

**UCLA**

**American Indian Culture and Research Journal**

**Title**

Cherokee Culture And School Achievement

**Permalink**

<https://escholarship.org/uc/item/64f751sm>

**Journal**

American Indian Culture and Research Journal , 4(3)

**ISSN**

0161-6463

**Author**

Brown, Anthony D.

**Publication Date**

1980-06-01

**DOI**

10.17953

**Copyright Information**

This work is made available under the terms of a Creative Commons Attribution-NonCommercial License, available at <https://creativecommons.org/licenses/by-nc/4.0/>

Peer reviewed

## Cherokee Culture And School Achievement

ANTHONY D. BROWN

---

---

Cherokee children today have an educational tradition that is unique among American Indians. Wahrhaftig (1969) states that after Cherokees were removed to Oklahoma they began in 1841 to set up a national school system. So successful were their efforts that at its height it was reported to be the finest school system west of the Mississippi River (Fannin, 1968). Most of the schools were at the primary level, but for those graduating from the primary schools separate academies were set up. With the earlier invention of the Sequoyah syllabary in 1821, a large majority of the people had already become literate in the Cherokee language. In those schools attended largely by full-bloods, bilingual teachers taught from textbooks printed in the syllabary. Fuchs and Havighurst (1972) report that the Cherokee school system was so successful that Oklahoma Cherokees had a higher English literacy level than the surrounding white populations. But in spite of the many successes, the Cherokee school system was abolished when the Oklahoma territory became a state in 1906.

The following study looks at Cherokee children currently attending elementary school in Eastern Oklahoma. Hypotheses regarding age trends, sex trends, and cross-cultural differences in cooperative and competitive behavior are examined. In addition, an attempt is made to determine the

---

Anthony D. Brown is Assistant Director of the American Indian Studies Center at UCLA. The research results reported in this study are taken from his Ph.D. dissertation in Educational Psychology. A postdoctoral fellowship from the Institute for American Cultures at UCLA made possible the preparation of this study for publication.

relationship between cooperative and competitive behavior and school achievement. Cooperation and competition are two variables in traditional Cherokee culture that have long been thought to play an important part in the academic achievement of Cherokee Indians (Sanders, 1972; Garrison, 1970). Although ethnographic studies have found evidence that Cherokee children favor cooperation and avoid competition, no experimental evidence has been offered to substantiate the belief that the high cooperative behavior of the children leads to their low academic achievement.

Since responsibility for the education of Cherokee children has been taken over by the State of Oklahoma and local school districts, Cherokee school achievement has fallen far short of what it was in the past. Several studies have looked at Cherokee educational attainment, with all of them finding similar results. Garrison (1970) found that Cherokee children lagged behind their Anglo peers in math, language, and reading achievement. Although at the first grade level the Cherokee children equaled or exceeded the school achievement of their Anglo peers, as they continued on in school the Cherokee children fell further and further behind.

In additional research on Cherokee children, Sanders (1972) carried out a cross-sectional study on traditional and non-traditional Cherokee school achievement. At the beginning of her study Sanders developed a list of Cherokee aboriginal culture traits. Using this list, the subjects' teachers divided the children into traditional and non-traditional groups. Sanders found at the end of the first year traditional pupils were .78 of a grade below the national norm on the Stanford Achievement Test reading subtest; non-traditional pupils were .35 of a grade below the norm. At the end of the fourth year, traditional pupils were 2.58 grades below the norm; non-traditional pupils were 1.05 grades below the norm.

Hackbert and Nagy (1977) conducted an educational survey among Cherokees and twelve other Oklahoma Indian tribes. They found that 56.9 percent of Oklahoma Indians (the sample was not broken down by tribe) are functionally illiterate. They also reported that over 51 percent of the Indian adults in Oklahoma have not completed high school, and over 22 percent have not gone beyond the 8th grade. Garrison (1970) also reports a high attrition rate for Cherokee students.

He found a 49 percent dropout rate for Cherokee students between the 9th and 12th grades.

The causes for the low academic achievement of Cherokee children has been attributed to their disadvantaged home environment, to negative stereotyping by teachers, and to their different cultural background (Garrison, 1970). Sanders (1972) writes that "Numerous problems regarding discipline, motivation, attitudes toward authority, achievement, and so forth often arise because Indian [Cherokee] children hold a set of habits, attitudes, and values that are different from that of the school and its personnel" (p. 76).

Of many possible forms of behavior, cooperation and competition are mentioned most frequently as being among those traditional Cherokee cultural variables that affect school achievement (Gulick, 1960; Garrison, 1970; Sanders, 1972). In order to understand how cooperation and competition affect school achievement it is necessary to examine how the two forms of behavior develop in Cherokee children.

Among the Cherokee, the term "Harmony Ethic" has been developed by Gulick (1960) to describe a general rule that guides the conduct of interpersonal behavior. Cherokees are taught as children to be concerned for a harmonious and peaceable relationship with others, and to be sensitive to their desires. Extending the work of Cherokee anthropologist Robert K. Thomas, Gulick (1960) has described the ethic this way:

In living from day to day according to the Harmony Ethic the Conservative Cherokee tries to avoid giving offense to others and in so doing, he must always "wait and see what others' likes and dislikes are, and . . . perceive what demands are likely to be made of him." Thomas characterizes this demeanor as being particularly sensitive to subliminal cues in overt behavior . . . Whereas one actively maintains Harmony by giving of one's time and goods, one can passively maintain it by "minding one's own business" (pp. 137, 139).

Garrison (1970) speaks of how, as the Cherokee child matures, he develops an acute social sensitivity that emphasizes the importance of maintaining harmonious relations and avoiding conflict with others. Since competition is a common form of

interpersonal conflict, the child avoids competition in order to maintain harmony. Maintaining harmony with others could require going along with the achievement norms of friends. For instance, in class when a child cannot answer a question that several Cherokee children know the answer to, these children remain silent (Fuchs and Havighurst, 1972). The individual Cherokee child that seeks to out-do his peers is creating disharmony: he is not "going along" or cooperating with the aspirations and abilities of his friends.

As a result of the way they are reared, Cherokee children are reluctant to exhibit ineptitude (Sanders, 1972). They will not ask questions since it might bother someone else, or reveal a lack of knowledge on their part. At the same time, Cherokee children are frequently reluctant to be singled out for public praise by a teacher. Such praise in front of the other children, with its emphasis on individual rather than group effort, is likely to produce embarrassment because it disrupts group harmony.

As Cherokee children mature, they fall more and more under the influence of their peer group. A number of writers have pointed out that peer group influence has an especially strong leveling effect on individual aspirations among Cherokees (Dumont and Wax, 1969; Sanders, 1972). That is, according to Cherokee peer group norms it is not appropriate for the individual to rise above or outperform his peer group. In the classroom setting, peer group influence would thus tend to discourage rivalry and competition with its emphasis on "winning" or coming out on top at the expense of other children. Garrison (1970) has the following to say about the group orientation of Cherokees: "Cherokee children work within an interdependent and cooperative framework which is nearly diametrically opposite to the individualistic and competitive atmosphere of middle-class white society. The Indian culture stresses togetherness; it is group oriented, group related, group dominated and emphasizes strong family and communal ties" (pp. 9-10).

A continuation of Cherokee group orientation may be seen in their school-related behavior. They favor cooperation in classrooms that encourage achievement through individual competition. Fuchs and Havighurst (1972) report about Cherokees: "Observation in eastern Oklahoma classrooms also

indicated that the children do not tolerate an individual show of superior knowledge" (p. 249).

In summary, Cherokee children are raised in a society that stresses cooperation and deemphasizes competition. Yet they are schooled in an atmosphere of individualism and competition. When assessed on unconfounded measures of cooperation and competition, it was predicted that both groups of children in this study would show age related increases in cooperative and competitive behavior, but Cherokee children would display less competition and more cooperation than would Anglo-American children. Further, it was posited that there would be a negative relationship between cooperative behavior and school achievement for the Cherokee sample only. The competition scores of both groups of children were expected to be positively related to their school achievement scores. The final prediction stated that male and female children of both ethnic groups would not differ in degree of cooperative behavior at either age level. Anglo males, however, were predicted to be more competitive than females at the older age level.

## METHOD

### **Subjects:**

The subjects were 72 Indian children attending a public elementary school in Salina, Oklahoma. The grades included in the study were the 1st and 2nd, and the 4th and 5th. Eighteen pairs of same sexed children were randomly selected for each group from the respective two grade levels.

Salina Elementary School has an enrollment of 340 children in grades 1 through 6. Indian children, nearly all of whom are Cherokee, constitute about one-third of the total student enrollment. Both Cherokee and Anglo-American children are from working-class families. The town of Salina, with a population of 1,044, is located in a picturesque setting on the bank of a large lake in the Ozark foothills of eastern Oklahoma. The town provides a bank and commerce center for the surrounding ranchers and farmers. There are no large cities nearby.

It was necessary to choose the Anglo-American comparison group from a different school since a study done by Miller (1973) with integrated Canadian Blackfoot children found that both Indians and their Anglo-Canadian peers became more similar to each other as a function of contact within a school system. Cooperative and competitive behavior, like other forms of behavior, can be expected to be susceptible to bidirectionality of acculturative processes. This was well demonstrated by Miller's finding that integrated Blackfoot children were half as cooperative as Blackfoot children in segregated schools, while the integrated Canadian children were nearly twice as cooperative as segregated Anglo-Canadian children. Thus it was important that the Anglo comparison group have limited contact with Cherokee children.

The town of Porter, Oklahoma was chosen as the comparison town because it fit a number of criteria. Porter, with a population of 624, is similar in size to Salina. The town is located approximately 30 miles away from Salina in an adjoining county. There are only a few Indian children enrolled in the elementary school. Like Salina, Porter serves as a bank and commerce center for the surrounding rural working-class population. The experimental and sampling procedures used at Salina were duplicated with the 72 Anglo comparison subjects at Porter.

A survey was conducted on the fathers' employment levels to provide information on the socio-economic background of the two groups of children. As expected, both groups of children were from working-class families.

Because Indian children have been identified (Fuchs and Havighurst, 1972) both as having more siblings than Anglo children, and as being above the typical age for the school grade in which they are placed, information was gathered on these two variables. It was found that Cherokee and Anglo children did not differ in age. However, Cherokee children had an average of nearly one more sibling than the Anglo children.

### **Design:**

The study involved a  $2 \times 2 \times 2$  (culture  $\times$  age  $\times$  sex) design with three conditions (cooperation I, cooperation II, and competition). Each cell of the design contained eighteen randomly

paired subjects who had been randomly selected from the respective school populations. The pair of subjects both came from the same class, and thus were well acquainted with each other. The experimental unit for the two cooperation conditions consisted of a dyad that was blocked on age, sex and culture.

### **Materials:**

Cooperative behavior was measured through the use of an adaptation of the Madsen Cooperation Board (Madsen, 1967). The Board was chosen over other cooperation assessment instruments because it provides data on a continuous interaction over a period of time. Thus there are sufficient cooperative cues (or in the competition condition, competitive cues) so that subjects can exhibit behavior appropriate to their response histories.

The Board was modified so that it could be used with two instead of four subjects. The adapted Board consisted of an 18-inch square piece of wood with eyelets in the corner of the board (see Diagram 1). A pen holder is held at the middle of the Board by four cords that pass through each eyelet. The subjects sit facing each other across a table upon which the Board is placed. When the subjects pull on the cords, lines are traced by the pen on a piece of paper covering the Board. Circles are drawn at the center of each side of the paper, with the object of the game being to cause the pen to move across as many of the four circles as possible.

In order to measure competition, the Madsen Cooperation Board was further modified. It was necessary to have a procedure that would permit the subjects to operate independently so that there was no opportunity for them to cooperate. This was accomplished by using the marker that had been removed from the Board (see Diagram 2). The two ropes attached to each side of the marker were knotted at a point ten inches from the marker so as to form two handles. The children were thus able to hold the marker upright and level on the paper by grasping the rope at each of the knots. In this way the subject was able to maneuver the marker around the Board much like it was done during the other two conditions, except the child could now work alone, independently of the activities of the other child.

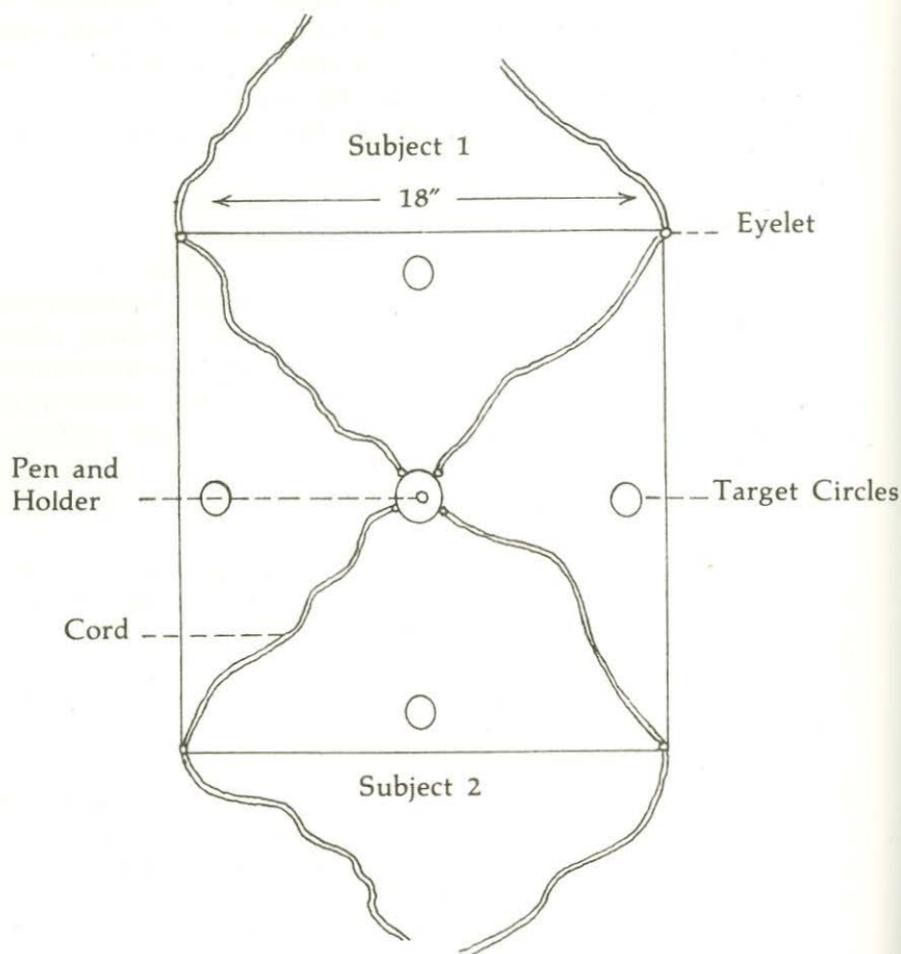
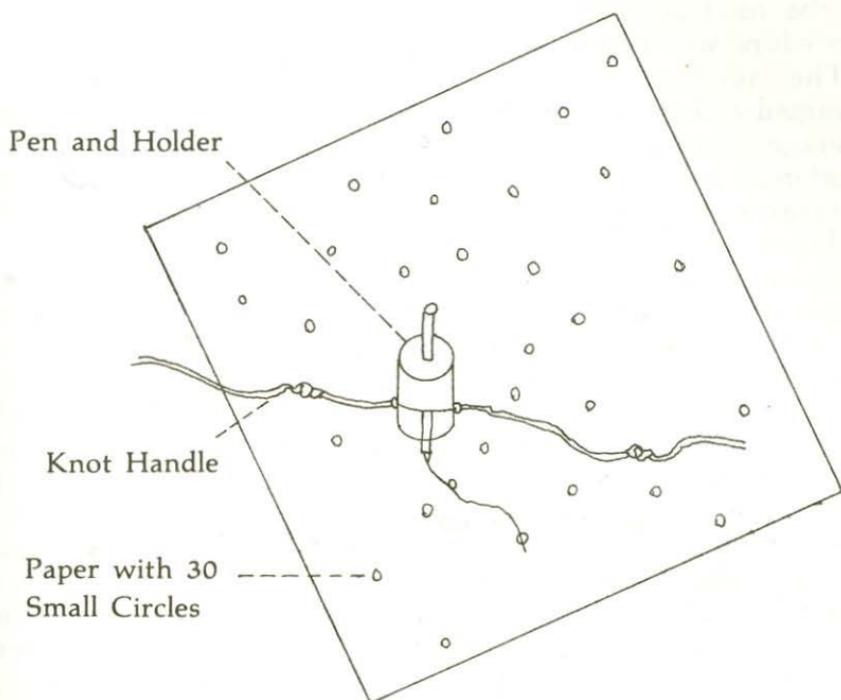


DIAGRAM 1. Madsen Cooperation Board (Top View)

### Procedure:

Since the measurement of cooperative behavior, and competition, has time limitations, it was considered important to attempt to control for initial differences in psychomotor ability. This is especially important in a study that is concerned with age changes in behavior. A child of six does not have the motor skill of a child of eleven. One could infer that an eleven-



**DIAGRAM 2. Competition Task**

year-old is better able to operate the Board, independent of the motivation to do so. The following procedure was used to determine initial differences in baseline motor ability for the cooperation task. After an initial familiarization session, in which the subjects were given experience in maneuvering the marker across the four circles, the subjects were told that they were now to reach each goal as quickly as possible. The experimenter then pointed to the first circle and told the

subjects that when he said "go" they were to try and reach that circle as quickly as they could. When the first goal was reached, the subjects were quickly directed in a random order to the next goal, until thirty seconds were up. The entire procedure was repeated once.

The number of circles crossed in the two trials were summed and an average score of the two trials obtained. This average score represented an index of motor skill that was used in an analysis of covariance procedure to adjust for initial differences in psychomotor ability between the two groups of children.

Many studies on cooperation and competition have contained only one condition. In this one condition, six to twelve trials were frequently used. Because of the three separate conditions, and because of the number of pretest trials, this study could use only a minimum number of trials in each condition. In cooperation condition I there were two trials; in cooperation condition II there were three trials; and in the competition condition there was one trial. For the pretests, there were two trials for the cooperation pretest, and one trial for the competition pretest.

A modification of the Madsen group reward procedure was used for cooperation condition I (trials 1-2). The two children were first told that their names would be written on slips of paper and the slips placed in a bag. The children were instructed that every time one of the circles was crossed in a thirty-second time period, the child whose name was drawn out of the bag would receive a poker chip that later could be traded for prizes. The two names at that time were written, placed in the bag, and then one of the names randomly drawn back out. The drawing out of the names was made to appear random, but in fact was manipulated by the experimenter so that each child received one trial. After being told whose name was drawn the children were instructed to commence playing the game. There were a number of advantages to the above procedures. In order to cross the circles the cooperation of the other child was crucial. The unrewarded child that aided the rewarded child to cross the circles was responding according to the definition of cooperation given here: Cooperation is a behavior that is directed toward sharing a reward or obtaining the reward for others.

The unrewarded child can choose not to assist the rewarded child; that is, to be uncooperative. The unrewarded child cannot compete against the rewarded child since the possibility of competition was precluded. Thus a disposition toward competition should not have influenced the results in cooperation condition I.

Under cooperation condition II (trials 3-5), each of the two children were assigned their own circles. This was done by writing each child's name on the circle in front of them, and the circle to their right. Then when the pen crossed an individual child's circle, that child alone was rewarded. It was necessary for both of the children to cooperate in order for any single child's circle to be crossed. If instead the children competed as they tried to get the pen to cross their own circles, the number of circles crossed per trial went down.

In order to measure competition, each child was first given a marker that had been removed from the Board. The two ropes attached to each side of the marker were knotted at a point ten inches from the marker so as to form two handles. The child was thus able to hold the marker upright and level on the paper by grasping the rope at each of the knots. In this way the subject was able to maneuver the marker around the Board much like it was done during the other two conditions, except the child could now work alone, independent of the activities of the other child.

At the beginning of the competition condition the children were placed in different areas of the same room so that they could be examined one at a time. After being given instructions and practice on operating the marker each subject was told to cross as many of the 30 circles on the paper as possible in 30 seconds. After time was up, the circles were counted. As an example, the number might be eight. The child was then told that another child in his class (unnamed) crossed 11 circles (in each case the number was 3 more circles than the subject crossed), and received 3 poker chips for his efforts. The subject was told that for every circle he crossed more than eight, one of the other child's poker chips would be taken away and given to him. Furthermore, if he reached 11 he could continue crossing circles for which he would receive a poker chip for each circle he crossed. After the child understood the instructions he was given forty seconds to cross as many circles as he

could. Forty seconds, instead of the thirty seconds of the first trial, were given to ensure that he could exceed his previous performance. The subject thus had the opportunity, if he was so motivated, to gain rewards at the expense of his classmates. Competition is defined in this study as behavior directed toward obtaining a reward at someone else's expense.

The advantage of the above procedure was that it allowed for an initial measure of the subject's motor skill on the task so that an adjustment could be made for differences in initial skill through an analysis of covariance procedure.

Properly dispensing the rewards to the subjects was a potential problem, since it has been pointed out by Jones and Gerard (1967) that a child's interpretation of the attractiveness of a reward may affect their cooperative or competitive behavior. Most researchers on cooperation and competition have not heeded the warning of Jones and Gerard. Only one study was found in the literature that made a clear attempt to control for the incentive value of the reward.

In this study, control of the incentive value of the reward was attempted by having the experimenter at the end of the final trial choose the rewards. Out of the view of the subjects, the experimenter selected from boxes the rewards each child had earned. The rewards consisted of candy, balloons, trinkets, small cars, marbles, whistles and other similarly inexpensive items. The rewards were placed into paper bags, the child's name written on it, and the bags given to the subject's teacher. The children were instructed to obtain the bags after school and not to open them until they got home. They were also instructed not to talk about the rewards with other children.

## Results

Differences in cooperative and competitive behavior between the two groups were examined by means of a test conducted on the simple main effects. The relationships between cooperation and competition and school achievement were tested through Pearson Product Moment correlations.

An initial examination of the results revealed that there were no significant effects due to sex. Further references to this factor are deleted from this summarized account.

The scores obtained by the two ethnic groups in the three conditions are given in Table I.

TABLE I

Cooperation Condition I

Grades	Cherokee	Anglo-American	Significance Level
1 & 2	1.97	.78	$t = 1.58, p < .06$
4 & 5	3.83	3.28	$t = .74, p > .05$

Cooperation Condition II

Grades	Cherokee	Anglo-American	Significance Level
1 & 2	1.89	.72	$t = 1.32, p < .09$
4 & 5	3.82	1.89	$t = 2.11, p < .02$

Competition Condition

Grades	Cherokee	Anglo-American	Significance Level
1 & 2	10.4	14.17	$t = 2.98, p < .005$
4 & 5	18.11	19.39	$t = 1.61, p < .06$

The results for the correlation between cooperative and competitive behavior and school achievement are given in Table II.

In summary, 4th and 5th grade Cherokee children were found to be significantly more cooperative in cooperation condition II than 4th and 5th grade Anglo-American children. First and 2nd grade Cherokee children in both cooperation conditions crossed nearly three times as many circles as 1st

TABLE II

Cooperation Condition I

	Cherokee	Anglo-American
<b>Math</b>		
Achievement test (percentile)	- .39 (p < .01)	.16 (p > .05)
School grades	- .16 (p > .05)	.03 (p > .05)
<b>Reading</b>		
Achievement test (percentile)	- .40 (p < .008)	- .12 (p > .05)
School grades	- .30 (p < .04)	- .18 (p > .05)

Cooperation Condition II

	Cherokee	Anglo-American
<b>Math</b>		
Achievement test (percentile)	- .27 (p < .05)	.18 (p > .05)
School grades	- .19 (p > .05)	.28 (p > .05)
<b>Reading</b>		
Achievement test (percentile)	- .29 (p < .04)	.04 (p > .05)
School grades	- .27 (p < .05)	.10 (p > .05)

Competition Condition

	Cherokee	Anglo-American
<b>Math</b>		
Achievement test (percentile)	- .12 (p > .05)	- .04 (p > .05)
School grades	- .04 (p > .05)	.04 (p > .05)
<b>Reading</b>		
Achievement test (percentile)	- .07 (p > .05)	- .15 (p > .05)
School grades	- .07 (p > .05)	- .09 (p > .05)

and 2nd grade Anglo-American children, although the comparisons proved to be only marginally significant.

In addition to being more cooperative than Anglo-American children, Cherokee children were found to be less competitive than these children. First and 2nd grade Cherokee children were significantly less competitive than 1st and 2nd grade Anglo-American children. In a difference that reached marginal significance, 4th and 5th grade Cherokee children were less competitive than 4th and 5th grade Anglo-American children. The results thus supported the ethnographic studies that have found that Cherokee children avoid competition (Dumont and Wax, 1969).

As predicted, a significant negative relationship was found between the cooperative behavior of Cherokee children and their school achievement. The relationship between the two variables for the Anglo children proved to be non-significant. The correlation between competitive behavior and school achievement was non-significant for both ethnic groups.

## DISCUSSION

The continued high level of cooperative behavior by Cherokee children, as well as their avoidance of competition, can best be understood by examining the lifestyle of the children. Although the Cherokees attend an integrated school system, most of the children spend a good part of their time exclusively with other Cherokee children (Thomas and Wahrhaftig, 1969). The children usually attend segregated churches and Sunday schools; or if non-Christian, attend traditional Cherokee dances. These activities are well integrated into the Cherokee community, and frequently involve an entire weekend. In addition, since the extended family is an important focal point for the Cherokee child, a great deal of their time is spent with the children of relatives. Wahrhaftig (1969) and Garrison (1970) both point out that in all of the above day-to-day situations, the Cherokee child is made to be aware that in his interactions with other Cherokees he is to be cooperative and to avoid divisive competition. The results of this study indicate that in spite of continued and prolonged contact with Anglo-American children in the classroom, the Cherokee children hold fast to the norms that they have learned from their many experiences within Cherokee society.

Perhaps the most important finding of this study was the confirmation of the prediction that a negative relationship existed between the cooperative behavior of Cherokee children and their school achievement.

The explanation of the affect of cooperative behavior on school achievement is found in Cherokee culture, and in the way that culture operates in the classroom. Several writers have pointed out how Cherokee children maintain their cultural norm of cooperation, even though they are under pressure from their teachers to compete with other members of their class (Dumont, 1971; Dumont and Wax, 1969). In their classroom observations, Dumont and Wax noted how the Cherokee children develop their own closed society within the larger classroom system. The two researchers have called their concept the "Cherokee School Society." The classroom society of the Cherokee children closely follows such traditional norms as the one that calls for Cherokee people to maintain harmonious relations with each other. But the most important norm is the one that requires the children to hold fast to group standards of achievement that all of the children are capable of meeting. Rather than risk violating the norms of the Cherokee classroom society, Cherokee children of high ability purposely keep from displaying their academic competence. The cumulative result of Cherokee children cooperating with group performance norms is lowered achievement for many members of the classroom society — hence the negative correlation of cooperative behavior with school achievement.

In examining the correlation between cooperative behavior and school achievement, no predictions were made about possible age effects. A supplementary analysis on this factor indicated that the largest negative correlations were found among the younger Cherokee children. This finding would seem to indicate that the peer group interaction that apparently encourages a withdrawal from active participation in classroom learning occurs most prominently during the earlier school years.

The fact that no relationship was found between the cooperative behavior of Anglo-American children and their school achievement lends support to the explanation given above. Since Anglo-American children do not share a cultural norm that calls for them to maintain equality of group

achievement, their cooperative behavior cannot lead them to act in a way that reduces their academic achievement.

The "Cherokee School Society" has a counterpart among the Sioux, according to Wax, Wax and Dumont (1964). Among the Sioux, the three researchers report that peer group influence is the most important element in the school social environment affecting achievement. Hess (1974) also reports that a number of researchers studying Indians have commented on the importance of the peer group in affecting school achievement. The influence of the Cherokee peer group in affecting school achievement can thus be seen as similar to the pattern that occurs among a number of tribes.

Cooperative and competitive behaviors can be adaptive or mal-adaptive, depending upon the social context in which the behavior takes place. The cooperative behavior of Cherokee children has its roots in the Pre-Colombian culture of the Cherokee people (Gulick, 1960). In this early period, Cherokee ecology was based upon hunting and horticulture. Cooperative behavior was probably an adaptive trait, since it helped increase group solidarity and cohesiveness, and helped bring equality to the distribution of food during periods of want. But in an environment of competitiveness and individualism, such as the eastern Oklahoma school system, the cooperative behavior of the Cherokee school children has proved mal-adaptive.

Since it is highly unlikely that the majority of Cherokee children will soon give up their cooperative behavior, the schools that they attend will need to adjust to the children. The competitive, individualistic environment of eastern Oklahoma classrooms needs to be restructured so that the emphasis in motivation is placed on cooperation.

In a cooperative environment, the children would be encouraged to work together to accomplish assignments. The emphasis would be on group accomplishment and group evaluation. In this new classroom environment, the children would be able to tutor their peers freely, since the stress on individual accomplishment would be removed. Johnson, Johnson, Johnson and Anderson (1976) have reported that classrooms organized along the lines suggested above are equally effective with those organized along a more traditional, competitive structure.

The rationale for the above restructuring of the classroom has its foundation in the belief that an attempt should be made both to accommodate to the unique cultural traits that the Cherokee children bring to class, and to utilize the strengths that are evident in their culture.

John (1971), in her review of Indian classroom learning, discussed styles of learning that are peculiar to Indians. Although no efforts have apparently been made to restructure classrooms in accordance with Indian culture, John provides evidence that Indians do possess learning strengths that can be utilized to improve their learning.

In speaking of the Sioux, Wax, Wax, and Dumont (1964) have coined the term "Vacuum Ideology" to describe the attitudes of many educators toward Indian culture. "Vacuum Ideology" is the belief that the Indian child comes from a home that is empty and meager, and from a culture that has nothing worth building upon. Garrison (1970) and Dumont and Wax (1969) provide evidence that the "Vacuum Ideology" also exists among educators of Cherokee children. A restructuring of the eastern Oklahoma classrooms that Cherokee children attend, so that motivation is attained through cooperation rather than competition, may well prove the educators wrong.

Unlike the situation with cooperative behavior, the predicted positive relationship between the competitive behavior of both ethnic groups and their school achievement was not significant.

In order to understand the failure of competitive behavior to relate to school achievement, it is necessary to look at the literature on competition and school achievement. A number of studies have shown that competition increases performance on mechanical or skill-oriented tasks, but has no effect on performance on complex tasks (Clifford, 1972; Clifford, Cleary and Walster, 1972; Shaw, 1958). Math and reading achievement, with which competition scores were correlated, are complex tasks. Thus the results in this study are in line with previous research on competition and achievement.

If the subject's competition scores had been correlated with such school tasks as writing speed, a positive relationship might have been found. Yet such tasks play only a limited part in final term grades in core academic subjects. Clifford (1972) states: "Assuming that most formal education is concerned with improving performance in complex problem-solving

tasks rather than motor-skill activity, the value of using competitive motivation in the classroom appears questionable" (p. 124).

A supplementary analysis on the achievement scores of both groups revealed a somewhat surprising finding. There was a tendency for 1st and 2nd grade Cherokee children to exceed the school achievement of the 1st and 2nd grade Anglo-American children in the comparison group. The superiority of the 1st and 2nd grade Cherokee children was evident both in classroom grades and in percentile scores in the standardized tests. At the 4th and 5th grade level the situation was almost reversed, with Anglo-American children scoring considerably higher on the standardized achievement tests.

The results from this study can be compared to the school achievement results previously given for the studies by Sanders (1972) and Garrison (1970). In Sanders' study, Cherokee children in the first grade scored only slightly below the national norms on a standardized achievement test; while at the upper grades they were considerably below the norms. Garrison found that 1st grade Cherokee children in his sample equaled or exceeded the achievement of the Anglo-American comparison group, but fell behind in achievement at the upper grade levels.

## REFERENCES

- Clifford, M.M. Effects of competition as a motivational technique in the classroom. *American Educational Research Journal*, 1972, vol. 9, 123-37.
- Clifford, M.M., Cleary, T.A., and Walster, G.W. Effects of emphasizing competition in classroom-testing procedures. *Journal of Educational Research*, 1972, vol. 65 (5), 234-38.
- Dumont, R. Learning English and how to be silent: Studies in American Indian classrooms, in *Functions of Language in the Classroom*, ed. by Dell Hymes, Courtney Cazden and Vera John. New York: Teachers College Press, 1971.
- Dumont, R., and Wax, M. The Cherokee School Society and the Intercultural Classroom. Subcommittee on Indian Education. U.S. Congress. Senate. *Hearings on Indian Education*, part 2, Washington: 1969.
- Fannin, P.J. Report in *Indian Education*. Hearings before the Special Subcommittee on Indian Education of the Committee on Labor and Public Welfare, U.S. Senate. Part 1, Washington, D.C.: U.S. Government Printing Office, 1968.
- Fuchs, E., and Havighurst, R.J. *To Live on this Earth: American Indian Education*. Garden City: New York: Doubleday & Co., 1972.

- Garrison, J. *Indian Education in Adair County, Oklahoma*. University of Oklahoma Consultative Center for Equal Educational Opportunity. Norman, Oklahoma, 1970.
- Gulick, J. *Cherokees at the crossroads*. Institute for Research in Social Science. University of North Carolina, Chapel Hill, 1960; rev. ed., 1973.
- Hackbert, P.H. and Nagy, T.J. Indian Literacy, educational attainment and social indicators: research methodology. A paper presented at the annual meeting of the American Educational Research Association. New York, New York, 1977.
- Hess, D. The American Indian and academic achievement: toward a processal model. Unpublished doctoral dissertation, Michigan State University, 1974.
- John, V. Styles of learning — styles of teaching: reflections on the education of Navajo children, in *Functions of Language in the Classroom*, ed. by Dell Hymes, Courtney Cazden and Vera John. New York: Teachers College Press, 1971.
- Johnson, D., Johnson, R., Johnson, J, and Anderson, D. Effects of cooperative versus individualized instruction on student prosocial behavior attitudes toward learning and achievement. *Journal of Educational Psychology*, 1976, vol. 68 (4), 446-52.
- Johns, E.E., and Gerard, H.B. *Foundations of social psychology*. Wiley and Sons, 1967.
- Madsen, M.C. Cooperative and competitive motivation of children in three Mexican sub-cultures. *Psychological Reports*, 1967, 20, 1307-20.
- Miller, A.G. Integration and acculturation of cooperative behavior among Blackfoot Indian and non-Indian Canadian children. *Journal of Cross-Cultural Psychology*, 1973, 4, 374-80.
- Sanders, P. The relationship of culturally-related variables to the reading achievement of nonreservation Cherokee Indian pupils. Unpublished doctoral dissertation, University of Arkansas, 1972.
- Shaw, M.E. Some motivational factors in cooperation and competition. *Journal of Personality*, 1958, 26, 158-69.
- Thomas, R.K. and Wahrhaftig, A.L. Indians, hillbillies, and the 'education problems.' Subcommittee on Indian Education. U.S. Congress. Senate. *Hearings on Indian Education, part 2*, Washington: Government Printing Office, 1969. 865-77.
- Wahrhaftig, A.L. The Cherokee people today. Subcommittee on Indian Education, U.S. Congress. Senate. *Hearings on Indian Education, part 2*, Washington: Government Printing Office, 1969, 818-22.
- Wax, M., Wax R. and Dumont, R. Formal education in an American Indian Community, *Social Problems (Special Supplement)*, 1964, 4.