This research examines factors affecting school success for a sample of 196 fifth-eighth grade American Indian children from three reservations in the upper Midwest. The regression model included age, gender, family structure, parent occupation and income, maternal warmth, extracurricular activities, enculturation, and self-esteem. The results indicate that traditional culture positively affects the academic performance of fifth-eighth grade children. The bivariate correlation between enculturation and self-esteem was nonsignificant and there was no significant interaction between enculturation and self-esteem indicating that enculturation was directly associated with school success. The findings are discussed in terms of resiliency effects of enculturation for American Indian children.

Over the past three decades there have been numerous studies pertaining to the influence of traditional culture on academic performance of American Indian children. These studies have focused on drop-out rates, classroom adjustment and academic performance. With some notable exceptions (e.g. James, Chavez, Beauvais, Edwards & Oetting, 1995; Ward, 1995), most of the work has been qualitative, descriptive, or based on very small samples from a single school or reservation (see Swisher & Hoisch, 1992 for a review of drop out studies). Work on the effects of traditional culture on academic performance may be grouped into two very broad categories. First, traditional culture may function
as a protective mechanism when it is used to guide curriculum (Goddard, & Shields, 1997; McCarty, 1989; Van Hamme, 1996) or taken into consideration in regards to learning and behavior styles of American Indian children (Hornett, 1990; Hurlburt, Kroeker, & Eldon, 1991). Second, traditional culture may result in cultural discontinuity that occurs when American Indian children find themselves in an intensive socialization environment that contradicts their traditional values and worldviews. From this point of view cultural conflict creates discomfort, lowers self-esteem, and fosters a sense of inadequacy that is continually reinforced in a European-American school system (Dehyle, 1992; Hornett, 1990; Sanders, 1987).

The research reported here examines the role of traditional culture on academic success of 194 fifth-eighth grade American Indian children from three reservations in the Upper Midwest. The analysis controls for factors typically associated with academic performance to determine if traditional culture makes a unique contribution over and above these effects. “Traditional culture” and “enculturation” are used interchangeably in this report. “Enculturation” was assessed via a multi-dimensional scale made up of three components: 1) involvement in traditional activities, 2) identification with American Indian culture, and 3) involvement in and importance of traditional spirituality (see measurement section).

Traditional culture and American Indian education
One of the difficulties in studying the effects of traditional culture on adolescent behavioral outcomes is the heterogeneity of American Indian cultures. There are approximately 510 federally recognized American Indian entities (Bureau of Indian Affairs, 1991) and more than 365 state-recognized groups (Manson & Trimble, 1982) in the United States. Among these there at least 200 traditional languages (Fleming, 1992). These separate cultures and language groups vary significantly from one another in values, spiritual beliefs, kinship patterns, economies, and levels of acculturation. In some instances, within group differences may be greater than differences between a particular American Indian culture and the majority population. This diversity results in measures of “traditional culture” that vary. Also, the effects of traditional culture may be diverse depending on cultural characteristics. This makes the systematic accumulation of knowledge very difficult. Short of a national study based on a cross-cultural sample and the development of standardized measures of traditional culture, work has to progress nation by nation. For this reason, the research reported here, as does most of the research reported in the literature review, pertains to a particular culture.

Although problems pertaining to assessing effects of traditional culture are reduced by focusing on a particular American Indian society, concerns regarding definition remain. Some of the confusion surrounding the effects of “traditional culture” can be attributed to researchers' use of a single dimension of a complex concept. Our approach is to equate “traditional culture” with the concept of “enculturation” and to take into account the complexity of the concept.
by using multiple dimensions to capture its meaning (Zimmerman, et al., 1994). We believe there are three important dimensions of enculturation. First, *involvement in traditional activities* indicates everyday knowledge of the culture and participation in it. Second, *cultural identity* pertains to the degree to which the person's self-concept incorporates the culture. The third important element, *traditional spirituality* is too often omitted in cultural assessments of American Indian people. Spirituality is an essential dimension of American Indian culture. Knowledge and practice of spiritual ways and values reflect both cultural practice and cultural identity. We believe that operationalizing such a complex concept by measuring only one dimension (e.g., cultural identity) has resulted in missing important information that may affect behaviors.

The literature on traditional culture and academic experiences of American Indian children is replete with case studies (Bowker, 1992; Lin, 1987; Marsiglia, Cross, & Mitchell-Enos, 1998; Pertusati, 1988), small sample studies (Coggins, Williams, & Radin, 1997; Sack, Beiser, Clarke, & Redshirt, 1987), and non-data based essays (Ledlow, 1992; Sanders, 1987; Van Hamme, 1996) documenting a lack of fit between American Indian values and socialization techniques, values, and expectations of European American classrooms. The persistent theme is that American Indian children are handicapped by values and behaviors that conflict with the expectations of the majority culture. These include values of sharing, noncompetitiveness, politeness, not putting oneself forward in a group, allowing others to go first, being reluctant to speak out, present rather than future time orientation, and norms of noninterference (Brant, 1990; Hornett, 1990;
Definitions of “success” in the two cultures also may conflict (Vogt, Jornan & Tharp, 1987). European schools socialize for independent success where many American Indian cultures identify success with contributing to their tribe or family (Deyhle & Margonis, 1995).

Larger studies also have documented the lack of fit between European school systems and American Indian pupils. For example, James and colleagues’ (1995) study of American Indian and European American dropouts (N = 1,607) found that higher levels of tribal language and higher levels of cultural identity more strongly correlated with dropping out of school than with academic success. Brady (1996) expanded the discussion of the effects of cultural discontinuity by describing similarities between European and Native high school dropouts in Canada. His findings suggest that cultural discontinuity may be a contributing factor, but the larger social context of economic disadvantage contributed to school failure to Natives and non-Natives alike.

Alternative hypotheses are based on the contention that traditional cultural identity is a resiliency factor that is likely to be associated with prosocial behaviors. Traditional values espouse ways of behaving that are congruent with the development of positive behaviors and association with prosocial peer groups. In addition, a positive cultural identity may contribute to a sense of efficacy and self-esteem that may increase academic success (Hornett, 1990). From this perspective, traditional culture imbues children with pride in cultural heritage and gives them the direction they need to negotiate their way though the cultural contradictions inherent in their contacts with European American society.
For example, Zimmerman and colleagues have argued that enculturation, the degree to which one is embedded in one’s culture through personal identity and cultural practices, is one of a number of resiliency factors that can protect children and adolescents from potentially harmful behaviors such as alcohol and drug use, early sexual behaviors, and delinquency (Zimmerman et al., 1994). They found that enculturation interacted with self-esteem to reduce alcohol and drug use among 121 American Indian adolescents aged 7-18 years. That is, enculturation in the presence of high self-esteem served as a protective factor against negative behaviors.

**Hypotheses**

Based on the reasoning of Zimmerman and colleagues, we developed a resiliency model of school success that included known contributors to the academic performance of children. A positive association was predicted between school success, living in a two-parent home, parent education and parent income. In addition, the model included a measure of maternal warmth and supportiveness (e.g., degree to which mother expresses caring and approval, talks to child, and spends time with child) which we hypothesized would be positively related to school success. Prosocial activities have been widely shown to be associated with positive school outcomes. For this reason, we included sports participation and club memberships in and outside of school in the model. A positive relationship was predicted between extracurricular sports and clubs
and school success. After all of the typical indicators of school success were stepped into the model, we added our measure of enculturation. We hypothesized a positive association between child enculturation and school success. To investigate possible interaction effects of self-esteem and enculturation, self-esteem was added in the final model and it’s interaction with enculturation tested. The model controlled for age and gender of child.

**Method**

**Sample**

This research is based on interviews with 212 children (115 boys and 97 girls) who participated in a baseline survey for a prevention study conducted on three American Indian reservations located in the upper Midwest. In the analysis, 16 cases were lost due to listwise deletion of variables to yield a final sample of 196 children. To be eligible to participate in the study the children had to be enrolled tribal members and in the 5th through the 8th grades. Their ages ranged from 10 years to 15 years. The average age of the boys was 12.2 years; the average age for girls was 12.1 years. The sample was well distributed across grade level with about one-fourth of the children in each grade.

All of the children’s families lived on or near their respective reservations. Over one-third (38%) of the children lived in single-parent households. One third of the children (31% boys; 34% girls) had never lived with their biological fathers;
32% had lived with their biological father at some point in their lives but not at present; and 34% currently live in a household with their biological fathers.

One-fourth (25%) of the dual-parent households had incomes of $35,000 or more compared to only 7% of single-parent households (Table 1). Thirty-three percent of dual-parent households and 19% of single-parent households had incomes of between $20,000 and $35,000. Eighteen percent of dual-parent households and 21% of single-parent households had incomes of between $15,000 and $20,000. Fourteen percent of dual-parent families had incomes of between $10,000 and $15,000, as did 23% of single-parent households. Almost one-third (30%) of the single-parent households were getting by on less than $10,000 per year, as were 10% of dual-parent households. Forty-three percent of the dual-parent and 37% of the single-parent households received food stamps. Forty percent of the dual-parent and 39% of the single-parent households received family assistance of some type (AFDC-TANF).

Measures

The age of adolescents was measured as a continuous variable. The range was 9 to 16 years. The average age of the target adolescents was of 12.1 years. Gender was coded as a dummy variable (0=female, 1=male). There were nearly equal numbers of boys and girls (54% male, 46% female).

Family structure was assessed as a dummy variable, coded 0 if there was no adult male in the household, and 1 if one was present. The adult male was typically the biological father of the child or the stepfather. However, it could also
be another male in the household (e.g., grandfather) if the person was involved in the supervision of the target child.

*Parent education* was assessed as the highest level of education completed by the custodial parent. In two-parent households, it was the highest level completed by either the mother or father. *Parent income* was a per-capita income measure. It was originally skewed, so a natural logarithm transformation was made.

*Sports* and *clubs* were simple counts of the number of in-school and out-of-school sports teams or organized sport-oriented recreational activities and the number of clubs or other organized extracurricular activities (e.g., Boys and Girls Club) in which the target children participated.

*Maternal warmth and supportiveness* was based upon the adolescent’s response to six questions on how often his/her mother engaged in warm and supportive behaviors with him/her (e.g., talks with you about things that bother you, helps you figure out how to deal with a problem, tells you she approves of something you have done). This scale was adapted from that used in the Iowa Youth and Families Project (Conger & Elder, 1994). The six items in this scale load onto a single underlying factor and have an alpha reliability of .65.

*Enculturation* was a multiple dimension construct that included: 1) involvement in traditional American Indian activities, 2) identification with American Indian culture, and 3) traditional spiritual involvement. The traditional activities measure included three interrelated sets of indicators. The first dimension was involvement in tribal Powwows. This measure was a composite of
number of Powwow ceremonies attended in the past year, and types of activities at these Powwows (e.g., dancing, drums). The second dimension of traditional activities was use of the tribal language. This measure was a simple sum of affirmative responses to four questions regarding level fluency and understanding of the tribal language. The third dimension was an indicator of involvement in other forms of traditional activities. Working with the tribal advisory board and staff, we compiled a list of 12 traditional cultural activities (e.g., beading, ricing, spear fishing). The alpha reliability coefficient for the traditional activities measure was .64.

The second dimension, cultural identification was measured using the American Indian cultural identification items from the Oetting and Beauvais’ (1991) measure. The six questions addressed the degree to which the youth participate in the American Indian culture, how much they live by this culture, and if they feel they are successful in their native culture. The questions were worded to reflect the specific tribal culture, rather than a broader American Indian context. As demonstrated in other examinations of this scale, the items had high internal consistency (alpha = .81).

The third dimension, traditional spirituality was measured using three global indicators. This measure was developed and approved by reservation advisory boards and tribal governments and deemed a respectful manner in which to globally assess spirituality without infringing on sacred practices. The youth were asked if they participated in traditional spiritual activities, how often they participated in such activities, and the importance of traditional spiritual
values to how they lead their lives? The alpha reliability was .72 for this three-indicator scale.

These three dimensions have intercorrelations ranging from .41 to .49 and load onto a single dimension in exploratory factor analyses. The final three-dimension enкультuration construct was computed as a factor score procedure (one factor solution, regression-based estimation). This measure was standardized for use in the analyses.

Self-esteem was assessed with a scale that has been validated among minority culture youth, including American Indian adolescents by the Tri-Ethnic Center for Prevention Research at Colorado State University. This was an eleven-item scale encompassing the typical domains of self-esteem (e.g., I am smart, People like me, I am able to do things well, I am proud of myself). The scale is computed as an average of responses with a potential range of 1 to 3 (mean 2.57). The alpha reliability coefficient for this scale was .76.

The study dependent variable, school success, was measured using class grades and positive school attitudes. The class grades report was comprised of a single self-report measure of the grades the adolescent gets in school. The positive school attitudes scale was comprised of 10 school success questions (e.g., I do well in school, my teachers think I am a good student, I try hard at school, grades are important to me). The positive school attitudes scale was adapted from that used by the Iowa Youth and Families Project (Conger & Elder, 1994). It had an alpha reliability coefficient of .84. These two component
dimensions of class grades and positive school attitudes correlated at .50. They were standardized and summed to create the final school success measure.

Results

Descriptive statistics (means and standard deviations) for each variable and bivariate correlations are presented in Table 2. (For descriptive statistics by grade and gender, see Appendix.) Bivariate correlations indicated that school success was negatively associated with age of child ($r = -.28$). The older the child, the lower his or her academic performance. Maternal warmth was positively related to school success ($r = .32$). Extracurricular activities (sports, $r = .18$; clubs, $r = .26$) were positively related to doing well in school. Enculturation also was positively associated with school success ($r = .21$) as was self-esteem ($r = .38$). It is noteworthy, however, that enculturation and self-esteem were not significantly correlated. Enculturation was significantly associated with gender ($r = -.14$). Girls scored higher on our enculturation measures than did boys. It also was negatively related to parental income ($r = -.17$). Those who scored higher on our measures of enculturation were somewhat more likely to be from lower income families. Enculturation was positively associated with sports participation ($r = .26$) and clubs ($r = .21$). Although enculturation was not related to any of the parent variables with the exception of parent income, self-esteem was positively related to maternal warmth ($r = .27$).
Multivariate models

Variables were entered into the regression model in six stages (Table 3). In the first model, with only age and gender in the model, age was negatively associated with school success ($\beta = -.28; p < .01$). Parental characteristics were added in model two. None of the three parental characteristic variables, family structure (single-parent vs. two-parent household), parent education, and parent income was statistically significant. Model three included the parenting variable, maternal warmth, which was positively related to school success ($\beta = .32; p < .01$). In model four, adolescent prosocial activities were added to the model. Participation in clubs within and outside of school was positively associated with school success ($\beta = .17; p < .05$). Sports participation was weakly correlated with school success ($\beta = .11; p < .10$). When the enculturation measure was added in model five, it was positively associated with school success ($\beta = .15; p < .05$). In the final model, self-esteem was independently associated with school success ($\beta = .30; p < .01$). The interaction between self-esteem and enculturation was nonsignificant (analyses not shown). Enculturation remained significant in the final model ($\beta = .14; p < .05$), as did participation in clubs ($\beta = .15; p < .05$), maternal warmth and supportiveness ($\beta = .20; p < .01$) and age ($\beta = -.27; p < .01$). The model explained 29% of the variance of school success.

Discussion and Conclusions
These results are important on several counts. First, they provide support for resiliency effects of enculturation on American Indian children. Even when controlling for the typical academic success variables (e.g., family characteristics, parenting, and prosocial activities), enculturation had independent main effects. Second, the effects of enculturation on school success were independent of self-esteem. Enculturation was unrelated to self-esteem at the bivariate level and the multiplicative interaction between self-esteem and enculturation in the multivariate model was nonsignificant.

These findings are congruent with a growing literature on the positive effects of traditional culture for young American Indian people (see Deyhle & Swisher, 1997 for a recent review). Vadas (1995) recently reported that cultural identity promoted academic success among a sample of Navajo children. A very small study of parents and children indicated the children of American Indian mothers with traditional values were more successful academically then those whose mothers were non-traditional (Coggins, Williams, & Radin, 1997). Our findings also lend credence to Zimmerman and colleagues’ contention that enculturation is a resiliency factor for American Indian children.

Our findings differ from those of Vadas and Zimmerman in that they do not indicate that enculturation effects operate through self-esteem. However, given the types of values in the American Indian tradition that was part of our study, the independent effects are not surprising. The values and behaviors that define a good way of life in this upper Midwest culture typify prosocial attitudes and behaviors in any society. As the children strive to meet traditional cultural
expectations for living a good life, their behaviors and associations more closely reflect traditional societal ideals. This means that they would do their best in whatever they attempt, have respect for traditional spirituality, and participate in traditional activities when they are available. Part of the resiliency effect of enculturation may be the knowledge that they are on the right path, a sense of congruence with cultural heritage and teachings.

The most obvious limitation of this research is that it pertains to a single American Indian culture. The results should be generalized with appropriate caution to other American Indian nations. A second limitation is that the three reservations participating in the study had multiple school systems in which the children were enrolled. Only one reservation had a K–12 tribal school and all of the tribally enrolled children did not attend this school. One had a K-6th grade tribal school that served one district, and one had a reservation-based public school. Other children attended regular rural public schools. There were various levels of cultural education provided in the different school settings. Our small sample size limited meaningful analyses by type of school. This variance in type of school setting, however, lends confidence to the enculturation finding. It is probably not an artifact of a single school’s cultural program. Another limitation is that all of the children in the study lived on or near rural reservations and went to rural schools. The results should be applied to urban American Indian children with appropriate caution. Also, the strength of our academic success variable is weakened by the use self-report measures (particularly pertaining to grades) rather than school reports. Given the number of school districts in which the
children were enrolled on and off reservations, obtaining information from
schools was not feasible. School reports would provide a much more convincing
test of these results.

These findings support a growing body of work on American Indian
cultural tradition that empirically supports something American Indians have
known all along: *enculturation is a resiliency factor in the development of their children*. Although these empirical findings are belated, they are not meant to be
disrespectful. Scientifically establishing the effects of traditional culture on child
development may have important policy and funding implications for prevention
work, school programs, and other children’s activities. American Indian nations
have been decades ahead of the scientific community regarding the positive
effects of cultural practices and cultural identities for their people. As we work to
scientifically understand the mechanisms through which these factors function,
researchers need to explore the various ways enculturation directly and indirectly
enhances children’s resiliency and prosocial behaviors.

**Author’s Note**

This research was funded by the National Institute on Drug Abuse (DA 10049),
Les B. Whitbeck, Principal Investigator. Address correspondence to the first
author, Institute for Social and Behavioral Research, Iowa State University,
Ames, IA 50010-8246. Email whitbeck@iastate.edu.

**Les B. Whitbeck** is professor of sociology at the University of Nebraska-Lincoln
and faculty affiliate at the Institute for Social and Behavioral Research at Iowa
State University. He is principal investigator of the Bii-Zin-Da-De-Dah (Listening
to One Another) alcohol and drug prevention project with American Indian families in the upper Midwest and principal investigator for the Giigewin Miikana (Healing Pathways) longitudinal study of American Indian early adolescents and their families.

**Dan R. Hoyt** is a professor of sociology and director of the Bureau of Sociological Research at the University of Nebraska-Lincoln. His research programs focus on risk, deviance, and mental health among high-risk populations.

**Jerry Stubben** was raised on the Ponca and Santee-Sioux Reservations in Nebraska and conducts research among American Indian populations and tribal governments. He has been involved in the development and implementation of culturally and tribally-based research, programs and data collection instruments. He is also a member of the Osni Ponca Heduska Society which fosters spiritual growth through traditional tribal knowledge. Most important of all, he has four granddaughters and seven grandsons who will someday represent their tribes.

**Teresa LaFromboise** is professor in the School of Education at Stanford University. She has done extensive research with American Indians and is author of *Assertion Training with American Indians* and *Circles of Women: Skills training for American Indian Professionalization*.

**REFERENCES**


