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AN EXPLORATORY STUDY OF CULTURAL IDENTITY AND CULTURE-BASED EDUCATIONAL PROGRAMS FOR URBAN AMERICAN INDIAN STUDENTS

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Extant survey data collected from 240 urban American Indian students were used to examine the impact of culture-based and universally accepted effective practices in education on American Indian educational outcomes. The results found that culture-based programs had a largely indirect effect, affecting students' educational outcomes via universal constructs, such as a safe and positive school climate, parent involvement in school, and instruction quality. Furthermore, individual students' cultural identification appears to moderate the effects of cultural programs. Cultural programming appeared to have greater influence on urban American Indian students who were most strongly identified with their American Indian culture.

Keywords: *American Indian; cultural identity; educational outcomes; cultural continuity; model of school learning*

According to most common educational indices, such as standardized test scores (Mullis, Campbell, & Farstrup, 1993), special education placement, completion of high school, and representation in

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higher education (U.S. Department of Education, 1992), American Indian¹ students are at great risk for school failure. Cultural differences or discontinuities between Native culture and the majority culture of most schools are commonly cited as the major cause of academic failure among American Indian students. Historically, research focused on cultural differences to document some deficiency among American Indian students. Currently, cultural differences are used to justify culture-specific curricula and instruction that emphasize cultural strengths. This shift in perspective occurred while educational researchers were finding increasing evidence to support some basic universal principles of teaching and learning. This shift and the balance between culture-specific and universal theories are discussed next.

BACKGROUND

Early theories and empirical inquiries defined cultural differences as equivocal to deficits in Native students, their families, and/or their culture of origin (Pewewardy, 2002). This deficit approach was characterized by searching for the absence of certain competencies in the performance of American Indian students, as compared to White, middle-class students whose performance defined those competencies (Ogbu, 1981). These competencies typically involved abstract psychological traits that are assumed to underlie and be a prerequisite to acquiring academic skills (Shapiro, 1996). Consequently, this type of research was psychometrically driven (Robinson-Zanartu, 1996) and focused on enumerating learning and cognitive styles (e.g., field dependent, visual spatial, right hemispheric dominance, etc.) that differentiated Indian students from Anglo students, presumably to explain differential patterns of achievement (Chrisjohn, Towson, & Peters, 1988; Lomawaima, 1995; McCarthy, Wallace, Lynch, & Benally, 1991; Murdoch, 1988). Although interest in Native learning styles persists (see Pewewardy, 2002), there is now greater emphasis on examining constructs that have more direct, observable, and manipulable effects on the desired outcomes of schooling. Universal theories of teaching and learning contributed to changing this perspective.

Unlike learning or cognitive styles (Arter & Jenkins, 1979; Kleinfeld & Nelson, 1988), student engagement (Algozzine & Ysseldyke, 1992-1993; Wang, Haertel, & Walberg, 1993), student motivation (Diperna, Volpe, & Elliott, 2002; Haertel, Walberg, & Weinstein, 1983; McInerney & Swisher, 1995), effective instruction (Brophy & Good, 1986; Haertel et al., 1983), rigorous curriculum (Keith & Benson, 1992; Wang et al., 1993; Wehlage & Rutter, 1986), positive school climate (Finn, 1989; Goodenow, 1993), and parental involvement (Christenson, Rounds, & Gorney, 1992) have repeatedly demonstrated direct effects on student outcomes. The robustness of these results suggests that there are universally effective educational practices (Goldenberg & Gallimore, 1989). Thus, American Indian underachievement may be attributed to a lack of access to those universal conditions that support school success, and this access may be limited by cultural incompatibility. This seemingly contradictory conclusion is explained by Goldenberg and Gallimore (1989):

A universal, such as the instructional value of peer learning groups, can only be a universal if it reliably applies to many local variations. Any particular instance will differ in some ways from other instances of the same universal principle but will also share common or universal qualities with all other particular instances. (p. 48)

Thus, effective instructional practices, home-school collaboration, and student engagement should assist all students to succeed; however, their manifestations will vary by cultural context. In fact, variation in the application of these universal principles may be necessary for them to exist. For example, Greenbaum (1985) found Choctaw and Anglo students presented with the same type of teacher-directed lecture format to display very different levels of engagement. The Choctaw students appeared less academically engaged because of the cultural incompatibility of this type of teaching. This study not only disproved the assumption that all students respond to this type of teaching; it highlights the lack of opportunity available to Native students to be academically engaged—a condition that does have universal support. In contrast, culture-based educational programs, such as the Kamehameha

Early Education Program (KEEP) and the inquiry-based Rough Rock program, are based on universally accepted teaching practices that are infused with students' Native culture. Goldenberg and Gallimore (1989) noted that the KEEP program includes (a) active, direct teaching, (b) cooperative learning, (c) frequent assessment of student progress, and (d) positive classroom management strategies. Similarly, the Rough Rock program emphasizes parental and community involvement and active student engagement (McCarthy et al., 1991). Descriptions of these model programs suggest that universal principles of teaching and learning applied in a culturally relevant manner produce favorable results; however, more research is needed to understand the relationship between culture-specific programs, universal contributors to school success, and American Indian student outcomes. Furthermore, American Indian-based educational programs may be most effective in increasing the school performance of American Indian students who are strongly affiliated with their Native culture, and students who have little in common with an American Indian-based educational program may benefit less. Yet cultural identity should have minimal effect on the universal predictors of school learning, if they are indeed universal.

Accordingly, the current study examines two major research questions:

1. Do culture-specific programs contribute over and above universally accepted predictors of school success?
2. Does individual cultural identification moderate the effects of cultural programming and other educational variables?

UNIVERSALLY ACCEPTED CONTRIBUTORS TO AMERICAN INDIAN SCHOOL LEARNING

A number of models of school learning have been investigated to estimate the direct and indirect effects of "universally" accepted influences on school learning (Diperna et al., 2002). These models typically include student characteristics, quality of instruction, and school and home support for learning. Although very little of this model testing research has been conducted on American Indians, there is theoretical and empirical support to suggest that these uni-

versal influences on educational outcomes hold similar sway over the educational outcomes of American Indian students. Research on the influence of widely accepted predictors of educational outcomes as applied to American Indian students is surveyed next.

Quality of instruction. Most models of school learning contain a quality of instruction variable (Haertel et al., 1983). Effective teachers who provide quality instruction commonly set high expectations, match instruction to students' skill levels, and represent an encouraging figure by providing instructional support and by promoting possessiveness in the classroom environment (Algozzine & Ysseldyke, 1992-1993). Researchers have suggested that American Indian students as a group are hampered by teachers who hold low expectations for their success (Chrisjohn et al., 1988; Hornett, 1990; Rampaul, Singh, & Didyk, 1984). Hornett (1990) proposed that the decline in Native students' academic achievement after fourth grade is a direct result of their growing awareness of the dismal expectations held by their teachers. Similarly, Bradley (1984) reported that Native students are disproportionately overrepresented in remedial classrooms. Dehyle (1992) found that many American Indian youth left school because their course work was insufficiently challenging. This suggests that the curriculum and instruction provided to Native students may not be adequately matched to their abilities and interests. In summary, teachers' expectations, academic encouragement, and provision of sufficiently challenging material appear to be critical instructional issues for Native students' school success.

Parental involvement. American Indian dropouts commonly cite lack of parental support as contributing to their decision to leave school (Coladarci, 1983; Dehyle, 1992). Sometimes termed "parental noninterference," a lack of parental involvement among American Indian families has been attributed to wariness on the part of parents to reenter a system that was personally discriminatory and unsupportive and historically detrimental to their culture (Friedel, 1999). For example, boarding schools had appalling assimilation policies, which, even as late as the last generation, for-

bade Native languages and customs to be practiced on school grounds (Allen et al., 1999).

Schools may represent a culturally incompatible institution to Native parents as well as to their children (Friedel, 1999). Yet parents have the potential to assist their children in negotiating the culture of the school. Comer (1984) stated, "Their [parents'] presence and participation with the staff ensure a culturally consistent social and academic program. In this way the children do not feel the social distance or gap between the home, primary social network and school" (p. 333).

School climate. Previous research has demonstrated that the presence of a safe environment with caring and approachable teachers may be compromised for urban American Indian students. For example, Goodenow (1993) proposed that students who hold a different way of relating to people than that of school staff are at great risk for feeling socially isolated at school and, subsequently, become disinvested in academic work. Conversely, she provided evidence to support that a sense of connection to the adults at school fosters in students a greater confidence in their ability and in the availability of support. The incongruent interaction styles of school staff and American Indian students may strain these critical relationships between student and teacher. Incompatible expectations for social interactions, such as Navajo students' penchant for silence (Plank, 1994) or the Cree notion of social fluency and individualization (Murdoch, 1988), may be misunderstood by Anglo educators as impertinence, immaturity, or disinterest in forming friendships and subsequently impede the development of a caring relationship between student and teacher. Phelan, Yu, and Davidson (1994) reported that teacher encouragement was critical to helping minority students transcend the cultural barriers between home and school. Conversely, Dehyle (1992) provided evidence to suggest that dropping out among Native students is related to unsupportive teachers. Machamer and Gruber (1998) found American Indian students who lived on reservations to be more likely to report that school personnel cared about them than their non-reservation-dwelling counterparts, suggesting that urban Ameri-

can Indian students experience even more formidable school climates than their rural peers.

Safety is a basic need and generally a prerequisite for learning. One of the Native education goals set by the Indian Nation At-Risk Task Force (1994) is to ensure that every school responsible for educating Native students provides a safe and drug-free learning environment. Results from a national survey of rural reservation-based American Indian youth found more than a quarter of younger youth (Grades 7 to 9) and more than half of older youth (Grades 10 to 12) reported witnessing drug or alcohol use by other students (Blum, Harmon, Harris, Bergeisen, & Resnick, 1992). Similarly, a substantial number of these respondents reported observing their fellow students destroying property or engaging in fighting at school. The incidence of drug and alcohol use and violence at school may be even more frequent and detrimental for urban American Indian youth than for their rural counterparts (Machamer & Gruber, 1998). Therefore, the extent to which urban American Indian youth assess their schools to be safe and drug free is considered an important indicator of school climate.

Motivation. Motivation is consistently identified as a predictor of school achievement (Haertel et al., 1983). Academic motivation can be described as the extent to which students exert academic effort, take pride in their work, and enjoy school. McInerney and Swisher (1995) demonstrated that motivational constructs such as striving for excellence and a sense of competence fit patterns of school achievement among Native students. Scholars of Native education frequently propose that American Indian youth perform poorly in school because their motivation is hindered by low teacher expectations, parental noninterference with school, and a lack of connectedness to school personnel and norms (Chrisjohn et al., 1988; Dehyle, 1992; Hornett, 1990).

Family income. Students who are economically disadvantaged are commonly thought to be at risk for school failure. Urban poverty is associated with health problems, underfunded schools, violent neighborhoods, teen pregnancy, and other conditions that place youth at risk for school failure. American Indians are the

most economically disadvantaged ethnic group in the nation, with unemployment rates and the proportion of families below the poverty line exceeding all other groups (Lomawaima, 1995; Safran, Safran, & Pirozak, 1994). Thirty-nine percent of Native American children live in poverty (U.S. Bureau of Census, 1994). Though poverty is not an easily manipulable condition, disregarding students' social and economic status is likely to lead to the identification of spurious relationships between the variables in a study (Keith, 1993).

Underachievement. Children's current academic success is based, in part, on their emerging cognitive and academic skills and their evolving sense of academic self-competence. Often the best predictor of current school performance is past school performance. Indicators of past achievement problems, such as grade retention, special education placement, and pervasive reading difficulties, are highly correlated with future school outcomes such as school dropout (Wehlage & Rutter, 1986). As noted earlier, American Indian students are at great risk for underachievement. For example, American Indian students are more likely than any other racial or ethnic group to be identified as learning disabled (Donovan & Cross, 2002).

CULTURE-BASED EDUCATIONAL PROGRAMS FOR AMERICAN INDIAN STUDENTS

Students reared in a culture with expectations and patterns of behaviors that are consistent with those of the school have an educational advantage (Comer, 1984). Conversely, those who must navigate a foreign educational context, particularly one that marginalizes their cultural background, are at a distinct disadvantage. The following quotation illustrates the impact culturally insensitive lessons can have on a students' decision to complete school:

My daughter came home and said "I'm done. I'm not going back . . . this is crazy," and that one incident by itself was enough to get her out of school . . . [at school] they were studying about the Iroquois. . . the teacher was teaching about the Iroquois and it was in the past tense. And she got mad, and then they broke up into small

groups and one kid said “why are we all studying this? They’re all dead any way” and Laura said “Do I look dead to you?” and then she came home from school and she said “that’s it, I’m out.” (Geenen, Powers, Vasquez, & Bersani, 2003, p. 36)

Dropping out of a school that is fraught with cultural discontinuities and conflict is not only sagacious, but for some American Indian adolescents, it represents an act of resistance to a historically oppressive educational system (Friedel, 1999; Grantham-Campbell, 1998). In an attempt to prevent American Indian student failure and dropout, some schools have addressed the issue of cultural discontinuity by including culturally relevant teaching methods and materials and by incorporating Native cultural traditions into the curricula (Stokes, 1997). These efforts include recruiting Native educators, teaching Native languages and stories, avoiding content and instructional strategies that directly conflict with the values of the American Indian community, building on the background knowledge of the students, and celebrating American Indian historical figures, contributions, and events (Allen et al., 1999; McCarthy et al., 1991; Mehan, Lintz, Okamoto, & Wills, 1995; Stokes, 1997).

Through these changes, schools attempt to increase students’ sense of belonging and interest in school. In addition, it is assumed that if the culture of the school is made more familiar, then interacting with new academic material becomes easier (Mehan et al., 1995). American Indian–based educational programs, such as the KEEP program and Rough Rock school, have demonstrated positive effects on students’ academic and behavioral outcomes (McCarthy et al., 1991; Mehan et al., 1995).

Attempts to create American Indian–based educational programs have not received unequivocal endorsement. For example, Bradley (1984) warned of the deleterious effects of replacing core content with arts and crafts. Hull, Phillips, and Polyzio (1995) observed that superficial attempts by some programs to include cultural content such as crafts and dancing were generally ineffective in curbing chronic absenteeism and other educational problems. In short, cultural programs may be effective only if they serve to evoke and sustain universally sound educational practices. Fur-

thermore, cultural identity may moderate the influence of cultural programming on educational outcomes.

EFFECTS OF CULTURAL IDENTITY ON SCHOOL OUTCOMES

The development and implementation of formal educational programs based on Native culture is largely premised on the assumption that students have been raised in a culture that is significantly different and, in some ways, incompatible to the majority culture of the school. One of the major limitations of the current literature on American Indian education is a paucity of empirical studies that account for individual variations in traditionalism and acculturation to the majority culture. For example, Leveque (1994) reported that children from a largely assimilated American Indian community did not experience cultural discontinuity at school. Rather, these students enjoyed the same types of interactions with school personnel, experienced similar levels of parental participation, and achieved comparable educational outcomes as their non-Native peers (Leveque, 1994).

Dehyle (1992) proposed that level of acculturation influences Native students' decisions about staying in school. She found that compared to dropouts from a more traditional Native community, dropouts from a more assimilated Native community indicated more often that they left school because school was unimportant to their Native culture. Dehyle concluded that "culturally non-responsive school curriculum was a greater threat to those . . . whose own cultural 'identity' was more insecure" (p. 37). Likewise, Oetting and Beauvais (1990-1991) provided evidence that it is the anomic youth—those who fail to benefit from either Native or mainstream culture—who are at greatest risk for school failure.

Red Horse (1988) proposed that American Indian cultural identity is maintained by a strong connection to one's tribal homeland, extended kin, Native languages, and traditional spirituality. From a cultural continuity perspective, students whose cultural identity is highly aligned to these traditional Native beliefs and activities would gain the most from American Indian-based educational programs; yet Dehyle's (1992) work suggests that it is the students who are least orientated to Native culture that benefit most from

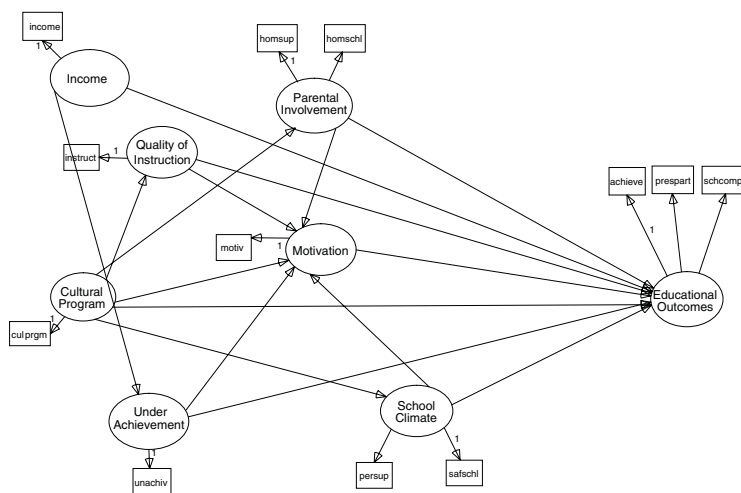


FIGURE 1 A Theoretical Model of School Learning for American Indian Students

culture-based education programs. Urban studies of American Indian youth who are one, two, or three generations removed from their tribal homeland offer a unique opportunity to examine the effects of acculturation and Native culture on patterns of school learning. The present study investigates whether Native cultural affiliation moderates learning by testing a model of school learning (described next) on data collected from two groups of American Indian students: those who strongly and those who more modestly identify with their Native culture.

A THEORETICAL MODEL OF SCHOOL LEARNING FOR AMERICAN INDIAN STUDENTS

To examine the influence of culture-based programs on educational conditions commonly linked to school success, a model of school learning was developed and tested. Figure 1 displays the proposed model, including the seven predictor variables and their relationship with American Indian students' educational outcomes. In addition to participation in American Indian culture-based educational programs, the model includes environmental (i.e., quality of instruction, parental involvement, and school climate) and stu-

dent (i.e., underachievement, family income, motivation) variables that are commonly identified predictors of educational outcomes.

The causal pathways among the latent variables were selected on the basis of the primary research question: "Does cultural programming contribute over and above universal principles of learning for American Indian youth?" The direct effects of cultural programming were estimated by including a direct path from cultural programming to educational outcomes, and the indirect effects of cultural programming were estimated by including paths from the latent variable cultural program to each manipulable educational variable (e.g., parental involvement, motivation, quality of instruction, and school climate) in the model. Furthermore, it was hypothesized that student motivation would mediate the influences of the various contributors to educational outcomes (e.g., quality of instruction, school climate, etc.), so it was placed in the center of the model, and paths from every endogenous variable (except income) to motivation were included in the model. Additional plausible pathways, such as the direct effects of income on motivation or parent involvement, were omitted because school personnel have little ability to affect family income. Including pathways from income to the other variables may have increased the estimated fit between the model and the data at the expense of parsimony. The rationale for including the latent variable cultural program among the seven commonly examined latent variables in the model is described next.

RATIONALE

Although numerous models of school learning have been investigated within the past 40 years (Diperna et al., 2002), few have applied these models to American Indian learners (McShane, 1983; Pavel & Padilla, 1993). One notable exception is a study by Keith and Benson (1992) in which they applied a model of school learning to data collected from a national sample of five different ethnic groups of students. The model proposed that student achievement is due in part to the combined effects of student ability, quality of instruction, motivation, and academic instruction time. Although considerable support for this model was found for

students from the other ethnic groups, data collected from American Indian students were discrepant from the relationships predicted by this model of school learning. This model may have failed to predict Indian students' patterns of school learning because cultural programming was not included. Cultural discontinuity is a commonly cited cause of underachievement among American Indian youth, and culturally based educational programs are viewed by many as the solution to creating greater continuity between American Indian students' home and community and the learning environment at school (Powers, Potthoff, Bearinger, & Resnick, 2003). By investigating the direct and indirect effects of cultural programming in a model that includes many of the universally accepted contributors to school success, the effectiveness of culture-based programs can be more fully understood. Furthermore, an empirically supported model of school learning for urban American Indian students can assist educators in developing interventions for this population of students who experience considerable school failure.

METHOD

STUDY PARTICIPANTS

Participants in the study were 240 American Indian students who attended public school. All participants were American Indian, primarily Ojibwa, Lakota, or Dakota. They ranged in age from 9 to 18 years at the time of survey administration (mean age = 11.66 years, $SD = 2.13$); 52% were female. Almost half (42%) reported they had moved residences within the past 12 months. Thirty-eight youth reported moving three or more times within the past year. Seventy-two percent reported receiving subsidized meals at school, and an alarming 70% reported that a family member had been shot or stabbed. The extant data were collected as part of the Indian Youth Resiliency Impact Study (IRIS), a 3-year study designed to assess the impact of a community-based American Indian youth development program in a large midwestern city.

INSTRUMENTATION

The current study is based on results collected from two of three surveys administered by IRIS. The surveys were developed through an extensive consensus-building process that drew from the existing literature on child development, risk and resiliency, cultural identification, and alcohol and substance use. Items were derived in part from the National American Indian Adolescent Health Survey, a well-validated survey developed by a team at the University of Minnesota in conjunction with the Indian Health Service (Blum et al., 1992). Furthermore, input from various stakeholders of the local schools and American Indian community was sought. Each survey was pilot tested on a group of approximately 40 urban Indian youth, revised, and piloted again. With each survey administration, demographic information, including age, gender, grade, and school of attendance were collected.

Items from the instruments were used to construct 13 scales: family income, instruction, cultural program, underachievement, home support for learning, home-school collaboration, motivation, school personnel supportiveness, safe and drug-free school, achievement, presence and participation, school completion, and cultural identity. The standardized internal consistency estimates, means, and standard deviations computed on the full sample for each scale are reported in Table 1 (see Powers et al., 2003, for a complete list of the items used to construct the scales).

PROCEDURES

Survey administration occurred during the 1995 to 1996 academic school year through the following summer. Participants were surveyed either at school, at a community-based American Indian after-school program, or at a community center.

DATA ANALYSIS

Structural equation modeling integrates a structural model of latent variables (e.g., parental involvement in education, school climate, etc.) and a measurement model of observed variables (i.e., responses to survey items) to estimate the degree of fit between a

TABLE 1
Scale Items, Means, Standard Deviations, and Internal Consistency Estimates (N = 240)

<i>Scale</i>	<i>Description</i>	<i>M</i>	<i>SD</i>	<i>α</i>
Family income	4 items address lunch status, mobility, and access to food and other resources.	.60	.23	.36
Quality of instruction	3 items address challenging curriculum and teachers' academic expectations and support.	.50	.30	.36
Cultural programming	6 items address teaching Native languages and learning about Native culture at school.	.56	.25	.71
Underachievement	4 items address reading difficulties, retention at grade level, and special services for learning or behavioral problems.	.67	.20	.23
Motivation	3 items address students' academic persistence, pride in their school work, and generally whether they like school.	.72	.23	.53
Parental involvement				
Home support for learning	6 items address homework assistance, parental expectations for doing well and completing school, and family discussions about current and future school experiences.	.73	.21	.61
Home-school collaboration	3 items address parents volunteering at school and attending parent-teacher conferences and other school activities.	.50	.30	.58
School climate				
School personnel supportiveness	4 items address getting along with teachers and teachers' social and emotional availability to students.	.56	.22	.57
Safe and drug-free school	8 items address witnessing vandalism, alcohol or other drug use, and violence at school.	.60	.19	.63

Educational outcomes			
Achievement	2 items address self-report grades	.63	.28 .73
Presence and participation	5 items address school attendance, truancy, and participation in school activities.	.56	.18 .45
School completion	2 items address students' intentions to complete high school and attend postsecondary institutions.	.86	.22 .62
Culture ^a	14 items address students' engagement in and valuing of traditional American Indian culture (e.g., speaking a tribal language, participating in ceremonies, learning about Indian stories, etc.)	.51	.16 .76

a. The culture scale was used to divide the sample into two groups; it is not represented in the model as a latent variable.

theoretical model of relationships among a set of variables and the actual variance and covariance of those variables (Keith, 1996). Direct and indirect effects of each variable included in the model are estimated; thus, the relative contributions of specific predictor variables on student outcomes can be compared.

Following the reduction of the data into 13 scales, structural equation modeling was used to estimate the direct and indirect effects of the exogenous variables (e.g., cultural programming, school climate, family income, etc.) on the endogenous variables (i.e., educational outcomes, etc.). The fit and causal effects of the model of school learning for American Indian youth shown in Figures 2 and 3 were estimated using the Analysis of Moment Structure (Version 3.51; Arbuckle, 1994) structural equation modeling computer program. When possible, 2 or more scales were used to measure one psychological construct to reduce the amount of random error within each estimate of a latent variable (Hoyle, 1995).

MODEL SPECIFICATION

Twelve of the 13 scales were used to estimate eight latent variables, as depicted in Figure 1 (as described in the next section, the 13th scale was used to split the sample into two subsamples). This proposed model consisted of three exogenous variables (income, cultural program, and underachievement), each measured by a single scale. Four mediating variables included in the model were instruction, motivation, parental involvement, and school climate. The first two were constructed by a single scale; the latter were estimated by two scales each. The endogenous variable, educational outcomes, was estimated by three scales: achievement, presence and participation, and school completion.

CULTURAL IDENTITY AS A MODERATING VARIABLE

Current theory suggests that cultural identification differentially influences the educational process and outcomes of American Indian students (Dehyle, 1992; LaFromboise, Coleman, & Gerton, 1993; Oetting & Beauvais, 1990-1991; Plank, 1994). To answer the second research question, "Does cultural identification moderate

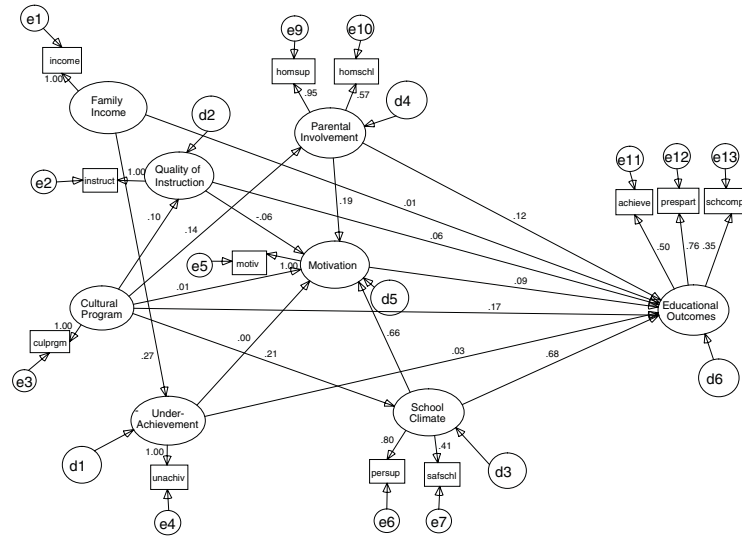


FIGURE 2 Path Coefficients for Participants Identified as Highly Affiliated With Native American Culture ($n = 134$)

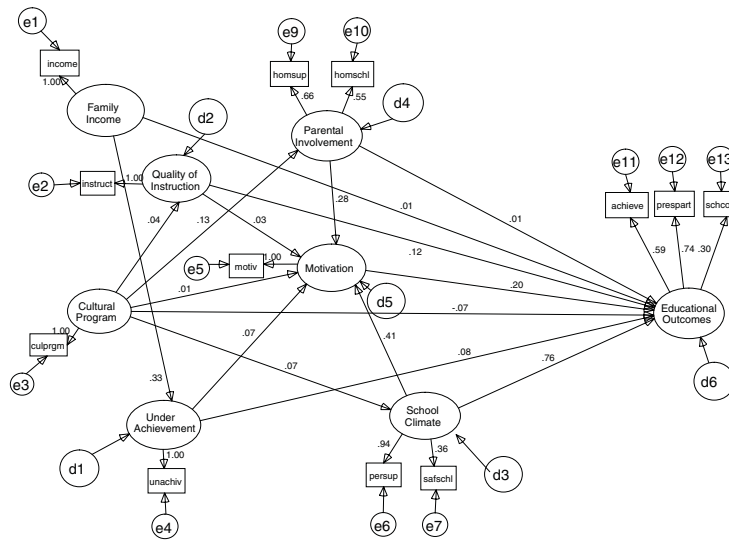


FIGURE 3 Path Coefficients for Participants Identified as Moderately Affiliated With Native American Culture ($n = 106$)

TABLE 2
Correlations Between Culture Scale and the Educational Scales (N = 240)

<i>Scale</i>	<i>r</i>
Family income	-.068
Quality of instruction	.149*
Cultural programming	.366**
Underachievement	.037
Home support for learning	.106
Home-school collaboration	.145*
Motivation	.147*
School personnel supportiveness	.095
Safe and drug-free school	-.045
Achievement	.084
Presence and participation	.167*
School completion	.211**

* $p < .05$. ** $p < .01$.

the effects of cultural programming and other educational variables?" the model was tested on two different groups of urban American Indian youths: those who were most and those who were least identified with their Native culture. The cultural identity scale was used to divide the total sample into two to allow for group comparisons. The criterion for assignment to either the high or the low Native cultural identification group was determined by the distribution of the scale's scores. The distribution for the total sample of 240 had a mean of .51 and a standard deviation of .16. The mean was used as a cutoff score, resulting in 134 of the total 240 study participants being characterized as highly orientated toward their Native culture and the remaining 106 participants grouped as less affiliated with their Native culture. No significant differences were found between the two groups in self-reported grades, attendance, and subsidized lunch status.

RESULTS

Table 2 displays the Pearson correlations calculated between participants' responses to the cultural scale and the remaining 12 educational scales for the entire sample ($N = 240$). Significant cor-

relations were found between cultural identity and cultural programming ($r = .366, p < .01$), school completion ($r = .211; p < .01$), presence and participation at school ($r = .167, p < .05$), quality of instruction ($r = .149, p < .05$), and motivation ($r = 1.47, p < .05$). Additionally, Pearson correlations among all of the 12 scales used in the model were computed for the two groups of participants. See Tables 3 and 4 for these correlations as well as the means and standard deviations for each scale.

The structural equation modeling results indicate that the proposed model fit the data reasonably well for both those highly identified with their Native culture ($\chi^2 = 101, p = .00, \chi^2/df = 2.37$, Goodness of Fit Index [GFI] = .89, Comparative Fit Index [CFI] = .788) and those less identified with their Native culture ($\chi^2 = 105, p = .00, \chi^2/df = 2.46$, GFI = .87, CFI = .718), given the exploratory nature of this study. Table 5 displays the direct, indirect, and total effects of each variable on student outcomes for both samples, and Figures 2 and 3 provide the factor loadings and path coefficients resulting from these analyses for each sample. School climate was found to have the largest total effect among all of the variables studied. Cultural programming was found to have larger direct and indirect effects on students who were more strongly affiliated with their native culture.

DISCUSSION

There has been a substantial American Indian migration to cities during the past three decades, with more than half of the American Indian population residing in urban areas (Snipp, 1995). Unlike their parents' generation, Indian youth are more commonly growing up in urban areas (Safran et al., 1994), and this migration is associated with both positive and negative outcomes. Urban American Indians appear to suffer from less poverty than their reservation counterparts (Snipp, 1995); however, relocation to cities can leave families isolated from important social-support networks that exist among tribal communities (Huang & Gibbs, 1992). Urban public schools may be an important source of social and cultural

TABLE 3
Correlations Among Scales (n = 134) for the Highly Affiliated Group

Scale	1	2	3	4	5	6	7	8	9	10	11	12
1. Income	1.0											
2. Instruction	.08	1.0										
3. Cultural program	-.09	.10	1.0									
4. Underachievement	.27*	-.05	.06	1.0								
5. Home support for learning	.14	.27*	.13	.22*	1.0							
6. Home-school collaboration	.21*	.10	.15	.24*	.54*	1.0						
7. Motivation	-.02	.19*	.17*	.08	.37*	.15	1.0					
8. School personnel supportiveness	.01	.35*	.16	.08	.38*	.19*	.56*	1.0				
9. Safe and drug-free schools	-.05	.26*	.12	-.03	.14	-.01	.34*	.33*	1.0			
10. Achievement	.05	.17	.26*	.18*	.20*	.24*	.38*	.21*	.20*	1.0		
11. Presence and participation	-.01	.24*	.23*	.03	.26*	.15	.46*	.58*	.15	.41*	1.0	
12. School completion	.01	.17	.14	.04	.30*	.26*	.20*	.28*	.09	.17	.27*	1.0
M	.587	.856	.633	.663	.756	.540	.751	.587	.602	.635	.591	.897
SD	.245	.213	.223	.224	.207	.299	.214	.223	.203	.270	.186	.194

*p < .05.

TABLE 4
Correlations Among Scales (n = 106) for the Lesser Affiliated Group

Scale	1	2	3	4	5	6	7	8	9	10	11	12
1. Income	1.0											
2. Instruction	.14	1.0										
3. Cultural program	.04	.04	1.0									
4. Underachievement	.33*	.03	.15	1.0								
5. Home support for learning	.01	.09	.03	.09	1.0							
6. Home-school collaboration	.14	-.02	.16	.19	.37*	1.0						
7. Motivation	-.14	.09	.08	.24*	.35*	.26*	1.0					
8. School personnel supportiveness	.01	.14	.06	.38*	.40*	.34*	.48*	1.0				
9. Safe and drug-free schools	-.10	.10	.04	.18	.17	.18	.37*	.34*	1.0			
10. Achievement	-.07	.14	.13	.21*	.17	.26*	.44*	.46*	.32*	1.0		
11. Presence and participation	.03	.16	-.03	.30*	.22*	.27*	.38*	.66*	.13*	.49*	1.0	
12. School completion	.14	.16	-.09	.19	.28*	.12	.33*	.22*	.07	.21*	.17	1.0
M	.607	.756	.466	.670	.708	.441	.675	.533	.601	.619	.522	.804
SD	.224	.271	.251	.179	.209	.290	.235	.224	.165	.289	.171	.231

*p < .05.

TABLE 5
Direct, Indirect, and Total Effects of Variables in the Model

<i>Variable</i>	<i>Direct Effect</i>	<i>Indirect Effect</i>	<i>Total Effect</i>
High Native cultural affiliation (<i>n</i> = 134)			
Quality of instruction	.06	.00	.06
Parental involvement	.12	.02	.14
School climate	.68	.06	.74
Motivation	.09	.00	.09
Family income	.01	.00	.01
Underachievement	.03	.00	.03
Cultural program	.17	.17	.34
Low Native cultural affiliation (<i>n</i> = 106)			
Quality of instruction	.12	.00	.12
Parental involvement	.01	.06	.07
School climate	.76	.08	.84
Motivation	.20	.00	.20
Family income	.01	.03	.04
Underachievement	.08	.01	.09
Cultural program	.07	.06	.13

support, particularly those that offer American Indian culture-based curricula.

The results of this study suggest that culture-based programs influence urban American Indian students' educational outcomes by enhancing those educational conditions that promote school success for all students. Across both groups of students, approximately half of the effects of cultural programming on student outcomes were mediated by universal predictors of educational success. The direct influence of cultural programming may actually be overestimated in the current study because important educational variables, such as academic engagement and rigorous curriculum, were not represented in this model. If more variables were studied, cultural programming may appear to have very little direct influence on students' outcomes; rather, culturally compatible programs work indirectly by increasing access to sound teaching and learning practices (Goldenberg & Gallimore, 1989).

Second, some American Indian students may benefit more than others from educational practices grounded in Native culture. Cul-

tural programming was found to be more strongly associated with the school outcomes of students who most strongly identified with their Native culture. Although cultural programming had a larger effect on school outcomes and most of the mediating variables (e.g., quality of instruction and school climate) for this group of American Indian students, the effects of cultural programming on parental involvement were similar for both groups of students. Perhaps this represents a generational effect, wherein the parents of both types of culturally identified students have trouble accessing mainstream schools but are more encouraged to participate in school programs that have a cultural focus.

A significant correlation was found between cultural identity and participation in cultural programs. The causality of this relationship is difficult to determine. It is unclear whether students and families who are highly identified with their Native culture seek out Indian-based educational programs or whether these programs facilitate cultural maintenance. In either case, students who report being more highly oriented to their Native culture were more likely to participate in Indian-based programs at school. Future research on this relationship is warranted to better understand the outcomes of cultural programs.

Native cultural identification was positively correlated with students' intention to complete school and their presence and participation at school, yet it was not associated with achievement. The relationship between Native cultural identity and school success may be more complicated than a simple linear relationship. Oetting and Beauvois (1990-1991) report that students' affiliation to either the majority or Native culture was associated with positive educational outcomes. According to these researchers, it is the anomic youth, those who strongly identify with neither the Indian nor the Anglo culture, that are most at risk for school failure. They noted,

A strong cultural identification should serve as a source of strength and potency. It should provide a firm and secure base for personal growth and development, provide access to the resources of the culture, and limit the potential for serious deviance or violation of cultural norms. (pp. 671-672)

Urban American Indian students are more likely than rural American Indian students to find themselves caught between two cultures, benefiting little from either. For example, moving to a city often results in losing extended kin who are critical to socializing and to protecting American Indian adolescents from risk-taking behaviors (Machamer & Grueber, 1998).

The most notable finding was the considerable effect size of school climate on the educational outcomes measured in the present study. School climate, defined here as school personnel supportiveness and safe, drug-free schools, may be compromised for urban American Indian students who face alienation because of their minority status within their schools and the loss of cultural support traditionally provided by tribal communities (Friedel, 1999). Personnel supportiveness was the major contributing factor to participants' perceptions about their school's climate, which in turn had the largest effect on students' educational outcomes. These findings are consistent with the growing body of research on the psychological, social, and academic advantages of feeling personally accepted, respected, and supported by school personnel (Finn, 1989; Goodenow, 1993; Wehlage & Rutter, 1986).

The apparent lesser effects of parental involvement, quality of instruction, and students' motivation may be because of limitations in the measurement model, or they may represent less salient issues for this group of Native students. Cross-validation of the current model and exploration of alternative models is required to better understand these findings.

LIMITATIONS

The findings should be interpreted cautiously, particularly given the limitations of using extant data. Analyses were restricted to survey items constructed to meet the needs of the IRIS project; therefore, some constructs relevant to the present study could not be examined. For example, none of the survey items addressed affiliation to the majority culture; subsequently, anomic youth (i.e., those who strongly identify with neither the American Indian nor the majority culture) could not be identified. Given the urban setting, a

significant portion of both groups of culturally identified students examined in this study probably fit the definition of anomic youth, described as at risk for school failure in the literature. In addition, the present study is based solely on self-report data; verification of student self-reported grades, attendance, and the quality of instruction they receive would strengthen the study.

Furthermore, selection bias in the sample should be considered before drawing any conclusions from the results of this research. First, the study was conducted in an urban setting; accordingly, the results may not generalize to reservation-dwelling American Indian students. Second, comparisons to other minority populations are very tenuous because the sample included only students who self-identified as American Indian and considered only program characteristics that were aligned to Native American cultural values and experiences; educational programs based on other cultures may produce different results. Similarly, the current study included students from primarily three midwestern tribes; thus, the results may not apply to other Indian nations. Although the sample size did not allow for tribal comparisons, tribal differences in school learning should be explored by larger studies. These findings require replication to demonstrate that they are not unique to the current sample; an expansion of the study to include reservation-dwelling American Indians and non-Native participants appears warranted.

As with any correlation study, causality is speculative. For example, parental involvement in formal schooling may lead to greater participation in cultural programs rather than cultural programs causing increases in parental participation. Finally, some of the scales, such as family income and underachievement, had poor internal reliability estimates, which suggests insufficiency in the measurement of these constructs. However, low internal reliability may also be because of lack of variation (e.g., 72% of survey respondents reported receiving free or reduced-cost lunch at school) rather than actual poor reliability. Even given the limitations, this research provides insight into providing quality educational programs to urban American Indian students.

CONCLUSION

As educators, parents, students, and American Indian communities strive to raise the educational outcomes of urban American Indian students, a model of school success is of tremendous benefit. The model present in this study is far from complete. However, the data clearly demonstrate that universal principles of learning are relevant to American Indian students and that school-based American Indian cultural programs increase student outcomes by enhancing those conditions that lead to school success for all students. Establishing caring and supportive relationships with school personnel appears central to solving the problem of underachievement among urban American Indian youth. Urban educators should strive to provide American Indian students with a range of educational programs that embrace American Indian history, language, and values as well as form the supportive and caring relationships that assist students in attaining their full potential.

NOTE

1. *American Indian* refers to all North American Native people, including Alaska Natives and Aboriginal people. The terms *American Indian*, *Native*, *Native American*, and *Native American Indian* are used interchangeably throughout this article to refer to these varied people.

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