program for aftercare.

Agency A provided mental health services onsite at the residential program seven days per week (Table 3), with a psychiatrist available two days per week. Dialectical behavioral therapy and dual diagnosis groups were held weekly, facilitated by a consulting psychologist. Substance abuse treatment staff and mental health counselors worked side by side to provide integrated treatment.

Agency B Residential Treatment

The residential program at Agency B is one of the largest residential treatment centers operated by an AI/AN not-for-profit health care agency in the U.S. During the study years, Agency B had approximately 90 patient beds (Table 3) and offered 3 levels of care: 1) a 30-day intensive inpatient program for stabilization and education involving 4 hours per day of group sessions followed by written homework, 2) long-term care, defined as a 60-day transition phase following the 30-day program, and 3) long-term treatment of 180 days for clients covered by a special State B program (described below) followed by 90 days of outpatient treatment.

The residential program at Agency B typically had 76 adult beds and 10 adolescent beds (Table 3). Four large cottages housed adults and a special wing in the main administration building housed adolescents. During 2002, the residential occupancy rate ranged from 72% to 86% (Table 3). Length of stay varied depending on individual needs.

Treatment programs at the Agency B residential program typically focused on group therapy, cultural and spiritual needs, nutritional regimens, one-on-one therapy, physical exercise, family involvement, and 24-hour supervision. Combined alcohol-drug dependence was treated when necessary. Residents had full access to comprehensive health services.

Culturally relevant practices were important at Agency B; a traditional health liaison person was on staff. In addition, Agency B residential clients completed a culturally specific workbook.

The Agency B residential treatment program offered intensive recovery programs, cultural activities, long-term recovery stays, a family-oriented treatment approach, individual and group treatment, and access to comprehensive health services, including mental health counseling. Transportation was provided for residential clients to the Agency B clinic for mental health services and to a general hospital for medical services. Every effort was made for patients to stay with their existing health care providers while in treatment.

Agency B substance abuse treatment patients also received wraparound and support services, including job training, resume writing, GED preparation, and computer laboratory access. The Agency B residential center provided clients with educational services through a specialist employed for that purpose. In-house A.A. and N.A. meetings were available to all residential treatment clients wishing to attend. Agency B encouraged continuity of care for those in recovery. Residential clients could seek outpatient counseling at the Agency B clinical center, where many outpatient services were located.

Study Agency Sweat Lodges

Both agencies provided sweat lodge programs for residential clients. A sweat lodge is a low windowless structure made of woven ash branches. Tarps or blankets are placed on top of the branches to keep out the light and prevent the heat from escaping. The floor is made of hardened earth with a pit in the center into which hot rocks are placed. Participants enter the lodge on their hands and knees and crawl around the outside of the pit, seating themselves on the ground. The fire keeper brings in a certain number of hot rocks. Herbs such as cedar, sage, or sweet grass are sprinkled on the rocks, then the door to the lodge is closed and water is poured on the rocks to create steam. Some ceremonies offer four rounds of prayers. The door is opened between rounds and additional hot rocks are brought in. During each round, participants pray for certain purposes, such as general prayers, prayers for women and for mother earth, prayers for veterans and the ancient ones, and prayers to thank the Creator.

Study Agency Services Compared to National Urban Residential Programs

As shown in Table 3 (left column), according to the 2006 National Survey on Substance Abuse Treatment Services, over 90% of urban residential treatment programs provided individual and group therapy, substance abuse education, relapse prevention, and discharge planning. Over 80% offered case management and special programs for adolescents, and over 70% provided or facilitated self-help groups, social skills training, aftercare counseling, and family counseling. At least 60% of national survey respondents offered social services, housing assistance, peer support, HIV/AIDS education, and general health education. Approximately half the programs offered special groups for men and women, transportation assistance, and employment assistance.

On the other hand, fewer than half the national survey respondents provided mental health services, domestic violence programs, special programs for pregnant or postpartum women, or services focused on criminal justice clients. And only a handful of agencies (less than 20%) offered residential beds for clients' children, child care, or driving while intoxicated programs.

Themes from Qualitative Research

Prominent themes identified in the interviews and document reviews included cultural considerations, family involvement, and staff activities. The themes are presented here via quotations, interview summaries, and descriptions of agency staff activities.

Cultural Considerations

The Agency A treatment director said, "Whatever decisions are made here consider culture and the clients first. I believe this is foundational to Agency A." He said that approximately 80% of the clients (including many non-Natives) attend culturally specific services. Agency A did not bill insurance sources for cultural services, although these are part of the agency budget.

The Agency A clinical supervisor said that, to Native people, cultural services are incredibly important and the lack of such services in other treatment agencies is one reason why they may not do as well in treatment elsewhere.

Indeed, all Agency A interviewees agreed that the role of culture in treatment is very important. Accordingly, traditional AI/AN culture and spirituality have always been an integral part of Agency A's services. In recognition of its services to AI/ANs, Agency A has been honored by tribes with a sacred pipe, a totem pole, a drum, and an eagle staff.

The Agency A residential program regularly offered sweat lodge ceremonies, the Winto fire ceremony (a ceremony of the Northern California Winto tribe given to Agency A by tribal elders), talking circles, and cultural education. Many people also used the purification practice of "smudging" themselves with smoke from a receptacle containing burning leaves such as sweet grass, sage, and/or cedar in connection with prayer and ceremony.

The Agency A cultural advisor and assistants explained how the 12 steps are related to AI/AN cultures. One of the terms used to describe cultural practices in treatment is "walking the Red Road." The Red Road has many meanings. As a recovery movement, it refers to combining

ancient spiritual wisdom and modern substance abuse treatment practices. The cultural materials included a quotation from the late Sacramento, California Yurok artist David Ipina (deceased 1998) who said of the Red Road:

> "Being Indian is mainly in your heart. It's a way of walking with the earth instead of upon it. A lot of the history books talk about us Indians in the past tense, but we don't plan on going anywhere... We have lost so much, but the thing that holds us together is that we all belong to and are protectors of the earth; that's the reason for us being here. Mother Earth is not a resource, she is an heirloom."

Because Agency A served AI/ANs from over 150 different tribes with many different cultures, the cultural advisor and his staff met with clients from traditional backgrounds to explore what cultural practices they needed and tried to arrange for those to be provided.

Guest speakers and elders provided stories and information from various tribal traditions. For example, a guest from a distant reservation held a Washat service at Agency A. Washat traditions are significant to the tribes of the Columbia River area. Members of the Native American Shaker Church also provided services, and the family wellness teacher carried out a cradleboard-making project with parents, while teaching traditional parenting values.

A key event at Agency A was the "Coin Ceremony," which honored clients completing the residential program. Family members and friends of the graduating clients were encouraged to attend. Agency A also sponsored several community events each year. Two of these in particular brought together treatment program graduates: the New Year's Eve Sobriety Powwow and the Alumni Picnic. The treatment director said that he frequently heard present and past Agency A residential clients talk about "the Agency A way" which means "stay clean, stay on the Red Road, don't get in trouble, and stay out of jail." The use of this term illustrated the extent to which clients experienced a sense of community in residential treatment that stayed with them after they left.

Similarly, all of the Agency B residential staff interviewees stressed the importance of cultural activities. One counselor said, "It is 100% vital. When it is available and used there can be no price on it. It restores their sense of self. Natives will tell you if they are 'using' they are losing their spirituality. Traditional practices are a way of experiencing life."

One Agency B counselor said that AI/AN clients are very aware of the AI/AN staff, watch them, and know they are there. She said that some AI/AN clients come with their own culture, while others are not raised in their cultures and want to have some cultural experiences.

The Agency B clinical supervisor said that the spiritual component is important because so many AI/ANs either never had it or had lost it. She said, "It's a gentle way to get them back on a spiritual road." She went on to say that residential staff thinks the cultural activities are more important than do some of the AI/AN clients, who are out of touch with and disconnected from their cultures. Several Agency B staff mentioned that reasons for disconnection from cultures included homelessness as well as frequent geographic moves.

Another Agency B counselor remarked that the clients in residential programs interacted well with each other despite all the different cultural backgrounds they came from. He said, "We see all ethnicities and peace is generally maintained." Another said that the treatment program was the beginning of healing for each patient. She said, "Residential has Native American cultural themes, yet it still encompasses all the people served."

The Agency B treatment director said that AI/ANs did not have many options for residential treatment. Usually approximately 40% of residential clients at Agency B were AI/AN, and he said they tended to require a higher level of care than non-Native clients.

The weekly men's sweat lodge ceremonies provided by Agency B were conducted by a Makah Indian who moved to City B in 1959. The cultural services provider said that, when he first became interested in the sweat lodge ceremony, he began helping with the fire used to heat the stones and generate heat in the lodge at a cultural center. He said that a well-known Native cultural expert taught him the sweat lodge ceremony and that he still worked with the expert.

The ceremonies at Agency B offered four rounds of prayers; the door was opened between rounds and additional hot rocks were brought in.

At one time, Agency B offered sweats for both men and women; however, some traditions do not permit "mixed sweats," so they discontinued the practice and were only able to offer the ceremony to men during the study years. The clinical supervisor said that women could go to a nearby reservation or to another tribal location for women's sweats. Typically, women rode with someone who came to the residential center to participate in evening A.A. meetings.

The Agency B cultural services provider held men's and women's talking circles every week. Talking circles began with the purification practice of "washing" each person with smoke

from a receptacle containing burning leaves such as sweet grass, sage, and/or cedar, a practice often used in connection with prayer and ceremony. An eagle feather or other sacred object was then passed around the circle. The person holding the feather could speak without interruption or comment until finished and then passed the feather to the next speaker until everyone wishing to speak had done so. This opportunity to share one's heart in a sacred manner was a meaningful and healing spiritual practice for many people. The cultural services provider also worked regularly with residential clients in arts and crafts, teaching them to make dream catchers and god's eyes. He said most clients lacked eyesight or patience to do beadwork.

Family Involvement

Regarding family involvement in treatment, the Agency A clinical supervisor said that families were not involved as much in treatment as she would like. She said that it was difficult to involve families when clients came from a distance or were homeless or estranged from their relatives. A mental health counselor offered a Sunday afternoon group meeting for those families who visited clients in treatment, to help them understand and support their treatment and healing process. Counselors were also beginning to involve clients, along with their significant relatives, in discharge planning.

The CDC was considered very important to AI/AN families in treatment at Agency A. The treatment director said, "Sometimes the children arrive in worse shape than their parent, and in a sense, they are also in treatment. Seeing the process of the family getting healthy, the kids setting boundaries, and parents' engagement in parenting sessions through the CDC is my favorite thing at Agency A." Agency A had recently added a residential children's case manager who could follow families to outpatient care and help address children's needs; the agency also had received a grant focused on assisting children from families affected by methamphetamine addiction.

In summary, all Agency A services are centered on the family. It is the agency's philosophy that "without the family circle there will be no future."

Conversely, the Agency B clinical supervisor said that the majority of patients were not in contact with their family members. The counselors supported clients in getting back in touch with relatives, where possible, and helped mothers who had lost custody of their children to have visits with them. Clients were most likely to have had visits from brothers or sisters who were open to supporting their recovery, but many only saw their social workers or their A.A./N.A.

sponsors during visiting hours (Sunday afternoons from 1 to 4 p.m.). For clients who had family contacts, friends, relatives, and significant others could gather with them in the family room, picnic area, horseshoe pit, or on the lawn.

In addition, the Agency B residential center had an alumni barbecue that was free of charge. Typically around 400 former clients, A.A. participants, and others attended the event. To many, the residential center became like their family.

Counselor Activities

Overall, each study agency had approximately 15 residential and/or outpatient counselors (Table 4) and employed non-Native as well as AI/AN counselors. At Agency A, counselors reported that they worked 40 or more hours per week. For example, each week the Agency A lead counselor spent approximately 14 hours in one-on-one sessions with clients, 14 hours conducting group sessions, 12 to 15 hours on paperwork, and 9 hours in meetings. She said it was hard to fit all her activities into 40 hours. Regarding paperwork, she said that, for every 2½-hour process group, she had 1 to 1½ hours of documentation. There were 20-25 people in the group, and documentation required notes about each individual. The groups with which she worked included alcohol and drug education, relapse prevention, and a process group consisting of a client circle in which people checked in, raised any healing issues of concern, and were taught content from a women-focused A.A. workbook (Covington, 2000) regarding self, relationships, sexuality, and spirituality. She also allowed 30-60 minutes after each group for clients to speak with her individually about questions raised. She said she had a caseload of 10-14 clients.

The alcohol and drug evaluation for every new client at Agency A consisted of a 3-hour interview and a 1-hour written survey. Counselors spent approximately 1 hour writing up each evaluation, using ASAM criteria for placement and American Psychiatric Association Diagnostic and Statistical Manual criteria for dependence (substance use disorder). When they suspected a client had co-occurring mental health issues, they referred him/her to the mental health counselor onsite.

Each client's treatment plan at Agency A was based on his/her evaluation and was developed jointly with the client. It was reviewed every 30 days in an individual session. All clients had random urine analyses (UAs) for substance abuse. If a client was involved with the legal system, UAs were required once each week. Otherwise UAs usually were scheduled after

clients had been off campus with a group trip. If a client's UA indicated alcohol or drug use, it was addressed on an individual basis—usually with a warning for the first occurrence. Continuing "dirty" UAs resulted in a client having to leave Agency A residential treatment. Usually such clients had the opportunity to reapply for the program. Other behaviors, such as violence, abuse (emotional as well as physical) of a child or elder, or acting out in a sexually explicit way, resulted in a person being expelled from treatment.

When Agency A counselors recognized that a client was not making progress with his/her treatment plan, they usually held a "staffing" with the client and all counselors who worked with him/her. The purpose of the staffing was to discover what the client needed to be successful and how the counselors could support him/her. If the person was on probation or otherwise involved with the criminal justice system, the probation officer could also become involved in the staffing.

The Agency A substance abuse treatment counselors were trained in motivational interviewing, which they used as much as possible, and in client-centered treatment, and all were experienced with and respectful toward the role of culture in treatment. Agency A had no required curriculum (e.g., completion of the 12 steps was not mandated), although the lead counselor said that Agency A has been 12 step-based from the beginning. The treatment director believed that counselors needed total flexibility to develop a client's treatment plan in consultation with the client. For example, video- and audiotapes and oral (rather than written) homework were used for clients who did not read well. The Agency A clinical supervisor indicated that flexibility was important to gear treatment to the needs of each client and that the counselors usually made clinical decisions as a team. She said that all therapeutic work was done within a framework of respect, safety, and professional conduct. She said, "Our mental health people are very much a part of the treatment team."

The Agency A lead counselor mentioned that some clients were third-generation sufferers from fetal alcohol spectrum disorder. They had difficulty concentrating and needed special assistance, such as tape-recorded reading assignments, to carry out their homework. She had noticed that they could concentrate well when participating in singing, drumming, and ceremonies and believed that the cultural services were integral to the healing process for these clients.

The Agency A clinical supervisor said that she provided supervision "all day long." She had an open door for the staff and clients. She spent approximately 40% of her time with counselors discussing issues such as treatment planning, intervention with clients, and group dynamics. There was a weekly clinical staff meeting at which she provided education for counselors related to cultural issues, motivational interviewing, and other topics. She worked to ensure that all staff members kept in mind the importance of supporting the treatment mission and client needs as the first priority.

The treatment director had been with Agency A since 1992 and had served as an intern, a counselor, and an administrator. The clinical supervisor had been at Agency A for 7 years, first as a treatment counselor. The lead counselor (who had worked at Agency A for 9 years) said that there was a wonderful team dynamic between counselors and other residential treatment staff. "This results in a multidisciplinary approach to helping the clients succeed in treatment." She said the cultural, mental health, and CDC staff members were all part of the team as well. The counselor who had been at Agency A for 1 year said that she had personal experience with methamphetamine abuse and believed this knowledge to be one of her gifts to the treatment team.

The human resources department at Agency A had initiated annual evaluations using a standardized form. Newly hired counselors also were also evaluated within the first 6 months. Evaluations addressed specific criteria, including productivity, attendance, and relationships with co-workers. Areas of improvement and specific steps to take also were included.

Counselors at Agency B worked 40 hours per week, spending 15-20 hours per week in face-to-face counseling and 12 hours per week in groups. They spent about 2 hours per day on case management for clients. The Agency B clinical supervisor checked in with each counselor for 15 to 30 minutes every day. Counselors prepared notes on each client's participation in each group for the clinical supervisor to review. These notes helped them decide, for example, whether changes needed to be made in group membership. One of the counselors interviewed facilitated small process groups of 10-12 clients, educational groups of 50-55 clients, and also worked with groups on topics of family, self-esteem, relapse prevention, and pharmacology.

The Agency B counselors had to follow the required schedule for group sessions and show the clinical supervisor what curriculum they were using. Counselors had added, for example, some stress management to their group sessions. Counselors and the clinical supervisor

collaborated on expanding group sessions to include topics in stress management such as progressive muscle relaxation. They also used dialectical behavioral therapy with some clients. Clients did not engage in trauma work in early recovery; counselors instead sought to involve patients in a support system.

According to the clinical supervisor, Agency B did not have a primary treatment theory that all counselors had to use. The Agency B counselors provided services according to the individual needs of their patients. There were many young men coming to treatment at Agency B needing cognitive behavioral therapy, anger management, and coping skills, and counselors spent considerable time arranging and coordinating services to ensure that these needs were met.

Agency B counselors conducted evaluations of every client they served. Clients came into treatment with completed ASAM and American Psychiatric Association Diagnostic and Statistical Manual assessments (which were conducted by residential counselors prior to start of formal treatment), and then the counselors did a complete 1- to 2-hour biopsychosocial evaluation. Counselors wrote up the evaluations as they went along.

Each client worked together with a counselor to develop an individualized treatment plan and addressed the plan every week in one-on-one sessions. One Agency B counselor said that he constantly thought of each client in terms of ASAM criteria. If a client stayed beyond the initial intensive treatment phase for long-term treatment, he developed a new treatment plan with the client.

The Agency B residential center worked on a random UA system. Counselors had a weekly UA list. If a blood test was required, they sent clients to the clinic. If the counselors identified someone in need of a mental health assessment, they discussed it with the client and then sent him/her to mental health services.

When an Agency B counselor recognized that a client was not working to meet his/her treatment goals and objectives, the counselor had a thorough discussion with the client to find out what the issue was. Sometimes counselors addressed such issues in weekly staff meetings, where clients were not present. If a client broke the rules (e.g., using substances, leaving the facility without permission), the counselors tried to give him/her the benefit of the doubt and learn what was going on. While procedures were tailored specifically for each client, in general clients were given several chances. Usually counselors and clients developed behavioral contracts to address the issue.

The Agency B clinical supervisor said she felt the program was going well. She would like to continue to have 6-7 counselors and raise their salaries to stay competitive. The salary level had been lower than other agencies' for years; as a result, there had been considerable staff turnover. She believed that problem had been addressed and that the current staff was very effective and had high standards for their work. She also said that they were innovative and current in their treatment practices.

Counselors were formally evaluated annually using a form provided by Agency B's human services department. The Agency B clinical supervisor said that she observed both group and one-on-one sessions, depending on the needs of the counselors. The kinds of interventions counselors used with clients told her about their skills. She had been meeting with counselors twice a week but was planning to do so less often as the counselors kept her informed about any work issues they were facing, such as clients needing to be moved into different groups.

Residential Staff Characteristics

Table 5 presents characteristics of residential staff nationally (left column) and at the study agencies (right columns). Both study agencies had notably large (above the 80th percentile) staffs compared to programs nationally. Specifically, information from ADSS showed that urban residential treatment centers had, on average, approximately 14 full-time staff members (median of 12), of whom 6 were counselors (median of 5). While the numbers fluctuated, during the study period, there were roughly 6 residential, 7 outpatient, and 2 youth substance abuse treatment counselors. Agency B typically employed approximately 8 residential counselors and 4 outpatient counselors. Again, there was fluctuation such that, during the study period, there were, on average, roughly 7 residential substance abuse treatment counselors.

Agency A required that staff must model nondrinking, nonusing behaviors on and off the job and must understand the importance of culture and its impact on client recovery. Counselors must, at minimum, hold a Certified Alcohol and Drug Counselor Level One (CADC-I) certificate and have one year of on-the-job experience, although Agency A considered other experience, such as a practicum, when hiring. All alcohol and drug counselors at Agency A were state certified.

Training for new Agency A clinical staff included an orientation with human resources personnel and a 2-week introductory period (before beginning full job responsibilities) when they usually spent time with experienced clinical staff and toured all Agency A facilities. The

executive director and the cultural director provided annual cultural competency training for all staff and provided opportunities for staff members to attend culturally based treatment conferences, such as those offered by White Bison, Inc. Staff members who needed a particular kind of training could arrange for it, and those who had cultural questions usually consulted the cultural director or one of his assistants.

All certified counselors at Agency A were required to have 20 hours of continuing education credit per year and to maintain their certification. Agency A provided numerous onsite trainings for staff to earn required continuing education units. An AI/AN consultant provided ongoing training in a culturally appropriate manner in topics such as ethics, toxicology, and addiction in families in a culturally appropriate manner.

Agency B counselors had to be certified Chemical Dependency Professionals (CDP), which involves two years of study and a certification exam. State B required 40 hours of continuing education every two years to maintain certification.

As shown in Table 5 (right columns), study agency residential staff members were mostly female and in middle life. Overall, AI/AN staff were in the minority at the study sites, especially at Agency B. Staff members with college degrees were also in the minority. Approximately one third of staff members had been at their study agencies less than 1 year. On the other hand, another third of staff had been with their study agencies for more than 5 years. Nearly all study agency staff members were full-time employees working 40 hours per week. Unfortunately, national data on staff demographics (such as gender, age, and ethnicity) were not available.

There were numerous job titles at the study agencies, with *substance abuse treatment counselor* and *residential aide* being the most common. Several staff members reported more than one job title. For example, some administrators were also substance abuse counselors or cultural staff. It is useful to define substance abuse counselors, residential aides, child development staff, cultural staff, mental health staff, and health clinic staff as direct contact (with clients) personnel. At both study agencies, direct contact staff represented approximately 70% of the job titles. Inconveniently, national comparisons are not available because ADSS lumped many direct contact personnel into an "all other" category that included administrative staff.

At the study agencies, substance abuse treatment counselors represented less than one third (26%) of staff members. Conversely, treatment counselors comprised half of the full-time staff in the national data (average 54%; median 50%). Virtually all study agency substance abuse

treatment counselors were certified as chemical dependency professionals. Thus, certified counselors represented roughly one fifth to one third of study agency staff (22% at Agency A and 29% at Agency B), which is slightly less than the analogous national data (mean, 32%; median, 22%).

At the study agencies, 39% of counselors did not have college degrees. Conversely, half of counselors nationwide lacked college degrees (mean and median were 50%). Moreover, at the study agencies, some 44% of counselors had masters or doctoral degrees. Nationally, the average percentage of counselors with a masters or doctoral degree was 20% (median of 17%).

The study agency substance abuse treatment counselors generally reported caseloads of 10-20 clients. Conversely, the national data suggested that counselor caseloads were mostly under 10.

The lower rows of Table 5 show that TSET scores for study agency staff members were generally in the ranges reported by clinicians who have considerable confidence in their cognitive, practical, and affective capabilities to work with people of diverse cultural backgrounds. Stated differently, the scores were typically in the "advanced" or expert range (Jeffreys, 2000) and were approximately Gaussian (bell-shaped curve) in distribution. Multiple regression analyses (with site, age, gender, race, and counselor status as predictors) showed that substance abuse treatment counselors were slightly more confident than were other staff on the practical scale ($p = 0.05$) and that women were somewhat more confident than men on the affective scale ($p = 0.05$). There were no statistically significant predictors for confidence on the cognitive scale. Interestingly, race (i.e., AI/AN vs. non-Native) was not a statistically significant predictor for any of the scales.

Approximately half the Native staff at each agency had Indian blood quantum of half or greater. The vast majority of AI/AN staff at each agency were enrolled tribal members from a variety of tribes. For example, AI/AN staff at Agency A came from 15 different tribes and included five individuals with mixed (i.e., multiple) tribal backgrounds. At Agency B, five tribes were represented, and there were two individuals with mixed (i.e., multiple) tribal heritage.

On the four Orthogonal Cultural Identification Scale items included in the ABQ, most AI/AN staff scored in the "high" range with respect to AI/AN cultural identification (right columns at bottom of Table 5). The scale was roughly Gaussian (bell-shaped curve) in

distribution. Age and gender were not statistically significant predictors of scores among the AI/AN staff members.

Comparing the two agencies, residential staff members were similar with regard to gender, age, education, certification, and workload. There were no statistically significant differences by agency on any of the TSET score, and agency was not a statistically significant predictor of TSET scores in multiple regression analyses. The Orthogonal Cultural Identification Scale scores of AI/AN staff did not differ between the agencies.

On the other hand, the agencies did differ with regard to AI/AN representation among staff members. Approximately half of Agency A staff members were AI/AN, whereas, at Agency B, only one quarter of staff identified themselves as AI/AN.

The agencies also differed with regard to staff roles. For example, the Agency A residential program had several onsite staff members who specialized in cultural consultation, mental health, or child development. Conversely, Agency B residential staff members were overwhelmingly either substance abuse treatment counselors or residential aides. Moreover, approximately half the staff members at Agency A were clinicians (i.e., counselors, child development staff, mental health clinicians, or health clinic personnel) whereas only one third of staff at Agency B were clinicians.

Table 5
Urban Residential Substance Abuse Treatment Staff

	United States [a]	Agency A	Agency B
N	13.8 (12)	37	31
Female		65%	58%
Age			
20-29		6%	0%
30-39		26%	20%
40-49		35%	23%
50+		32%	57%
American Indian or Alaska Native		47%	26%
Education			
No academic degree		3%	6%
General Educational Development (GED)		19%	16%
High school		19%	29%
Associate		16%	19%
Bachelor		27%	10%
Master or doctor		11%	10%
Professional		5%	10%

Table 5 Continued
Urban Residential Substance Abuse Treatment Staff

At agency	United States [a]	Agency A	Agency B
Less than a year		35%	32%
Five or more years		38%	32%
Forty hours per week		79%	90%
Job title [b]			
Substance abuse treatment counselor	54% (50%)	22%	32%
Residential aide		16%	35%
Child development staff		14%	0%
Cultural staff		8%	0%
Mental health staff		8%	0%
Health clinic staff		5%	3%
Administrator		22%	13%
Admissions		8%	6%
Office staff		8%	10%
Kitchen staff		8%	6%
Maintenance staff		5%	0%
Other job title		5%	13%
Certified alcohol drug counselor	32% (22%)	22%	29%
Substance abuse treatment counselor		Yes	Yes
N	6.0 (5)	8	10
No college degree	50% (50%)	38%	40%
Master or doctor	20% (17%)	50%	30%
Substance abuse treatment counselor caseload			
Under ten	87% [c]	29%	44%
Ten to twenty	11% [c]	71%	56%
Transcultural Self-Efficacy Scale [d]			
Cognitive		6.2 (2.2)	7.0 (1.6)
Practical		6.5 (1.9)	7.2 (1.9)
Affective		8.2 (1.1)	8.2 (1.0)
American Indian or Alaska Native		16	5
Blood quantum ½ or more		55%	50%
Enrolled tribal member		71%	100%
Mixed (multiple tribes) tribal heritage		31%	40%
Orthogonal Cultural Identification Scale [e]		7.6 (2.5)	9.2 (1.9)
High American Indian identification [f]		50%	80%

[a] Alcohol and Drug Services Study 1996 phase one urban residential (*N* = 366) weighted mean (median). [b] More than one job title could be selected at study agencies. [c] Estimate based on numbers of current clients divided by numbers of full-time substance abuse treatment counselors. [d] Mean and standard deviation. Scales can range from one through ten. [e] Four-item measure mean and standard deviation. Scale can range from zero through twelve. [f] Scores above seven on the four-item Orthogonal Cultural Identification Scale indicate "high" American Indian identification.

CONCLUSIONS

As hypothesized, the study agencies delivered treatment services that were notably more varied than those provided by mainstream residential programs in urban areas. Both study agencies provided conventional services, such as alcohol and drug education. And, as expected, both agencies delivered numerous culturally specific programs, such as sweat lodges. But in addition to traditional healing, the study agencies offered programs, such as mental health care, domestic violence services, and residential beds for clients' children, that were rarely provided by mainstream residential treatment facilities.

Thus, the "menus" of services found at the study agencies were much more comprehensive than those delivered by conventional programs (as reported in national data sets). This broad-based approach is especially pertinent for AI/ANs who often live in adverse environments (Manson, Beals, Klein, Croy, & The AI-SUPERPFP team, 2005). Indeed, given the social determinants of health (Friel & Marmot, 2011; Lillie-Blanton & Roubideaux, 2005; Roubideaux, 2002), it may well be appropriate for all substance abuse treatment programs serving urban AI/ANs to consider delivering the extensive arrays of services described here.

Comprehensive services are particularly pertinent for urban AI/ANs because these individuals experience substantial health disparity when compared with non-Natives (Crofoot et al., 2007; Johnson et al., 2010; Urban Indian Health Commission [UIHC], 2007). For example, Castor et al. (2006) found that one quarter of AI/ANs in 34 metropolitan areas were disabled in 2000, versus only one fifth of the general population in those cities. And, based on nationwide data, Castor et al. (2006) reported that AI/ANs had a disability prevalence rate of 24%, versus 20% for the general population. Thus, this group warrants provision of broad service arrays.

The hypothesis regarding staff composition was also confirmed. Namely, the study agencies employed staff members who were more heterogeneous than expected from national data. As expected, the study agencies had staff members who focused on provision of culturally specific services. However, they also had personnel such as child development specialists or residential aides. Perhaps in consequence, substance abuse treatment counselors represented a minority of staff at the study agencies but were the majority in the national data. Interestingly, more counselors at the study agencies had college education and advanced degrees than would be expected from national data.

Looking within the study agencies, staff members scored in the expert range on measures pertaining to provision of services to people with assorted cultural backgrounds. Interestingly, AI/AN and non-Native staff at the study agencies scored about the same on these measures. As expected for urban programs (Nebelkopf & King, 2003; Wright et al., 2011), AI/AN staff at the study agencies came from numerous tribes.

Strengths and Limitations

Strengths and limitations of the study should be recognized. The study's strengths include detailed descriptions (obtained via both qualitative and quantitative procedures) of urban agency treatments, particularly culturally specific services. This information complements rural data provided by the American Indian Service Utilization, Psychiatric Epidemiology, Risk and Protective Factors Project (AI-SUPERPFP) project (Beals, Manson et al., 2005; Beals, Novins, et al., 2005; Manson et al., 2005), which focused on two reservations.

On the other hand, the project was limited to two urban AI/AN treatment programs. The study agencies may or may not be representative of other facilities focused on this population.

However, by design, the two study facilities illustrate variations among programs offering residential treatment.

For example, Agency A began as a chemical dependency treatment program and subsequently developed a primary health care component. Conversely, Agency B is a primary health care program that has expanded to offer residential and outpatient alcohol and drug treatment services. And Agency B was the larger residential program but was not necessarily full at all times, in contrast to Agency A. Also, residential clients at Agency A had a mandatory blackout week not required at Agency B.

In addition, the residential programs differed in treatment structure. Residential treatment at Agency A was a long-term program with a component focused on women and families that provided housing and services for children of clients. Not surprisingly, female AI/AN clients were well represented at the Agency A residential program. Conversely, residential care at Agency B was a short-term intensive program with an extended care component into which clients needing additional treatment were "readmitted" when discharged from the short-term section. There were few AI/AN women at Agency B's residential program. Interestingly, most

residential clients of Agency B were not AI/AN. Similarly, there were few AI/AN counselors at Agency B, in contrast to Agency A.

Another limitation is that the present report, also by design, focused on services and staff. Thus, client data (including treatment outcomes) are not provided here but will be described elsewhere. However, other projects have examined treatment results for AI/ANs with substance abuse problems. For example, Evans et al. (2006), studying administrative data, found similar reductions in problem severity one year after treatment entry for AI/AN versus non-Native clients in California. Importantly, Evans et al. (2006) recognized the limitations of these data and called for investigation of culturally specific components of treatment.

These limitations notwithstanding, the present project showed that urban AI/ANs who have substance abuse problems can be served by comprehensive and culturally specific residential treatment programs. These results are important because urban AI/ANs are a large and rapidly growing population (Castor et al., 2006; Novins et al., 2011; UIHC, 2007; UIHI, SIHB, 2009). For example, during the last three decades of the 20th century, more than 1 million AI/ANs moved to cities (UIHC, 2007) so that fewer than one quarter of AI/ANs now live on reservations or in other rural tribal areas (U.S. Census Bureau, 2012).

To summarize, the study agencies offered the overwhelming majority of services provided by mainstream urban residential treatment programs, as well as numerous additional services, including culturally specific programs. Moreover, treatments were delivered by notably diverse staff members.

In the words of Lillie-Blanton and Roubideaux (2005), these findings address "an important but often overlooked public policy issue—how to more effectively address the health care needs of this nation's first citizens" (p. 759). The results are especially pertinent for substance abuse treatment program developers and managers who recognize that "efforts to improve health care for American Indians and Alaska Natives need to be more culturally appropriate and community based and must help build community capacity" (Lillie-Blanton & Roubideaux, 2005, p. 760). In addition, this study provides background for findings on treatment costs presented in a companion paper, "Residential substance abuse treatment for urban American Indians and Alaska Natives Part II: Costs," in this issue.

REFERENCES

Albrecht, J., Lindsay, B., & Terplan, M. (2011). Effect of waiting time on substance abuse treatment completion in pregnant women. *Journal of Substance Abuse Treatment, 41*, 71-77. http://dx.doi.org/10.1016/j.jsat.2011.01.015

American Society of Addiction Medicine. (2001). *Patient placement criteria for the treatment of psychoactive substance use disorders* (2nd ed. Revised). Washington, DC: Author.

Beals, J., Manson, S. M., Whitesell, N. R., Spicer, P., Novins, D. K., & Mitchell, C. M. (2005). Prevalence of DSM-IV disorders and attendant help-seeking in two American Indian reservation populations. *Archives of General Psychiatry, 62*, 99-108. http://dx.doi.org/10.1001/archpsyc.62.1.99

Beals, J., Novins, D. K., Whitesell, N. R., Spicer, P., Mitchell, C. M., & Manson, S. M. (2005). Prevalence of mental disorders and utilization of mental health services in two American Indian reservation populations: Mental health disparities in a national context. *American Journal of Psychiatry, 162*, 1723-1732. http://dx.doi.org/10.1176/appi.ajp.162.9.1723

Beauvais, F. (1998). American Indians and alcohol. *Alcohol Health and Research World, 22*, 253-259. Retrieved from http://pubs.niaaa.nih.gov/publications/arh22-4/253.pdf

Castor, M. L., Smyser, M. S., Taualii, M. M., Park, A. N., Lawson, S. A., & Forquera, R. A. (2006). A nationwide population-based study identifying health disparities between American Indians/Alaska Natives and the general populations living in select urban counties. *American Journal of Public Health, 96*, 1478-1484. http://dx.doi.org/10.2105/AJPH.2004.053942

Chong, J., & Lopez, D. C. W. (2005). Social networks, support, and psychosocial functioning among American Indian women in treatment. *American Indian and Alaska Native Mental Health Research, 12*(1), 62-85. http://dx.doi.org/10.5820/aian.1201.2005.62

Chong, J., & Lopez, D. (2007). Predictors of relapse for American Indian women after substance abuse treatment. *American Indian and Alaska Native Mental Health Research, 14*(3), 24-48. http://dx.doi.org/10.5820/aian.1403.2007.24

Cohen, D. J., & Crabtree, B. F. (2008). Evaluative criteria for qualitative research in health care: Controversies and recommendations. *Annals of Family Medicine, 6*(4), 331-339. http://dx.doi.org/10.1370/afm.818

Covington, S. S. (2000). *A woman's way through the Twelve Steps*. Center City, MN: Hazelden.

Crofoot, T. L., Harris, N., Plumb, M. A., Smith, K. S., Gault, J., Brooks, G., … Holland, I. (2007). Mental health, health, and substance abuse service needs for the Native American Rehabilitation Association Northwest (NARA NW) in the Portland, Oregon metropolitan area. *American Indian and Alaska Native Mental Health Research, 14*(3), 1-23. http://dx.doi .org/10.5820/aian.1403.2007.1

Dickerson, D., Robichaud, F., Teruya, C., Nagaran, K., & Hser, Y-I. (2012). Utilizing drumming for American Indians/Alaska Natives with substance used disorders: A focus group study. *American Journal of Drug and Alcohol Abuse, 38*(5), 505-510. http://dx.doi.org/10.3109/ 00952990.2012.699565

Dickerson, D. L., Spear, S., Marinelli-Casey, P., Rawson, R., Li, L., & Hser, Y-I. (2011). American Indians/Alaska Natives and substance abuse treatment outcomes: Positive signs and continuing challenges. *Journal of Addictive Diseases, 30*, 63-74. http://dx.doi.org/ 10.1080/10550887.2010.531665

Dickerson, D. L., Brown, R. A., Johnson, C. L., Schweigman, K., & D'Amico, E. J. (2016). Integrating motivational interviewing and traditional practices to address alcohol and drug use among urban American Indian/Alaska Native youth. *Journal of Substance Abuse Treatment, 65*, 26-35. http://dx.doi.org/10.1016/j.jsat.2015.06.023

Ducharme, L. J., Mello, H. L., Roman, P. M., Knudsen, H. K., & Johnson, J. A. (2007). Service delivery in substance abuse treatment: Reexamining "comprehensive" care. *Journal of Behavioral Health Services and Research, 34*, 121-136. http://dx.doi.org/10.1007/s11414-007-9061-7

Edwards, Y. (2003). Cultural connection and transformation: Substance abuse treatment at Friendship House. *Journal of Psychoactive Drugs, 35*, 53-58. http://dx.doi.org/10.1080/ 02791072.2003.10399993

Evans, E., Spear, S. E., Huang, Y., & Hser, Y. (2006). Outcomes of drug and alcohol treatment programs among American Indians in California. *American Journal of Public Health, 96*, 889-896. http://dx.doi.org/10.2105/AJPH.2004.055871

Frank, J. W., Moore, R. S., & Ames, G. M. (2000). Historical and cultural roots of drinking problems among American Indians. *American Journal of Public Health, 90*, 344-351. http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.90.3.344

Friel, S., & Marmot, M. G. (2011). Action on the social determinants of health and health inequities goes global. *Annual Review of Public Health, 32*, 225-236. http://dx.doi.org/ 10.1146/annurev-publhealth-031210-101220

Gone, J. P. (2012). Indigenous traditional knowledge and substance abuse treatment outcomes: The problem of efficacy evaluation. *American Journal of Drug and Alcohol Abuse, 38*(5), 493-497. http://dx.doi.org/10.3109/00952990.2012.694528

Gone, J. P. (2015). Reconciling evidence-based practice and cultural competence in mental health services: Introduction to a special issue. *Transcultural Psychiatry, 52*(2), 139-149. http://dx.doi.org/10.1177/1363461514568239

Gray, N., & Nye, P. S. (2001). American Indian and Alaska Native substance abuse: Co-morbidity and cultural issues. *American Indian and Alaska Native Mental Health Research, 10*(2), 67-84. http://dx.doi.org/10.5820/aian.1002.2001.67

Greenfield, B. L., & Venner, K. L (2012). Review of substance use disorder treatment research in Indian country: Future directions to strive toward health equity. *American Journal of Drug and Alcohol Abuse, 38*, 483-492. http://dx.doi.org/10.3109/00952990.2012.702170

Hartmann, W. E., & Gone, J. P. (2012). Incorporating traditional healing into an urban American Indian Health Organization: A case study of community member perspectives. *Journal of Counseling Psychology*, *59(4)*, 542–554. http://dx.doi.org/10.1037/a0029067

Hesselbrock, V. M., Segal, B., & Hesselbrock, M. N. (2000). Alcohol dependence among Alaska Natives entering alcoholism treatment: A gender comparison. *Journal of Studies on Alcohol and Drugs, 61*, 150-156. http://dx.doi.org/10.15288/jsa.2000.61.150

Hoge, M. A., Morris, J. A., Stuart, G. W., Huey, L. Y., Bergeson, S., Flaherty, M. T., … Madenwald, K. (2009). A national action plan for workforce development in behavioral health. *Psychiatric Services, 60*, 883-887. http://dx.doi.org/10.1176/appi.ps.60.7.883

Jeffreys, M. R. (2000). Development and psychometric evaluation of the Transcultural Self-Efficacy Tool: A synthesis of findings. *Journal of Transcultural Nursing, 11*, 127-136. http://dx.doi.org/10.1177/104365960001100207

Jeffreys, M., & Smodlaka, I. (1998). Exploring the factorial composition of the Transcultural Self-Efficacy Tool. *International Journal of Nursing Studies, 35*, 217-225. http://dx.doi.org/10.1016/S0020-7489(98)00034-0

Jeffreys, M., & Smodlaka, I. (1999). Construct validation of the Transcultural Self-Efficacy Tool. *Journal of Nursing Education, 38*, 222-227. http://dx.doi.org/10.3928/0148-4834-19990501-09

Johnson, C. V., Bartgis, J., Worley, J. A., Hellman, C. M., & Burkhart, R. (2010). Urban Indian voices: A community-based participatory research health and needs assessment. *American Indian and Alaska Native Mental Health Research, 17*(1), 49-70. http://dx.doi.org/10.5820/aian.1701.2010.49

Legha, R. K., & Novins, D. (2012). The role of culture in substance abuse treatment programs for American Indian and Alaska Native communities. *Psychiatric Services, 63*, 686-692. http://dx.doi.org/10.1176/appi.ps.201100399

Legha, R., Raleigh-Cohn, A., Fickenscher, A., & Novins, D. (2014). Challenges to providing quality substance abuse treatment services for American Indian and Alaska Native communities: Perspectives of staff from 18 treatment centers. *BMC Psychiatry, 14*, 181-191. http://www.biomedcentral.com/1471-244X/14/181

Lillie-Blanton, M., & Roubideaux, Y. (2005). Understanding and addressing the health care needs of American Indians and Alaska Natives. *American Journal of Public Health, 95*, 759-761. http://dx.doi.org/10.2105/AJPH.2005.063230

Manson, S. M., Beals, J., Klein, S. A., Croy, C. C., & The AI-SUPERPFP Team (2005). Social epidemiology of trauma among 2 American Indian reservation populations. *American Journal of Public Health, 95*, 851-859. http://dx.doi.org/10.2105/AJPH.2004.054171

Marshall, C., & Rossman, G. B. (2015). Managing, analyzing, and interpreting data. In: *Designing qualitative research* (6th ed., p. 207). Thousand Oaks, CA: Sage Publications.

McFarland, B. H., Gabriel, R. M., Bigelow, D. A., & Walker, R. D. (2006). Organization and financing of alcohol and substance abuse programs for American Indians and Alaska Natives. *American Journal of Public Health, 96*, 1469-1477. http://dx.doi.org/10.2105/AJPH.2004.050575

Moghaddam, J. F., & Momper, S. L. (2011). Integrating spiritual and Western treatment modalities in a Native American substance user center: Provider perspectives. *Substance Use & Misuse, 46*, 1431-1437. http://dx.doi.org/10.3109/10826084.2011.592441

Moore, L. A., Aarons, G. A., Davis, J. H., & Novins, D. K. (2015). How do providers serving American Indians and Alaska Natives with substance abuse problems define evidence-based treatment? *Psychological Services, 12*(2), 92-100. http://dx.doi.org/10.1037/ser0000022

Mutter, R., Ali, M. M., Smith, K., & Strashny, A. (2015). Factors associated with substance use treatment completion in residential facilities. *Drug and Alcohol Dependence,* 154, 291-295. http://dx.doi.org/10.1016/j.drugalcdep.2015.07.004 0376-8716

National Institute on Drug Abuse. (2012). *Principles of Drug Addiction Treatment: A Research-based Guide* (3rd ed.) (NIH Publication No. 12-4180). Bethesda, Maryland: National Institutes of Health, National Institute on Drug Abuse. Retrieved from https://www.drugabuse.gov/sites/default/files/podat_1.pdf

Nebelkopf, E., & King, J. (2003). A holistic system of care for Native Americans in an urban environment. *Journal of Psychoactive Drugs, 35*, 43-52. http://dx.doi.org/10.1080/02791072.2003.10399992

Nebelkopf, E., & Penagos, M. (2005). Holistic native network: Integrated HIV/AIDS, substance abuse, and mental health services for Native Americans in San Francisco. *Journal of Psychoactive Drugs, 37*, 257-264. http://dx.doi.org/10.1080/02791072.2005.10400517

Novins, D. K., Aarons, G. A., Conti, S. G., Dahlke, D., Daw, R., Fickenscher, A., …The Centers for American Indian and Alaska Native Health's Substance Abuse Treatment Advisory Board (2011). Use of the evidence base in substance abuse treatment programs for American Indians and Alaska natives: Pursuing quality in the crucible of practice and policy. *Implementation Science, 6*, 63-75. http://dx.doi.org/10.1186/1748-5908-6-63

Novins, D. K., Croy, C. D., Moore, L. A. & Rieckmann, T. (2016). Use of evidence-based treatments in substance abuse treatment programs serving American Indian and Alaska Native communities. *Drug and Alcohol Dependence, 161,* 214-221. http://dx.doi.org/10.1016/j.drugalcdep.2016.02.007

Oetting, E. R., & Beauvais, F. (1990-1991). Orthogonal cultural identification theory: The cultural identification of minority adolescents. *The International Journal of the Addictions, 25*, 655-685. Journal is currently known as Substance Abuse and Misuse (1996-current) and was formerly known as The International Journal of the Additions (1966-1995). http://dx.doi.org/10.3109/10826089109077265

Parks, C. A., Hesselbrock, M. N., Hesselbrock, V. M., & Segal B. (2001). Gender and reported health problems in treated alcohol dependent Alaska Natives. *Journal of Studies on Alcohol, 62*, 286-293. http://dx.doi.org/10.15288/jsa.2001.62.286

Perakyla, A., & Ruusuvuori, J. (2011). Analyzing talk and text. In: N. K. Denzin & Y. S. Lincoln (Eds.), *Sage handbook of qualitative research* (4th ed., p. 530). Thousand Oaks, CA: Sage Publications.

Reif, S., George, P., Braude, L., Dougherty, R. H., Daniels, A. S., Ghose, S. S., & Delphin-Rittmon, M. E. (2014). Residential treatment for individuals with substance use disorders: Assessing the evidence. *Psychiatric Services, 65*, 301-312. http://dx.doi.org/10.1176/appi.ps.201300242

Reif, S., Horgan, C. M., & Ritter, G. A. (2011). Treatment services: Triangulation of methods when there is no gold standard. *Substance Use & Misuse, 46*, 620-632. http://dx.doi.org/10.3109/10826084.2010.528119

Rieckmann, T., McCarty, D., Kovas, A., Spicer, P., Bray, J., Gilbert, S., & Mercer, J. (2012). American Indians with substance use disorders: Treatment needs and comorbid conditions. *American Journal of Drug and Alcohol Abuse, 38*, 498-504. http://dx.doi.org/10.3109/00952990.2012.694530

Roubideaux, Y. (2002). Perspectives on American Indian health. *American Journal of Public Health, 92*, 1401-1403. http://dx.doi.org/10.2105/AJPH.92.9.1401

Ryan, O., Murphy, D., & Krom, L. (2012). *Vital signs: Taking the pulse of the addiction treatment workforce: A national report, version 1*. Kansas City, MO: Addiction Technology Transfer Center National Office in residence at the University of Missouri-Kansas City. Retrieved from http://www.attcnetwork.org/projects/wfstudy.aspx

Saylors, K. (2003). The Women's Circle comes full circle. *Journal of Psychoactive Drugs, 35*, 59-62. http://dx.doi.org/10.1080/02791072.2003.10399994

Spear, S., Crèvecoeur, D. A., Rawson, R. A., & Clark, R. (2007). The rise in methamphetamine use among American Indians in Los Angeles County. *American Indian and Alaska Native Mental Health Research, 14*(2), 1-15. http://dx.doi.org/10.5820/aian.1402.2007.1

Spicer, P. (2001). Culture and the restoration of self among former American Indian drinkers. *Social Science and Medicine, 53*, 227-240. http://dx.doi.org/10.1016/S0277-9536(00)00333-6

Stahler, G. J., Mennis, J., & DuCette, J. P. (2016). Residential and outpatient treatment completion for substance use disorders in the U.S.: Moderation analysis by demographics and drug of choice. *Addictive Behaviors, 58*,129-135. http://dx.doi.org/10.1016/j.addbeh.2016.02.030

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (2007). *National Survey of Substance Abuse Treatment Services (N-SSATS): 2006. Data on substance abuse treatment facilities* (DHHS Publication No. SMA 07-4296). Rockville, MD: Authors. Retrieved from http://wwwdasis.samhsa.gov/dasis2/nssats/2006_nssats_rpt.pdf

Terplan, M., Smith, E. J., Kozloski, M. J., & Pollack, H. A. (2010). "Compassionate coercion": Factors associated with court-mandated drug and alcohol treatment in pregnancy 1994-2005. *Journal of Addiction Medicine, 4*, 147-152. http://dx.doi.org/10.1097/ADM.0b013e3181b562dc

U.S. Census Bureau. (2012). *American Indian and Alaska Native Heritage Month: November 2012* (Report No. CB12-FF.22). Washington, DC: Author. Retrieved from https://www.census.gov/newsroom/releases/pdf/cb12ff-22_aian.pdf

U.S. Department of Health and Human Services, Indian Health Service. (2015). *Report to Congress: New needs assessment of the urban Indian Health Program and the communities it serves* (House Report No. 111-180). Rockville, MD: Authors. Retrieved from https://www.ihs.gov/urban/includes/themes/newihstheme/display_objects/documents/ReportToCongressUrbanNeedsAssessment.pdf

Urban Indian Health Commission. (2007). *Invisible tribes: Urban Indians and their health in a changing world.* Seattle, WA: Author. Retrieved from http://www.uihi.org/download/UIHC_Report_FINAL.pdf

Urban Indian Health Institute [UIHI], Seattle Indian Health Board [SIHB]. (2009). *Visibility through data: Health information for urban American Indian and Alaska Native communities*. Seattle, WA: Authors. Retrieved from http://www.uihi.org/download/VisibilityThroughData_FinalMay2010.pdf

UIHI, SIHB. (2011). Community health profile: National aggregate of urban Indian health organization service areas. Seattle, WA: Authors. Retrieved from http://www.uihi.org/download/Combined-UIHO-CHP_Final.pdf

Woodward, A., Das, A., Raskin, I. E., & Morgan-Lopez, A. A. (2006). An exploratory analysis of treatment completion and client and organizational factors using hierarchical linear modeling. *Evaluation and Program Planning, 29*, 335-351. http://dx.doi.org/10.1016/j.evalprogplan.2006.08.005

Woodward, A. M., Raskin, I. E., & Blacklow, B. (2008). A profile of the substance abuse treatment industry: Organization, costs, and treatment completion. *Substance Use & Misuse, 42*, 647-679. http://dx.doi.org/10.1080/10826080601096640

Wright, S., Nebelkopf, E., King, J., Maas, M., Patel, C., & Samuel, S. (2011). Holistic system of care: Evidence of effectiveness. *Substance Use & Misuse, 46*, 1420-1430. http://dx.doi.org/10.3109/10826084.2011.592438

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RESIDENTIAL SUBSTANCE ABUSE TREATMENT FOR URBAN AMERICAN INDIANS AND ALASKA NATIVES

PART II: COSTS

Bentson H. McFarland, MD, PhD; R. Dale Walker, MD; and Patricia Silk-Walker, PhD

Abstract: The present study examined costs of two residential substance abuse treatment programs designed for urban American Indians and Alaska Natives (AI/ANs). Costs for one agency were well within national norms, while costs at the other program were less than expected from nationwide data. Economies of scale accounted for much of the difference between observed and expected costs. Culturally specific residential substance abuse treatment services can be provided to urban AI/ANs within budgets typically found at mainstream programs.

INTRODUCTION

Urban American Indians and Alaska Natives (AI/ANs) are more likely to obtain substance abuse treatment than are other city residents. For example, analyses of the 2013 National Survey on Drug Use and Health showed that 2.3% of urban AI/ANs used specialty substance abuse treatment in the year prior to survey, versus 0.9% of non-Natives. Moreover, 1.4% of urban AI/AN survey respondents reported using residential substance abuse treatment in the previous year versus only 0.4% of non-Natives.

Unfortunately, resources are markedly limited for urban AI/AN substance abuse treatment (Legha & Novins; 2012; Wright et al., 2011). Indeed, Roubideaux (2002) discussed "the severe levels of under-funding and lack of resources in the Indian health system and the need for more funding for Indian health care" (p. 1403) while Lillie-Blanton and Roubideaux (2005) noted that "large disparities exist in the funding and availability of health services for AIAN people relative to other Americans" (p. 759). Moreover, as Roubideaux (2002) pointed out, "lack of adequate funding and services is a constant stress on the Indian health system" (p.

1402). Focusing on city dwellers, Castor et al. (2006) reported that "although UIHOs [Urban Indian Health Organizations] are the primary health care venue for urban American Indians/Alaska Natives, who represent more than 60% of the nationwide AI/AN population, IHS [Indian Health Service] allocations for these organizations represent 1% of the total IHS budget" (p. 1484).

These resource constraints are especially pertinent for residential substance abuse treatment programs, which have notably higher costs than outpatient services (French, Popovici, & Tapsell, 2008). To our knowledge, no data are available about the costs of residential substance abuse care for urban AI/ANs. Although Saylors (2003) described services provided to AI/AN clients of residential programs in Oakland and San Francisco and Wright et al. (2011) discussed services (especially traditional healing programs) for outpatient and residential clients of an agency in Oakland that focuses on AI/ANs, costs were not addressed. It is worth noting that this situation is in marked contrast to the extensive literature on costs of general population residential substance abuse treatment programs (Alexandre et al., 2012; French, Dunlap, Zarkin, McGeary, & McLellan, 1997; French, Salome, Sindelar, & McLellan, 2002; French et al., 2008; Roebuck, French, & McLellan, 2003).

The lack of cost information is especially noteworthy because economic data are needed by policymakers and funders who must decide on provision and financing of treatment programs (French et al., 1997; French & Drummond, 2005) for the rapidly growing urban AI/AN population. Moreover, substance abuse treatment program managers and developers need cost data in order to construct sustainable service packages for urban AI/ANs.

In particular, data comparing costs for residential programs focused on urban AI/ANs versus costs for mainstream (general population) residential treatment services would be useful. It could well be imagined that programs with culturally specific services are more costly than conventional care. Indeed, programs that have been described (e.g., Wright et al., 2011) often provide services specific to AI/ANs (such as sweat lodges) that are complements to (rather than substitutes for) conventional substance abuse treatments. The implication is that the more extensive AI/AN programs would have higher costs than mainstream services. However, there have been few (if any) comparisons of costs between agencies focusing on AI/ANs and mainstream treatment programs.

In addition, AI/AN clients of urban residential programs may have more severe substance abuse-related problems than their non-Native counterparts. For example, the 2012 Treatment Episode Data Set (described below) showed that first substance use was under the age of 12 years for 12% of AI/ANs admitted to urban residential treatment agencies, versus only 7% for non-Natives. And only 7% of AI/AN admissions were for employed clients, versus 9% for non-Natives. Both factors are associated with increased severity of substance abuse (McCamant, Zani, McFarland, & Gabriel, 2007). Indeed, previous research shows that severity indicators, such as length of substance abuse, are powerful predictors of treatment outcomes (Caspi, Turner, Panas, McCarty, & Gastfriend, 2001; Chong & Lopez, 2007; McCamant et al., 2007). For example, Chong and Lopez (2007) found that, for AI women in Arizona, the number of prior alcohol treatment episodes was highly predictive of relapse to drinking 6 months after completing the index (current) urban residential treatment program. Specifically, each prior alcohol treatment episode increased the odds of relapse by 90%. Therefore, it is reasonable to hypothesize that greater severity of clients' substance abuse would translate into higher costs for AI/AN programs versus mainstream care.

For these reasons, we undertook this project to a) examine costs of service provision at residential substance abuse treatment programs designed for urban AI/ANs and b) compare the study facilities with information from general population programs. The hypothesis to be tested was that the culturally specific programs would be more costly than analogous mainstream treatments.

METHODS

Agencies to be studied were selected based on the following criteria: a) chiefly serving urban AI/ANs, b) providing residential substance abuse treatment, and c) offering short-term and/or long-term residential programs. In this context, "urban" refers to metropolitan areas (also known as Core Based Statistical Areas; i.e., cities) as defined by the U.S. Census Bureau. Residential substance abuse treatment, as defined by the Substance Abuse and Mental Health Services Administration (SAMHSA, 2007), is a nonhospital, nondetoxification rehabilitation program whose clients stay overnight at the facility. Short-term programs typically have 30-day (or less) planned lengths of stay, according to SAMHSA, whereas long-term programs have planned lengths of stay greater than 30 days. The study years were chosen to include 2006 so that

cost data could be compared with national figures provided by French et al. (2008). Given research resource constraints, the sample was limited to two study agencies (denoted Agency A and Agency B). A companion paper describes the study agencies in detail ("Residential substance abuse treatment for urban American Indians and Alaska Natives Part I: Services and staff," in this issue).

Both programs are private, not-for-profit agencies funded by numerous entities including IHS and Medicaid. The two programs maintained their own financial data and reported service utilization to their respective state substance abuse agencies. Both study agencies utilized Microsoft Excel software for financial records and both had annual independent audits of finances. The agencies were also similar in that they owned their residential treatment program properties and equipment. Thus, neither agency had facility lease or rent expenditures. Fiscal years for the two agencies were the same (July 1 through June 30).

Procedures

The project began with extensive discussions between agency staff (including senior leaders) and members of the research team, leading to agreement on the study protocol. In addition, the meetings served to introduce the project to agency staff members. Each agency hired a masters-level AI/AN researcher who facilitated data acquisition. In addition, the directors of the two agencies served as consultants to the project.

All interviews, data collection, data entry, and preliminary data management pertaining to costs were conducted by a doctoral level AI researcher. Cost information was obtained with the Brief Drug Abuse Treatment Cost Analysis Program (Brief DATCAP), which is described subsequently. Data sources included Microsoft Excel spreadsheets for financial records, annual audits, category-specific Excel spreadsheets, and face-to-face and telephone interviews, as well as email correspondence to transmit and clarify data from each agency. Data were obtained for three consecutive fiscal years (2005-2006, 2006-2007, and 2007-2008).

Following protocols developed by French et al. (2002) and described in the DATCAP User's Manual (French, 2002), a letter of introduction to the project and a copy of the instrument were provided to each agency. At subsequent meetings, the financial officer and the treatment program director of each agency reviewed data needs, sources, and mechanisms for data retrieval

and sharing. Neither agency received remuneration for staff time, although both agencies received gift cards and a copy of their data for program use.

It should be noted that the two agencies had similar but not identical accounting procedures. For example, Agency A included labor costs for mental health staff in the residential program budget. Conversely, mental health services for Agency B clients were provided as part of the outpatient program.

Measures

Brief Drug Abuse Treatment Cost Analysis Program (DATCAP)

Cost data were obtained via the Brief DATCAP, which is a public domain instrument (Alexandre et al., 2012; French, 2002; French et al., 1997; French et al., 2008; French, Roebuck, & McLellan, 2004; French et al., 2002) available online that is widely used to ascertain costs of substance abuse treatment. The DATCAP approach to program costs involves collecting data on numbers of clients, program personnel, contracted services, buildings and facilities, equipment, supplies and materials, and miscellaneous resources consumed (mortgage and interest, property taxes, insurance, maintenance, and utilities are included here). DATCAP generates both accounting costs and economic (also known as opportunity) costs for substance abuse treatment programs.

National Comparison Data

National data sets were used to provide comparisons. For convenience, agencies in the national data sets will be referred to as "mainstream" programs. This information was accessed online via the Substance Abuse and Mental Health Data Archive, then at the Inter-University Consortium for Political and Social Research maintained by the University of Michigan. For the national data sets, "urban" admissions, discharges, and agencies, respectively, were defined as those within Core Based Statistical Areas (i.e., cities).

The SAMHSA-supported Treatment Episode Data Set (TEDS) compiles information about admissions to and discharges from virtually all publicly funded substance abuse treatment programs in the United States (Albrecht, Lindsay, & Terplan, 2011; Mutter, Ali, Smith, & Strashny, 2015; Stahler, Mennis, & DuCette, 2016; Terplan, Smith, Kozloski, & Pollack, 2010). The unit of analysis is generally the admission (or the discharge), so that a given person may be represented more than once. Data from 2006 were examined pertaining to discharges of AI/ANs

from residential rehabilitation programs located in Core Based Statistical Areas. There were 2,075 discharges from short-term programs and 2,668 discharges from long-term programs.

Another data set provided by SAMHSA is the National Survey of Substance Abuse Treatment Services (NSSATS). This mail, telephone, and Internet survey encompasses the overwhelming majority of publicly funded chemical dependency treatment agencies (with a response rate above 95%). Data from the survey are used to populate the online Substance Abuse Treatment Facility Locator. The survey includes a checklist where respondents indicate which services are provided by their agencies. In addition, the survey asks respondents about numbers of admissions, current census, and numbers of residential treatment beds. However, client demographic data (such as race and ethnicity) are not included. Data from the 2006 survey were obtained pertaining to 3,539 agencies in Core Based Statistical Areas that offered either short- or long-term residential (nonhospital) treatment services.

Nationwide cost data were obtained from an older project supported by SAMHSA. The Alcohol and Drug Services Study (ADSS) was a national examination of publicly funded substance abuse treatment agencies conducted from 1996 through 1999 (Reif, Horgan, & Ritter, 2011; Woodward, Das, Raskin, & Morgan-Lopez, 2006; Woodward, Raskin, & Blacklow, 2008). Briefly, the study included a random sample of 530 urban nonhospital residential substance abuse treatment agencies (with a response rate of 91%). Facility administrators responding to telephone interviews in 1996 provided information about the agency (such as numbers of clients in residence on the survey date) and about staff members. These responses appear to be the most recent nationally representative data about urban residential treatment center costs.

The nationwide ADSS cost study was used in conjunction with data from French et al. (2008) to estimate economic costs of 48 nationally representative residential treatment programs that were comparable to the two study agencies. The project computed accounting costs in 1996 dollars (SAMHSA, 2003). Note that accounting costs are similar to but not the same as economic costs (Woodward et al., 2008).

The ADSS accounting costs per client per day varied with the average daily census. As expected (French et al., 2008; Woodward et al., 2008), the daily accounting costs per person declined with increasing program size. In particular, the logarithm of the daily accounting cost per client declined linearly with the logarithm of the average daily census. Consequently,

comparisons between study agency costs and national data needed to address program size. Therefore, the ADSS accounting cost data were employed to adjust for program size via the following approaches.

In the first step, the ADSS daily accounting costs were converted into weekly economic costs. Detailed data on weekly economic costs were obtained (French, personal communication, October 13, 2013) for 21 adult residential treatment programs studied by French et al. (2008). Percentiles were computed for the weekly economic costs of the 21 adult residential programs (French et al., 2008). Next, percentiles of daily accounting costs were computed for the 48 residential programs in the ADSS cost study using facility weights and addressing the complex sampling design. The weekly economic cost percentiles from French et al. (2008) were linked with the closest 21 ADSS daily accounting cost percentiles. The logarithms of weekly economic costs (French et al., 2008) were regressed on the logarithms of ADSS daily accounting costs via weighted regression incorporating the complex sampling design. This regression yielded an R^2 of 0.703. Then the logarithms of the ADSS daily accounting costs were converted into estimated logarithms of weekly economic cost via the relationship

estimated logarithm of weekly economic cost = 4.165 + (0.576 * logarithm of daily accounting cost)

In the second step, a prediction equation was constructed for the estimated logarithm of weekly economic costs based on the logarithm of the average daily census in the ADSS residential cost study. The estimated logarithms of the weekly economic costs were regressed against the logarithms of the ADSS point prevalence using weighted regression and accounting for the complex sampling design. The resulting prediction equation was

predicted logarithm of weekly economic cost = 7.324 - (0.229 * logarithm of point prevalence)

which had R^2 of 0.285 and standard error of estimate of 0.292. Heteroscedasticity was excluded via visual examination as per Rosopa, Schaffer, and Schroeder (2013) and via the test described by Breusch and Pagan (1979), which was not statistically significant.

The third step was to predict the expected mean weekly economic costs for the study agencies based on the two programs' average daily census figures. Assuming a Gaussian

distribution, the expected first and third quartiles were computed as the predicted mean minus or plus (respectively) the standard error of estimate times 0.675. These estimates were then exponentiated to yield predicted means and quartiles for the weekly economic costs (in 2006 dollars).

The project was approved and overseen by the Oregon Health & Science University Institutional Review Board. Data analysis used SPSS version 20.

RESULTS

Study Agency Compared to National Demographics

State substance abuse agency data in the two right columns of Table 1 showed that the study agencies overall (outpatient plus residential) had roughly 600 to 800 admissions annually. Study Agency A served mainly AI/AN clients (68%), whereas approximately half of Agency B clients (45%) were AI/AN. Most clients at the study agencies obtained residential services.

The study agency AI/AN residential clients were mostly unemployed, never married, working-age adults. There was a slight majority of women among Agency A residential AI/AN clients, whereas women residential AI/AN clients were outnumbered by men at Agency B. Most of the study agencies' AI/AN residential clients (70% to 85%) had been arrested at some time. Alcohol was the primary substance of abuse for most of the AI/AN residential clients, whereas injection drug use was uncommon. Most of the AI/AN residential clients completed treatment, and most were described as abstinent at discharge.

Outpatient AI/ANs at the study agencies were mostly male, unemployed, working-age adults, some 60% of whom had been arrested at some time. Again, alcohol was the primary substance for AI/AN outpatient clients, and injection drug use was uncommon. On the other hand, it was rare for AI/AN outpatients to complete treatment, and abstinence at discharge from outpatient care was infrequent.

Table 1 also shows national substance abuse treatment data for non-Natives and AI/ANs, respectively. In contrast to the study agencies, most nationwide admissions were to outpatient programs. Most national residential admissions were for working age, never married, unemployed males. Nationwide employment rates for both non-Native and AI/AN admissions exceeded those for study agency clients. Nationally, alcohol was the primary substance for most

AI/AN residential admissions (56%), but only for 40% of non-Native residential admissions. Needle use was uncommon. Regarding outpatients, study agency client demographics were similar to those for nationwide admissions except that employment rates were lower for study agency clients than for their national counterparts.

Staff data are also given in Table 1. The study agencies (right columns) had more counselors than the national average (left column). Most counselors at Agency A were AI/AN, but not at Agency B.

Table 1
Urban substance abuse treatment admissions, clients, and staff

	United States [a]		Study Agencies	
	Not Native	American Indian	Agency A [b]	Agency B [c]
Total admissions (2002)				
N	1,375,730	24,488	576	750
American Indian	0%	100%	68%	45%
Residential	16%	16%	53%	73%
State general funds			No	34% [d]
	Admissions		American Indian clients	
Residential (2000)				
N	215,479	4,377	207	271
Female	33%	39%	52%	32%
Age 18-64	93%	92%	98%	92%
Never married	61%	59%	51%	65%
Employed	13%	13%	8%	3%
Arrested [e]			85%	70%
Alcohol primary	40%	56%	55%	74%
Needle use	13%	14%	18%	16%
Completed			58%	73%
Abstain [f]			82%	58%
Outpatient (2000)				
N	702,415	11,870	263	63
Female	32%	39%	42%	40%
Age 18-64	89%	89%	100%	100%
Never married	58%	57%	49%	57%
Employed	40%	35%	21%	5%
Arrested [e]			75%	60%
Alcohol primary	42%	50%	57%	81%
Needle use	11%	12%	22%	19%
Completed			5%	28%
Abstain [f]			8%	29%

Table 1 Continued
Urban substance abuse treatment admissions, clients, and staff

	United States [a]		Study Agencies	
	Not Native	American Indian	Agency A [b]	Agency B [c]
		Staff		
	(1996 for United States)		(2002 for study agencies)	
Counselors	4.5 (SD = 12.1; N = 372) [g]		15	16
American Indian counselors	Unknown		10	2

[a] Treatment Episode Data Set Admissions for Core Based Statistical Areas. [b] Client Process Monitoring System (Agency A admissions and clients). [c] Treatment and Assessment Report Generation Tool (Agency B admissions and clients). [d] Alcohol and Drug Addiction Treatment Support Act (ADATSA). [e] Arrested in last two years for Agency A or in last year for Agency B. [f] Abstinent at discharge. [g] from Alcohol and Drug Services Study.

Agency A Residential Funding

Funding for residential treatment at Agency A is provided through grants from the state addictions and mental health program, IHS, state and local criminal justice agencies, an agreement with a county family involvement program, Medicaid, private payers (including tribes), and private insurance. All of the billing is handled through Agency A's financial services department. The client's funding source does not influence the treatment approach for that client.

Agency B Residential Funding

At Agency B, direct care services are provided on a sliding-fee basis. Many public and private insurance programs are accepted. Additional funding is received from public and private sources, including federal, state, and local government as well as Medicaid and Medicare. Agency B contracts with IHS under Title V of the Indian Health Care Improvement Act (P. L. 94-437).

Several sources fund the Agency B residential treatment program. Approximately 55 beds are reserved through the state substance abuse agency for services to low-income or indigent people who are assessed as chemically dependent. An especially important revenue source for Agency B is the state Alcohol and Drug Addiction Treatment and Support Act (ADATSA), which provides state-financed (from general funds) treatment and support services to chemically dependent indigent persons. The legislation requires the state to pay for chemical dependency treatment of "alcoholics and addicts" who lack financial resources. If the applicant is found to be chemically dependent and otherwise eligible, the ADATSA case manager schedules an intake appointment at an appropriate chemical dependency treatment facility. Eligible persons can receive up to 6 months of treatment within a 2-year period. Forty-five of the 55 beds are for

patients receiving treatment under ADATSA. Eligibility is further restricted to those who are unemployable as a result of their alcohol or other drug addiction. During 2002, some 34% of Agency B clients received treatment under the ADATSA program (Table 1, right column).

The residential program at Agency B also receives drug court referrals from IHS. In addition, there are clients funded by direct payments from tribes. There are no differences in services provided based on the client's funding source.

Residential Accounting Costs at the Study Agencies

Table 2 shows the accounting costs for the residential programs. Not surprisingly, labor is by far the largest cost category. Over the study years, labor represented 76% of the accounting costs at Agency A and 56% at Agency B. Supplies (such as food) represented the next largest cost category overall. Supplies comprised approximately one tenth of costs at Agency A but one fifth at Agency B.

Crude comparisons can be made with residential data from ADSS, which used somewhat different cost definitions. In the national ADSS study, personnel comprised 63% of total costs for 48 nonhospital residential programs (left column of Table 2).

Table 2
Residential Accounting Costs

Cost Category	United States [a]	Study Agencies					
		Agency A			Agency B		
		Year One	Year Two	Year Three	Year One	Year Two	Year Three
Labor		$1,431,528	$1,601,001	$1,403,359	$1,252,240	$1,272,735	$1,506,377
Supplies		136,969	224,175	261,387	441,034	511,689	554,420
Facilities [b]		0	0	0	0	0	0
Contracts		137,204	129,944	93,072	296,115	214,615	201,387
Equipment		0	0	0	4,269	4,511	4,648
Miscellaneous [c]		151,160	163,962	170,790	292,143	277,033	275,008
Labor percentage	63%	77%	76%	73%	55%	56%	59%

Year One = fiscal year 2005-2006; Year Two = fiscal year 2006-2007; Year Three = fiscal year 2007-2008
[a] Alcohol and Drug Services Study 1996. [b] Both agencies own their facility. [c] Miscellaneous includes utilities, fees, taxes, travel, and other expenses.

Study Agency and National Administrative Data

Costs need to be interpreted in view of agency size. As shown in Table 3, Agency A had licensed capacity and physical capacity of 62 beds for all study years. Conversely, Agency B had licensed capacity and physical capacity of 96 beds for all study years except fiscal year 2005-

2006, when licensed capacity was 72 beds. Thus, Agency A had substantially fewer licensed beds than Agency B, especially in the last two study fiscal years.

For comparison purposes, NSSATS for 2006 showed that the average urban residential bed capacity was 33 (far left column of Table 3). With 62 licensed beds, Agency A was at the 88th percentile nationally, while Agency B (with 96 beds) was at the 95th percentile. Thus, both study agencies were much larger than the typical urban residential treatment program with respect to bed counts.

Table 3 also shows average daily census for the two study agencies. Agency A had, on average, approximately 45 clients in residence, whereas Agency B typically had 85 clients. A complication here is that the administrative data for Agency A (such as the average daily census) pertain only to designated (i.e., adult) clients. In other words, the data do not reflect clients' children staying at the Agency A residential program.

Nationwide, the average number of urban residential clients (on the survey date) was 30 (far left column of Table 3). Agency A with, on average, 45 clients was at the 87th percentile for long-term (90-day) urban residential programs. Agency B (with an average of 85 clients) was at the 99th percentile for short-term urban residential agencies. Looking at all urban residential agencies (both short- and long-term) nationwide, Agency B was at the 94th percentile.

Lengths of stay are also presented in Table 3. The Agency A average length of stay (10-12 weeks) corresponds to the long-term nature of its residential program. Analogously, the 5-week average length of stay at Agency B reflects the short-term residential treatment provided to most of its clients. (It should be mentioned that some Agency B clients undertook long-term care after completing short-term residential treatment.) As expected, then, Agency A residential clients had lengths of stay approximately twice that of Agency B clients.

National TEDS discharge data for 2006 showed that urban short-term residential AI/AN clients had an average length of stay of 29 days, or 4 weeks (far left column of Table 3). Urban AI/ANs discharged from long-term residential programs had an average length of stay of 71 days, or 10 weeks. Thus, the study agencies had lengths of stay slightly longer than expected based on national data.

Table 3 shows that Agency A had approximately 80 to 100 residential admissions annually. Inconveniently, the residential admissions data for Agency B are complicated by inclusion of "re-admissions." One approach to these data is to generate estimates based on the

formula "admissions equal census divided by length of stay." These estimates suggest that Agency B had approximately 200 to 300 annual residential admissions. Using this estimate, Agency A had fewer annual admissions than Agency B.

Nationwide data from NSSATS (left column of Table 3) indicated that, for urban programs providing residential treatment, the average number of admissions in 2006 was 346. However, this nationwide figure combines short- and long-term residential programs and may include admissions to outpatient services (for some agencies in the national survey). As best as can be determined, it appears that the study agencies had somewhat fewer annual admissions than did the average mainstream program.

Table 3
Residential Administrative Data and Economic Costs

| | United States [a] | Study Agencies | | | | | |
| | 2006 | Agency A | | | Agency B | | |
		Year One	Year Two	Year Three	Year One	Year Two	Year Three
Bed capacity [b]	33	62	62	62	72	96	96
Average daily census	30	44	47	41	84	85	85
Average length of stay	4.1 or 10.1	9.7	10.6	11.6	4.6	4.9	4.9
Admissions [c]	346	109	92	83	1,758	1,752	1,666
Economic costs							
Total annual		$1,856,861	$2,119,082	$1,928,608	$2,285,801	$2,280,583	$2,542,840
Weekly per client [d]	$607 to $919	$809	$865	$902	$522	$515	$574
Per treatment episode [e]	$2,907 to $11,260	$7,851	$9,166	$10,465	$2,401	$2,521	$2,828

Year One = fiscal year 2005-2006; Year Two = fiscal year 2006-2007; Year Three = fiscal year 2007-2008

[a] Nation-wide data from National Survey of Substance Abuse Treatment Services for bed capacity, average daily census, and annual admissions; Treatment Episode Data Set Discharges of urban American Indians for length of stay (short term and long term programs, respectively); and French et al. (2008) for economic cost bands.

[b] Agency A had licensed capacity and physical capacity of 62 beds for all years while Agency B had licensed capacity and physical capacity of 96 beds for all years except 2005 – 2006 when licensed capacity was 72 beds.

[c] Admissions include "re-admissions" to the extended care component for Agency B.

[d] Weekly economic cost per client = Total annual cost / Average weekly Census / 52.14 weeks.

[e] Economic cost per treatment episode = Weekly economic cost per client x Average length of stay (weeks) where economic cost definitions are as per French, Salome, Sindelar, and McLellan (2002, page 444).

Numbers of clients per counselor for the study agencies were similar to (Agency A) or somewhat larger (Agency B) than in the national ADSS data for urban residential treatment programs (which had a mean of five and a median of four). Agency A had approximately five clients per counselor in fiscal year 2005-2006 while Agency B had eight clients per counselor at that time. Based on the ADSS data, Agency A was at the 67th percentile nationally for clients per counselor, while Agency B was at the 85th percentile.

Economic Costs for the Study Agencies

Using the administrative data, accounting costs were translated into the economic costs shown in Table 3. Whereas Agency A had weekly economic costs of approximately $850 per client, the corresponding weekly figure for Agency B was $550 per client. The treatment episode costs were approximately $9,000 for Agency A and $2,500 for Agency B.

These figures for the study agencies can be compared to the national "cost bands" provided by French et al. (2008) and shown in the left column of Table 3. For adult residential services, French et al. (2008) studied some 22 programs, which had an average length of stay of 13 weeks, with a median length of stay of 11 weeks.

In the national data, the inter-quartile range (cost band) for weekly economic cost per client ranged from $607 to $919 in 2006 U.S. dollars (French et al., 2008). The treatment episode cost band ranged from $2,907 to $11,260 in 2006 U.S. dollars.

Thus, the weekly economic costs for Agency A were well within the cost band based on national data. Similarly, the treatment episode costs for Agency A were as expected based on the studies by French et al. (2008). Conversely, Agency B had weekly costs notably below the cost band reported by French et al. (2008) and also had treatment episode costs lower than expected based on the national data.

Taking into account program size, the predicted mean weekly economic cost for Agency A was $521, with a predicted third quartile cost of $772. Over the study years, the observed weekly economic cost ($850) for Agency A corresponded to a predicted 84th percentile. In other words, Agency A costs were toward the upper end of the predicted range, taking into account the average daily census. Conversely, for Agency B, the predicted mean weekly economic cost was $548, which was essentially equal to the observed figure ($550).

CONCLUSIONS

Contrary to the hypothesis, the study programs had costs similar to or lower than those for mainstream facilities. Whether measured per week or per treatment episode, one study agency had costs well within national cost bands, while the other study agency's costs were notably below the national figures.

One explanation for the low costs may be that the study agencies operated in environments with markedly limited financial resources. In an editorial, Roubideaux (2002) summarized the situation by saying "We also must help educate others, especially our country's leaders, on the severe levels of under-funding and lack of resources in the Indian health system and the need for more funding for Indian health care" (p. 1403). Conceivably, the study agencies may have used funds more efficiently than did mainstream programs with greater financial resources. Indeed, greater efficiency is also suggested by the finding that study agency clients had greater severity (shown, for example, by their unemployment levels) than did their national counterparts.

An additional explanation could be economies of scale. Namely, the study agencies were notably larger than the typical urban residential substance abuse treatment program. For example, the study agencies exceeded roughly 90% of urban residential programs with respect to numbers of beds and clients. French et al. (2008) and Woodward et al. (2008) pointed out that powerful determinants of costs include economies of scale as well as lengths of stay. Indeed, when adjustments were made to account for program size, the costs observed at the study agencies appeared close to those predicted from national data.

Staff mixtures may also explain costs. For example, one study agency made considerable use of residential aides rather than certified substance abuse treatment counselors (see "Residential substance abuse treatment for urban American Indians and Alaska Natives Part I: Services and staff," in this issue). And both study agencies exceeded national averages with regard to numbers of clients per full-time substance abuse treatment counselor. Therefore, some cost savings may be due to staff composition.

Strengths and limitations of the study should be recognized. The present project appears to be the first analysis addressing cost of services for urban AI/AN clients of residential treatment programs. McFarland et al. (2006) reported on the organization and financing of alcohol treatment programs for AI/ANs. But few, if any, studies have provided detailed

economic costs of health care services delivered to urban AI/ANs. This lack of information is especially unfortunate because urban individuals comprise most of the AI/AN population (Castor et al., 2006).

On the other hand, the project was limited to two urban AI/AN treatment programs. The study agencies may or may not be representative of other facilities focused on this population. However, demographics of the study agency clients were generally similar to those of their national counterparts, except that study clients were less likely to be employed. Also, as described in the companion paper ("Residential substance abuse treatment for urban American Indians and Alaska Natives Part I: Services and staff," in this issue), the study programs illustrate notable variations in the types of services provided.

By design, the present report focused on costs. Thus, client data (including treatment outcomes) are not provided here (but will be described elsewhere). However, it should be noted that other projects have examined results of treatment for AI/ANs with substance abuse problems. For example, Evans et al. (2006) found similar reductions in problem severity one year after treatment entry for AI/AN versus non-Native clients in California. In addition, the American Society of Addiction Medicine has noted that "there is a dearth of guideline-based research from which to develop meaningful performance and outcomes measures for the addiction treatment field" (Addiction Specialist Physician Performance Panel, 2014, p. 28). These limitations notwithstanding, the present project showed that urban AI/ANs who have substance abuse problems can be served by residential treatment programs with modest budgets. This result is noteworthy because the study agencies provide numerous culturally specific as well as mainstream services ("Residential substance abuse treatment for urban American Indians and Alaska Natives Part I: Services and staff," in this issue). In the words of Lillie-Blanton and Roubideaux (2005), this finding addresses "an important but often overlooked public policy issue—how to more effectively address the health care needs of this nation's first citizens" (p. 759). Indeed, these results are especially pertinent for substance abuse treatment program developers and managers who recognize that "efforts to improve health care for American Indians and Alaska Natives need to be more culturally appropriate and community based and must help build community capacity" (Lillie-Blanton & Roubideaux, 2005, p. 760).

REFERENCES

Addiction Specialist Physician Performance Panel. (2014). *The ASAM performance measures for the addiction specialist physician*. Chevy Chase, MD: American Society of Addiction Medicine. Retrieved from http://www.asam.org/quality-practice/standards-and-performance-measures

Albrecht, J., Lindsay, B., & Terplan, M. (2011). Effect of waiting time on substance abuse treatment completion in pregnant women. *Journal of Substance Abuse Treatment, 41*, 71-77. http://dx.doi.org/10.1016/j.jsat.2011.01.015

Alexandre, P. K., Beulaygue, I. C., French, M. T., McCollister, K. E., Popovici, I., & Sayed, B. A. (2012). The economic cost of substance abuse treatment in the state of Florida. *Evaluation Review, 36*,167-185. http://dx.doi.org/10.1177/0193841X12450164

Breusch, T. S., & Pagan, A. R. (1979). A simple test for heteroscedasticity and random coefficient variation. *Econometrica, 47*, 1287-1294. http://www.jstor.org/stable/i332710

Caspi, Y., Turner, W. M., Panas, L., McCarty, D., & Gastfriend, D. R. (2001). The severity index: An indicator of alcohol and drug dependence using administrative data. *Alcoholism Treatment Quarterly, 19,* 49-64. http://dx.doi.org/10.1300/J020v19n04_03

Castor, M. L., Smyser, M. S., Taualii, M. M., Park, A. N., Lawson, S. A., & Forquera, R. A. (2006). A nationwide population-based study identifying health disparities between American Indians/Alaska Natives and the general populations living in select urban counties. *American Journal of Public Health, 96*, 1478-1484. http://dx.doi.org/10.2105/AJPH.2004.053942

Chong, J., & Lopez, D. (2007). Predictors of relapse for American Indian women after substance abuse treatment. *American Indian and Alaska Native Mental Health Research, 14*(3), 24-48. http://dx.doi.org/10.5820/aian.1403.2007.24

Evans, E., Spear, S. E., Huang, Y., & Hser, Y. (2006). Outcomes of drug and alcohol treatment programs among American Indians in California. *American Journal of Public Health, 96*, 889-896. http://dx.doi.org/10.2105/AJPH.2004.055871

French, M. T. (2002). *Drug Abuse Treatment Cost Analysis Program (DATCAP): Program version 8 user's manual.* Coral Gables, FL: University of Miami. Retrieved from http://www.datcap.com/brief.htm

French, M. T., & Drummond, M. (2005). A research agenda for economic evaluation of substance abuse services. *Journal of Substance Abuse Treatment, 29*, 125-137. http://dx.doi.org/10.1016/j.jsat.2005.05.009

French, M. T., Dunlap, L. J., Zarkin, G. A., McGeary, K. A., & McLellan, A. T. (1997). A structured instrument for estimating the economic cost of drug abuse treatment: The Drug Abuse Treatment Cost Analysis Program (DATCAP). *Journal of Substance Abuse Treatment, 14*, 445-455. http://dx.doi.org/10.1016/S0740-5472(97)00132-3

French, M. T., Popovici, I., & Tapsell, L. (2008). The economic costs of substance abuse treatment: updated estimates and cost bands for program assessment and reimbursement. *Journal of Substance Abuse Treatment, 35*, 462-469. http://dx.doi.org/10.1016/j.jsat.2007.12.008

French, M. T., Roebuck, M. C., & McLellan, A. T. (2004). Cost estimation when time and resources are limited: The Brief DATCAP. *Journal of Substance Abuse Treatment, 27*,187-193. http://dx.doi.org/10.1016/j.jsat.2004.07.001

French, M. T., Salome, H. J., Sindelar, J. L., & McLellan, A. T. (2002). Benefit-cost analysis of addiction treatment: Methodological guidelines and empirical application using the DATCAP and ASI. *Health Services Research, 37*(2), 433-455. http://dx.doi.org/10.1111/1475-6773.031

Indian Health Care Improvement Act, Pub. L. No. 94-437, 90 Stat. 1400 (1976).

Legha, R. K., & Novins, D. (2012). The role of culture in substance abuse treatment programs for American Indian and Alaska Native communities. *Psychiatric Services, 63*, 686-692. http://dx.doi.org/10.1176/appi.ps.201100399

Lillie-Blanton, M., & Roubideaux, Y. (2005). Understanding and addressing the health care needs of American Indians and Alaska Natives. *American Journal of Public Health, 95*, 759-761. http://dx.doi.org/10.2105/AJPH.2005.063230

McCamant, L. E., Zani, B. G., McFarland, B. H., & Gabriel, R. M. (2007). Prospective validation of substance abuse severity measures from administrative data. *Drug and Alcohol Dependence, 86*, 37-45. http://dx.doi.org/10.1016/j.drugalcdep.2006.04.016

McFarland, B. H., Gabriel, R. M., Bigelow, D. A., & Walker, R. D. (2006). Organization and financing of alcohol and substance abuse programs for American Indians and Alaska Natives. *American Journal of Public Health, 96*, 1469-1477. http://dx.doi.org/10.2105/AJPH.2004.050575

Mutter, R., Ali, M. M., Smith, K., & Strashny, A. (2015). Factors associated with substance use treatment completion in residential facilities. *Drug and Alcohol Dependence, 154*, 291-295. http://dx.doi.org/10.1016/j.drugalcdep.2015.07.004

Reif, S., Horgan, C. M., & Ritter, G. A. (2011). Treatment services: Triangulation of methods when there is no gold standard. *Substance Use & Misuse, 46*, 620-632. http://dx.doi.org/10.3109/10826084.2010.528119

Roebuck, M. C., French, M. T., & McClellan, A. T. (2003). DATStats: Results from 85 studies using the Drug Abuse Treatment Cost Analysis Program. *Journal of Substance Abuse Treatment, 25*, 51-57. http://dx.doi.org/10.1016/S0740-5472(03)00067-9

Rosopa, P. J., Schaffer, M. M., & Schroeder, A. N. (2013): Managing heteroscedasticity in general linear models. *Psychological Methods, 18*, 335-351. http://dx.doi.org/10.1037/a0032553

Roubideaux, Y. (2002). Perspectives on American Indian health. *American Journal of Public Health, 92*, 1401-1403. http://ajph.aphapublications.org/toc/ajph/92/9

Saylors, K. (2003). The Women's Circle comes full circle. *Journal of Psychoactive Drugs, 35*, 59-62. http://dx.doi.org/10.1080/02791072.2003.10399994

Stahler, G. J., Mennis, J., & DuCette, J. P. (2016). Residential and outpatient treatment completion for substance use disorders in the U.S.: Moderation analysis by demographics and drug of choice. *Addictive Behaviors,* 58, 129-135. http://dx.doi.org/10.1016/j.addbeh.2016.02.030

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (2003). *The ADSS Cost Study: Costs of substance abuse treatment in the specialty sector* (DHHS Publication No. SMA 03-3762, Analytic Series A-20). Rockville, MD: Authors. Retrieved from http://www.dldocs.stir.ac.uk/documents/adsscosts.pdf

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (2007). *National Survey of Substance Abuse Treatment Services (N-SSATS): 2006. Data on substance abuse treatment facilities* (DHHS Publication No. SMA 07-4296). Rockville, MD: Authors. Retrieved from http://wwwdasis.samhsa.gov/dasis2/nssats/2006_nssats_rpt.pdf

Terplan, M., Smith, E. J., Kozloski, M. J., & Pollack, H. A. (2010). "Compassionate coercion": Factors associated with court-mandated drug and alcohol treatment in pregnancy 1994-2005. *Journal of Addiction Medicine, 4*, 147-152. http://dx.doi.org/10.1097/ADM.0b013e3181b562dc

Woodward, A., Das, A., Raskin, I. E., & Morgan-Lopez, A. A. (2006). An exploratory analysis of treatment completion and client and organizational factors using hierarchical linear modeling. *Evaluation and Program Planning, 29*, 335-351. http://dx.doi.org/10.1016/j.evalprogplan.2006.08.005

Woodward, A. M., Raskin, I. E., & Blacklow, B. (2008). A profile of the substance abuse treatment industry: Organization, costs, and treatment completion. *Substance Use & Misuse, 42*, 647-679. http://dx.doi.org/10.1080/10826080601096640

Wright, S., Nebelkopf, E., King, J., Maas, M., Patel, C., & Samuel, S. (2011). Holistic system of care: Evidence of effectiveness. *Substance Use & Misuse, 46*, 1420–1430. http://dx.doi.org/10.3109/10826084.2011.592438

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CHANGES IN PHYSICAL ACTIVITY BARRIERS AMONG AMERICAN INDIAN ELDERS: A PILOT STUDY

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Abstract: The objective of the present study was to assess whether self-reported physical activity barriers could be reduced among American Indian elders who participated in a 6-week randomized physical activity trial that compared the use of a pedometer only to that of pedometers with step-count goal setting. Elders (N = 32) were compared on the Barriers to Being Physically Active Quiz after participating in a pilot physical activity trial. Elders were classified into high- and low-barrier groups at baseline and compared on self-reported physical activity, health-related quality of life, pedometer step counts, and 6-minute walk performance. At the conclusion of the 6-week trial, only the lack of willpower subscale significantly decreased. The low-barrier group reported significantly higher physical activity engagement and improved mental health quality of life than the high-barrier group. The groups did not differ on daily step counts or 6-minute walk performance. Additional research is needed with a larger sample to understand relevant activity barriers in this population and assess whether they can be modified through participation in structured physical activity and exercise programs.

INTRODUCTION

Barriers to physical activity and exercise may partially account for escalating rates of physical inactivity in the general U.S. population (Centers for Disease Control and Prevention [CDC], 2000; Martin, Morrow, Jackson, & Dunn, 2000; Owen, Humpel, Leslie, Bauman, & Sallis, 2004). Relative to other ethnic groups, American Indians (AIs) report the lowest levels of leisure-time physical activity (Coble & Rhodes, 2006; Duncan, Goldberg, Buchwald, Wen, & Henderson, 2009), and they express a variety of personal, social, and environmental barriers to exercise (Belza et al., 2004; Eyler, Brownson, Donatelle, & King, 1999; Henderson & Ainsworth, 2003; Jahns, McDonald, Wadsworth, Morin, & Liu, 2014; King et al., 2000;

Sawchuk, Russo, Bogart, et al., 2011; Thompson, Wolfe, Wilson, Pardilla, & Perez, 2003; Wilcox, Castro, King, Housemann, & Brownson, 2000). A recent review of physical activity levels among AI adults found that approximately 27% met recommended physical activity requirements when assessed by self-report, yet when assessed using more objective measures of physical activity, only 9% met recommended levels (Foulds, Warburton, & Bredin, 2013). Challenges in reaching minimal recommended levels of physical activity may be better understood in the context of identifying relevant barriers to being more physically active. For example, in a sample of Lakota women, the most frequent barriers to physical activity included lack of childcare, limited time, and concerns about the safety of walking areas (Harnack, Story, & Rock, 1999). A small qualitative study of AI adults residing in the Northern Plains identified jobs, lack of time, and limited access to exercise facilities as the most frequent barriers to physical activity (Jahns et al., 2014). Lack of willpower is also a commonly reported barrier to physical activity among AI adults (Harnack et al., 1999; Jahns et al., 2014). Barriers are often multimodal in nature and may vary considerably as a function of age, gender, tribal culture, and neighborhood features that either promote or inhibit physical activity levels.

Older AIs may be at particular risk for adverse health outcomes associated with physical inactivity (Duncan et al., 2009; Galloway, 2005; Sawchuk, Russo, Bogart, et al., 2011) and may face unique challenges to establishing and maintaining healthy activity levels (Coble & Rhodes, 2006). However, very little research has been conducted with AI elders, and better understanding these barriers may prove useful in promoting more durable engagement in physical activity programs.

We conducted a pilot study to assess changes in self-reported barriers to physical activity, especially walking, among AI elders who participated in a randomized physical activity pilot trial (Sawchuk, Russo, Charles, et al., 2011). The purposes of this study were 1) to compare pre- to post-changes on self-reported barriers to physical activity among participants who only monitored step counts to those who monitored step counts plus had step-count goal setting; 2) to determine if all participants would report pre- to post-reductions in self-reported barriers to physical activity across the 6-week trial; and, 3) compare those reporting high to low levels of physical activity barriers at baseline to pre- to post-changes in self-reported and performance-based outcomes of physical activity. We classified participants into high- and low-barrier groups based on their baseline scores on the Barriers to Being Physically Active Quiz. We hypothesized

that all elders would report a significant decrease in Barriers Quiz scores across our 6-week trial. We also predicted that, relative to the high-barrier group, the low-barrier group at baseline would report greater caloric expenditure and engagement in physical activity, as assessed by the Community Healthy Activities Model Program for Seniors Questionnaire, and higher physical and mental health quality of life scores, as assessed by the Short Form 36 of the Medical Outcomes Survey. Further, we hypothesized that the low-barrier group at baseline would have greater total daily pedometer step counts and enhanced performance on the 6-minute walk test of fitness in comparison to the high-barrier group.

METHODS

Subjects

Thirty-six AI elders participated in a 6-week randomized pilot study that compared physical activity monitoring with a pedometer only ($N = 19$) to physical activity monitoring with a pedometer plus additional instruction in setting weekly step-count goals ($N = 17$; Sawchuk, Russo, Charles, et al., 2011). Due to limitations in funding for the pilot study, a maximum of 36 participants were recruited. A total of four female elders did not complete the 6-week post-assessment, reducing the final sample size to 17 in the pedometer only group and 15 in the pedometer goal-setting group. All study recruitment efforts and procedures were conducted between May and December 2007 at the Seattle Indian Health Board (SIHB), a primary care medical facility serving the healthcare needs of AIs and Alaska Natives in Seattle, Washington. Advertisements for the study occurred at the SIHB, local-area Native health fairs, and by word of mouth. Interested participants were contacted by study staff by phone to determine eligibility. Inclusion criteria were: between 50 and 85 years of age; sedentary lifestyle (responding "no" to the question, "Have you been physically active for the past 6 months?"); ability to walk without assistance; lack of medical contraindications to walking; and living within a 2-hour driving radius of the SIHB. Approval for this study was obtained from the Institutional Review Board at the University of Washington and from the SIHB Privacy Board.

Measures

Demographics

Demographic information included age, sex, marital status, education level, body mass index, and current smoking status.

Physical activity barriers

The Barriers to Being Physically Active Quiz (U.S. Department of Health and Human Services, 1999) is a 21-item measure assessing activity barriers across seven domains: 1) lack of time, 2) social influence, 3) lack of energy, 4) lack of willpower, 5) fear of injury, 6) lack of skill, and 7) lack of resources (e.g., recreational facilities, exercise equipment). Each domain contains three items that are rated on the degree to which they interfere with physical activity on a four-point scale ranging from 0 (*Very unlikely*) to 3 (*Very likely*). In this sample, the total score on the Barriers Quiz had an internal consistency reliability of 0.89.

Self-reported physical activity and health

The Community Healthy Activities Model Program for Seniors (CHAMPS) Questionnaire is a 41-item measure assessing a range of light, moderate, and vigorous physical activities in leisure, work, exercise, and chore-related domains (Stewart et al., 1997). Respondents report their weekly frequency and duration of participation in activities over the previous 4 weeks. In the present study, we assessed total weekly caloric expenditure for all exercise activities and total weekly frequency of all exercise-related activities. The CHAMPS has established psychometric characteristics with older populations (Harada, Chiu, King, & Stewart, 2001).

The Short Form 36 (SF-36) is a 36-item measure of health-related quality of life (Ware & Sherbourne, 1992). In the present study, we used the Physical (PCS) and Mental Health Component (MCS) summary scores. The SF-36 has been used previously with AI samples (Beals et al., 2006; Sawchuk, et al., 2008).

Objective measures of physical activity and fitness

All participants used a pedometer and recorded their total daily step counts in a journal over the course of the 6-week trial. The 6-minute walk test was used as our primary behavioral outcome of fitness. Following a standardized protocol (ATS Committee on Proficiency Standards for Clinical Pulmonary Function Laboratories, 2002), a research assistant instructed participants to walk around two traffic cones on opposite ends of a 40-foot corridor, unassisted,

covering as much distance as possible within the 6-minute time frame. At the end of 6 minutes, a marker was placed on the ground next to the participant, and total distance was calculated in feet with a rolling tape measure.

Procedures

This pilot study was conducted between May and November of 2007. Participants completed two face-to-face visits with the research assistant at the SIHB, spaced 6 weeks apart. Each clinic visit lasted 60 to 90 minutes. Participants also received weekly 5- to 10-minute telephone calls from the research assistant to bolster continued participation in the study, address any study-related concerns, and encourage engagement with physical activity.

During the first clinic visit, the research assistant orally described the study's purpose and procedures, and obtained written informed consent from each participant. A structured interview was conducted to collect additional demographic and medical information; the participant then completed the Barriers Quiz, CHAMPS, and SF-36. The research assistant measured the participant's height and weight, and then randomly assigned the participant to one of two groups: a group that monitored step counts only, and a group that monitored step counts and also set a weekly step-count goal. Each participant was then trained in the use of a pedometer and shown how to read the step counter and how to record their total daily step count on activity-monitoring forms.

During their weekly telephone conversations, elders in the step-count plus goal-setting group were given additional instructions to set a new weekly goal of increasing their counts by 5% above the previous week's average. All participants in both groups were compensated with a $40 grocery gift card after the first clinic visit, and all were mailed another $40 grocery gift card after completing the fourth weekly phone call.

At the second clinic visit, the research assistant reviewed the daily activity-monitoring forms and re-administered the Barriers Quiz, CHAMPS, and SF-36. The research assistant also measured changes in health status and ambulatory functioning since starting the study, as well as resting oxygen saturation, heart rate, blood pressure, and the Borg-Dyspnea scale. Elders then completed the 6-minute walk test. Afterward, they were debriefed and compensated with a $60 grocery gift card.

Statistical Analyses

Descriptive statistics were generated for the full sample. The two step-count groups were initially compared on the Barriers Quiz and its subscales, using between-group t-tests. We then defined two groups based on a median split of the total Barriers Quiz score at baseline, with one group reporting higher barriers and the other reporting lower barriers to physical activity. *T*-tests were used to determine whether the two barrier groups differed on demographics, self-reported physical activity, health-related quality of life, total step counts, and performance on the 6-minute walk test.

RESULTS

Participant Characteristics

The average age of the elders was 61 years ($SD = 8.9$), with the majority being female (66%), college-educated (55%), and not currently employed (86%). The average BMI was 30.8 ($SD = 6.5$), and 40% were current smokers.

Changes in Barriers to Physical Activity

We found no statistically significant differences on Barriers Quiz scores or demographic characteristics between the step-count only group and the step-count plus goal-setting group, either at baseline or at the 6-week assessment. Therefore, the data were collapsed into a single sample for within-subjects analyses. Table 1 presents change scores on the Barriers Quiz between baseline and 6-week assessment for the entire sample. Higher scores on the full scales and subscales indicate more self-reported barriers to physical activity. Subscale mean scores on the Barriers Quiz decreased from baseline to 6 weeks, although only the lack of willpower subscale showed a statistically significant change over time ($p < .05$).

Table 1
Change scores across the 6-week trial on the Barriers to Being Physically Active Quiz for the entire sample (*N* = 32)

Barriers Quiz	Total Sample (*N* = 32)		Test Statistic *t*
	Baseline	6 Weeks	df(30)
Total score	18.9 (11.8)	16.3 (8.8)	1.42
Lack of time	2.0 (2.1)	2.2 (2.0)	-0.42
Social influence	2.9 (1.8)	2.2 (1.5)	1.78
Lack of energy	2.7 (2.6)	2.2 (2.2)	1.11
Lack of willpower	4.7 (2.8)	3.4 (2.2)	2.43*
Fear of injury	2.0 (2.3)	1.8 (1.8)	0.39
Lack of skill	1.8 (2.2)	1.6 (2.0)	0.92
Lack of resources	2.8 (2.2)	2.8 (2.2)	0.08

Note: *$p < .05$

Comparison of High- versus Low-barrier Groups

We used the median of 17 on the total baseline Barriers Quiz score to define two groups on the basis of higher or lower barriers to physical activity. Table 2 compares the barrier groups in terms of demographics, CHAMPS, SF-36 PCS, SF-36 MCS, average daily step counts, and performance on the 6-minute walk test. The high- and low-barrier groups did not differ on any demographic or health-related variables. The low-barrier group reported significantly higher frequency of all exercise activities on the CHAMPS questionnaire relative to the high-barrier group ($p < .05$), although total caloric expenditure did not differ significantly between groups. The low-barrier group reported significantly better scores on the SF-36 MCS relative to the high-barrier group ($p < .01$), although no between-group differences were found on the SF-36 PCS. The barrier groups did not differ on either total average daily step counts or performance on the 6-minute walk test.

Table 2
Comparison of high- and low-barrier groups on demographics, CHAMPS, SF-36, average daily step counts, and 6-minute walk performance

Measure	High-barrier Group (*N* = 15)	Low-barrier Group (*N* = 17)	*t* (34) (*p*) or chi-square (1)
Age, mean (*SD*)	60.4 (10.3)	61.8 (7.8)	0.49
Female, %	60.0% (9)	70.6% (12)	0.05
BMI, mean (*SD*)	32.5 (6.7)	29.2 (6.1)	1.56
CHAMPS total caloric expenditure for all activities, mean (*SD*)	5779.1 (8084.7)	9496.5 (9217.6)	1.28
CHAMPS total frequency of all activities, mean (*SD*)	12.6 (10.7)	20.6 (10.9)	2.23*
SF-36 PCS, mean (*SD*)	41.2 (5.8)	40.3 (8.5)	-0.38
SF-36 MCS, mean (*SD*)	42.0 (9.1)	50.6 (7.8)	3.04**
Average number of daily steps, mean (*SD*)	5359.0 (2955.5)	5335.8 (4435.7)	-0.02
6-minute walk distance in feet, mean (*SD*)	1236.5 (314.0)	1222.9 (282.0)	-0.12

Notes: *p < .05, **p < .01. *SD* = standard deviation; BMI = body mass index; CHAMPS = Community Healthy Activities Model Program for Seniors; SF-36 PCS = Short Form 36 Physical Component Summary; SF-36 MCS = Short Form 36 Mental Health Component Summary.

DISCUSSION

Several studies have identified a wide variety of personal, social, and environmental factors that are associated with lower rates of physical activity (Duncan et al., 2005; Humpel, Owen, & Leslie, 2002; McCormack et al., 2004; Owen et al., 2004). A better understanding of these factors would have direct implications for efforts to promote physical activity at both individual and community levels. Contrary to our hypothesis, elders did not report a significant reduction on their total Barriers Quiz score during the 6-week trial. The only Barriers Quiz subscale that showed a significant reduction was lack of willpower, a commonly endorsed reason for physical inactivity among AIs (Belza et al., 2004; Harnack et al., 1999; Jahns et al., 2014) as well as older White populations (Rye, Rye, Tessaro, & Coffindaffer, 2009). We created two groups using baseline scores on the Barriers to Being Physically Active Quiz. Only the

CHAMPS score for frequency of engagement in all exercise activities and the SF-36 MCS score significantly improved in the low-barrier group compared to the high-barrier group. Our objective measures of physical activity did not differentiate the groups, because pedometer step counts and performance on the 6-minute walk test were similar across both groups. However, including objective indicators of physical activity remains an important outcome measure in this area of investigation, especially given the discrepancy between self-reported and objective measures of physical activity (Foulds et al., 2013). Although we did not find any differences between elders who only monitored pedometer step counts with those who were given instructions in step-count goal setting (Sawchuk et al., 2011), other studies have reported enhanced step-count performance among those who are given prescriptive step-count goals (Hultquist, Albright, & Thompson, 2005). Future research using a larger sample may provide a more fair assessment of the relative value of pedometer goal setting as a means of engaging AI adults in promoting increased physical activity.

As observed in other samples of AI adults (Harnack et al., 1999; Jahns et al., 2014) lack of willpower was the highest-rated barrier by elders in our sample. Even though the lack of willpower subscale decreased significantly over the course of the 6-week trial, it still remained the highest reported barrier. Enhancing self-efficacy and confidence in one's ability to become more physically active is an important element of sustainable physical activity programs. Principles of motivational enhancement, for example, may be particularly important to incorporate into such programs in order to bolster confidence to stay engaged in healthier physical activity routines (Martins & McNeil, 2009; Merom et al., 2009). Additional research has also shown that individuals who report higher levels of self-efficacy also report significantly fewer personal, social, and environmental barriers to physical activity than those who report low self-efficacy (Pan et al., 2009). Future research should determine whether motivational enhancement interventions can improve willpower in AIs, and, in turn, whether improved willpower can also lead to improved performance on objective measures of physical activity and fitness. Furthermore, screening for relevant barriers on the front end of exercise interventions may allow for more tailored problem solving in an effort to reach desired changes in physical activity engagement (Sawchuk, Russo, Bogart, et al., 2011).

Our pilot study has several limitations. First, the nature of the pilot investigation, including limited funding for recruitment efforts, resulted in a small sample size, hence

weakening statistical power. The small sample size likely negatively impacted the ability to detect more meaningful changes from baseline to post-assessment on the Barriers Quiz. Although we found that the low-barrier group reported a greater overall level of engagement in physical activity and improved mental health quality of life than did the high-barrier group, this distinction appeared only in the self-reported measure. No between-group differences were found on more objective outcomes of physical activity and fitness. Larger sample sizes may allow for a more robust between-group comparison on these subjective and objective outcome measures. Second, we did not collect neighborhood data that were thorough enough to provide an objective index of built environment features that either promote or inhibit physical activity. Third, our study assessed older, urban-dwelling AIs, so our findings may not generalize as well to other AI cohorts. Finally, we used pedometers as a means of enhancing engagement with physical activity. Future research may determine whether structured activity programs and exercise prescriptions that meet nationally recommended benchmarks for weekly exercise (Duncan et al., 2005) can lead to reductions in self-reported barriers.

CONCLUSIONS

The present study contributes to the scant literature on barriers to physical activity in an understudied population. Additional research with a larger sample is warranted to better understand personal, social, and environmental barriers to physical activity, and to assess whether these barriers can be reduced through time-limited and cost-effective physical activity interventions. Studying a broader sample of AIs may also provide insight into whether specific barriers are more relevant to some age cohorts than to others. Promoting improved physical activity through exercise prescription and problem-solving relevant barriers among this at-risk population may help reduce health disparities in AI elders.

REFERENCES

ATS Committee on Proficiency Standards for Clinical Pulmonary Function Laboratories. (2002). ATS statement: Guidelines for the 6-minute walk test. *American Journal of Respiratory and Critical Care Medicine, 166*(1), 111-117. http://doi.org/10.1164/ajrccm.166.1.at1102

Beals, J., Welty, T. K., Mitchell, C. M., Rhoades, D. A., Yeh, J. L., Henderson, J. A., Manson, S. M., & Buchwald, D. S. (2006). Different factor loadings for SF36: The Strong Heart Study

and the National Survey of Functional Health Status. *Journal of Clinical Epidemiology, 59*, 208-215. http://dx.doi.org/10.1016/j.jclinepi.2005.07.010

Belza, B., Walwick, J., Shiu-Thornton, S., Schwartz, S., Taylor, M., & LoGerfo, J. (2004). Older adult perspectives on physical activity and exercise: Voices from multiple cultures. *Preventing Chronic Disease, 1*(4), A09. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1277949/

Centers for Disease Control and Prevention. (2000). Prevalence of leisure-time and occupational physical activity among employed adults—United States, 1990. *Morbidity and Mortality Weekly Report, 49*(19), 420-424. Retrieved from https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4919a3.htm

Coble, J. D., & Rhodes, R. E. (2006). Physical activity and Native Americans: A review. *American Journal of Preventive Medicine, 31*(1), 36-46. http://doi.org/10.1016/j.amepre.2006.03.004

Duncan, G. E., Anton, S. D., Sydeman, S. J., Newton, R. L., Corsica, J. A., Durning, P. E., . . . Perri, M. G. (2005). Prescribing exercise at varied levels of intensity and frequency: A randomized trial. *Archives of Internal Medicine, 165*(20), 2362-2369. http://doi.org/10.1001/archinte.165.20.2362

Duncan, G. E., Goldberg, J., Buchwald, D., Wen, Y., & Henderson, J. A. (2009). Epidemiology of physical activity in American Indians in the Education and Research Towards Health cohort. *American Journal of Preventive Medicine, 37*(6), 488-494. http://doi.org/10.1016/j.amepre.2009.07.013

Eyler, A., Brownson, R., Donatelle, R., & King, A. (1999). Physical activity social support and middle-and older-aged minority women: Results from a US survey. *Social Science & Medicine, 49*(6), 781-789. http://dx.doi.org/10.1016/S0277-9536(99)00137-9

Foulds, H. J. A., Warburton, D. E. R., & Bredin, S. S. D. (2013). A systematic review of physical activity levels in Native American populations in Canada and the United States in the last 50 years. *Obesity Reviews, 14*(7), 593-603. http://doi.org/10.1111/obr.12032

Galloway, J. M. (2005). Cardiovascular health among American Indians and Alaska Natives: Successes, challenges, and potentials. *American Journal of Preventive Medicine, 29*(5 Suppl 1), 11-17. http://doi.org/10.1016/j.amepre.2005.07.023

Harada, N. D., Chiu, V., King, A. C., & Stewart, A. L. (2001). An evaluation of three self-report physical activity instruments for older adults. *Medicine and Science in Sports and Exercise, 33*(6), 962-970. Retrieved from http://www.editorialmanager.com/msse/default.aspx

Harnack, L., Story, M., & Rock, B. H. (1999). Diet and physical activity patterns of Lakota Indian adults. *Journal of the American Dietetic Association, 99*(7), 829-835. http://doi.org/10.1016/S0002-8223(99)00197-2

Henderson, K., & Ainsworth, B. (2003). A synthesis of perceptions about physical activity among older African American and American Indian women. *American Journal of Public Health, 93*(2), 313-317. http://dx.doi.org/10.2105/AJPH.93.2.313

Hultquist, C., N., Albright, C., & Thompson, D. L. (2005). Comparison of walking recommendations in previously inactive women. *Medicine & Science in Sports & Exercise, 37*(4), 676-683. http://dx.doi.org/10.1249/01.MSS.0000158993.39760.1B

Humpel, N., Owen, N., & Leslie, E. (2002). Environmental factors associated with adults' participation in physical activity: A review. *American Journal of Preventive Medicine, 22*(3), 188-199. http://dx.doi.org/10.1016/S0749-3797(01)00426-3

Jahns, L., McDonald, L. R., Wadsworth, A., Morin, C., & Liu, Y. (2014). Barriers and facilitators to being physically active on a rural U.S. Northern Plains American Indian reservation. *International Journal of Environmental Research and Public Health, 11*(11), 12053-12063. http://doi.org/10.3390/ijerph111112053

King, A. C., Castro, C., Wilcox, S., Eyler, A. A., Sallis, J. F., & Brownson, R. C. (2000). Personal and environmental factors associated with physical inactivity among different racial-ethnic groups of U.S. middle-aged and older-aged women. *Health Psychology, 19*(4), 354-364. http://doi.org/10.1037/0278-6133.19.4.354

Martin, S. B., Morrow, J. R., Jackson, A. W., & Dunn, A. L. (2000). Variables related to meeting the CDC/ASCM physical activity guidelines. *Medicine & Science in Sports & Exercise, 32*(12), 2087-2092. Retrieved from http://www.editorialmanager.com/msse/default.aspx

Martins, R. K., & McNeil, D. W. (2009). Review of Motivational Interviewing in promoting health behaviors. *Clinical Psychology Review, 29*(4), 283-293. http://doi.org/10.1016/j.cpr.2009.02.001

McCormack, G., Giles-Corti, B., Lange, A., Smith, T., Martin, K., & Pikora, T. J. (2004). An update of recent evidence of the relationship between objective and self-report measures of the physical environment and physical activity behaviours. *Journal of Science and Medicine in Sport, 7*(1 Suppl), 81-92. http://dx.doi.org/10.1016/S1440-2440(04)80282-2

Merom, D., Bauman, A., Phongsavan, P., Cerin, E., Kassis, M., Brown, W., … Rissel, C. (2009). Can a motivational intervention overcome an unsupportive environment for walking--findings from the Step-by-Step Study. *Annals of Behavioral Medicine, 38*(2), 137-46. http://doi.org/10.1007/s12160-009-9138-z

Owen, N., Humpel, N., Leslie, E., Bauman, A., & Sallis, J. F. (2004). Understanding environmental influences on walking; Review and research agenda. *American Journal of Preventive Medicine, 27*(1), 67-76. http://doi.org/10.1016/j.amepre.2004.03.006

Pan, S. Y., Cameron, C., Desmeules, M., Morrison, H., Craig, C. L., & Jiang, X. (2009). Individual, social, environmental, and physical environmental correlates with physical activity among Canadians: a cross-sectional study. *BMC Public Health, 9*, 21. http://doi.org/10.1186/1471-2458-9-21

Rye, J. A., Rye, S. L., Tessaro, I., & Coffindaffer, J. (2009). Perceived barriers to physical activity according to stage of change and body mass index in the West Virginia Wisewoman population. *Women's Health Issues, 19*(2), 126-134. http://doi.org/10.1016/j.whi.2009.01.003

Sawchuk, C. N., Charles, S., Wen, Y., Goldberg, J., Forquera, R., Roy-Byrne, P., & Buchwald, D. (2008). A randomized trial to increase physical activity among Native elders. *Preventive Medicine, 47*, 89-94. http://dx.doi.org/10.1016/j.ypmed.2008.03.011

Sawchuk, C. N., Russo, J. E., Bogart, A., Charles, S., Goldberg, J., Forquera, R., Roy-Byrne, P., & Buchwald, D. (2011). Barriers and facilitators to walking and physical activity among American Indian elders. *Preventing Chronic Disease, 8*(3), A63. Retrieved from https://www.cdc.gov/pcd/issues/2011/may/10_0076.htm

Sawchuk, C. N., Russo, J. E., Charles, S., Goldberg, J., Forquera, R., Roy-Byrne, P., & Buchwald, D. (2011). Does pedometer goal setting improve physical activity among Native elders? Results from a randomized pilot study. *American Indian and Alaska Native Mental Health Research, 18*(1), 23-41. http://dx.doi.org/10.5820/aian.1802.2011.1

Stewart, A. L., Mills, K. M., Sepsis, P. G., King, A. C., McLellan, B. Y., Roitz, K., & Ritter, P. L. (1997). Evaluation of CHAMPS, a physical activity promotion program for older adults. *Annals of Behavioral Medicine, 19*(4), 353-361. http://dx.doi.org/10.1007/BF02895154

Thompson, J. L., Wolfe, V. K., Wilson, N., Pardilla, M. N., & Perez, G. (2003). Personal, social, and environmental correlates of physical activity in Native American women. *American Journal of Preventive Medicine, 25*(3 Suppl 1), 53-60. http://dx.doi.org/10.1016/S0749-3797(03)00165-X

U.S. Department of Health and Human Services. (1999). *Barriers to being physically active quiz.* Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/diabetes/ndep/pdfs/8-road-to-health-barriers-quiz-508.pdf

Ware, J. E., & Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. *Medical Care, 30*(6), 473-483. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/1593914

Wilcox, S., Castro, C., King, A. C., Housemann, R., & Brownson, R. C. (2000). Determinants of leisure time physical activity in rural compared with urban older and ethnically diverse women in the United States. *Journal of Epidemiology and Community Health, 54*(9), 667-672. http://dx.doi.org/10.1136/jech.54.9.667

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