

## **Motivation for School among Middle and High School Students in Rural Areas of the Navajo Nation**

Introduction. Motivation research has shown how different areas of motivation correlate with specific student behaviors, including learning strategy use, interest and perseverance, future value and achievement, self-efficacy with self regulated learning and performance, among other motivation constructs and behaviors. In the last decade, motivation research has shifted from viewing motivation as a general disposition to defining it more as situationally determined and even process-oriented (Salili and Hoosain, 2002). Theorists and researchers in Europe and North America have suggested that a student's motivation regarding a learning task influences how she or he approaches the task and sticks with it as s/he tries to learn from it (Watkins, McInerney, Lee, Akande and Regmi, 2002).

Some researchers have highlighted the importance of looking at three areas of a student's life, no matter what their ethnicity or culture: their "instilled capital" or the knowledge and behavior each student brings to school, the personal meaning they give to past and present experiences in and out of school, and their critical relationships (Fay, 2000). In the context of goal theory, some motivation researchers are calling for more of a mixture of a performance and mastery analysis, according to the task at hand (Meece, 1997), while some researchers also call for the incorporation of social goals to the motivation mix, particularly for middle and high school students (Urdu and Maehr, 1995; Watkins, et. al., 2002; Wentzel, 1992). Most goal theory research is based on White, middle class students in the U.S. and it is not clear how much this research can generalize to other cultural groups, such as Native populations.

Academic self efficacy may be of great importance to adolescents, and may play a role in adolescents' well-being (Yamauchi and Greene, 1997). It has also been shown to differ according to a student's group membership, particularly their gender and ability level, but has rarely been explored by race or ethnicity (Usher and Pajares, 2006). Again, research with Native adolescent students has been scarce in regard to their self-efficacy and school motivation.

Finally, future goals are formed within a student's sociocultural context, through past experiences with one's family, community, school, and other societal institutions. These sociocultural experiences help a student form values, their perception of their ability to reach their goals, and what a student feels is possible. These future goals usually rely heavily on a system of proximal subgoals, often heavily influenced by the immediate sociocultural context in which a student finds him or herself, for example in school. His or her system of proximal goals to reach future goals helps define his perception of the instrumentality or utility of the current task, which in turn helps

determine how much he will engage in the task. Task engagement is directly related to task performance. A student's performance influences external reactions as well as an internal evaluation, which then become part of the sociocultural context of past experiences mentioned previously. As Brickman and Miller (2000) describe this process, "It is this instrumental connection between present tasks and future goals that give meaning and value to students' present learning" (p.130).

The little research that exists on motivation and learning among Native students has taken into account certain socio-cultural aspects of Native students' lives on their school motivation, including heritage language and English, levels of tradition expressed in their daily lives, health issues and poverty, and low levels of school achievement after elementary school. Some researchers have underscored the need to empower students with education that is positively oriented toward their culture as well as that of the mainstream, with a special emphasis for non-Native teachers of Native students regarding issues of tradition, health, spirituality, reciprocity, and harmony; in which Native language is taught and celebrated as is extended family involvement in teaching and learning; and where instructional approaches, curriculum organization and assessment are flexible (Iwamoto and Radda, 2002; Pewewardy, 1998; Pewewardy, 2002; Reyhner and Jacobs, 2002; Scott, 2000; ). "How well Native American students are served by schools and other institutions is largely determined by how responsive the school or institution is to the students' culture" (Scott, 2000, p.336).

#### Gender, Educational Level and Motivation Among Rural Navajo Adolescents.

Although research has been done using various motivation frameworks, most studies have been conducted with urban, middle class, Anglo Americans. Most studies conducted with indigenous populations have focused on high school students in towns and urban areas. Few studies have attempted to investigate the influence of ethnicity, educational level and gender on students' perceived motivation in eleven areas, with a rural indigenous population. The current study specifically addresses perceptions of rural, low SES, Navajo students in middle and high schools within the context of traditional studies and Diné language programs. The eleven motivation constructs measured include self-determination, recognition, rewards/extrinsic motivation, competition/performance orientation, social concern/caring, interest/intrinsic motivation, self-efficacy, mastery goal orientation, future value, affiliation, and leadership. The population in this study has been underrepresented in motivation research, possibly due to the very isolated, traditional nature of the community.

Methods. Participants were 56 middle school students (grades 6-8) and 129 high school students (grades 9-12) attending rural Navajo Nation schools in the southwestern United States, most from low-SES families. Of these sixth through twelfth graders, 102 were male and 83 were female. Ninety eight percent of the

participants in this study were Navajo. Forty nine percent cited English as their first language while 46% cited Navajo as their first language. Four percent cited Spanish as their first language. Additionally, 43% cited English as their second language, while 39% cited Navajo as their second language. Two percent cited Spanish as their second language.

The students completed a 66-item motivation questionnaire based on McInerney and Sinclair's Inventory of School Motivation (ISM, [1991,1992]). The 66 items were assigned to 11 subscales based on confirmatory factor analysis of each item. The ISM was developed and psychometrically validated for use with numerous cross-cultural populations in several countries (McInerney, Yeung, & McInerney, 2001), including Australian Anglo and Aboriginal populations (McInerney, 1995 ; McInerney, 2003; McInerney, Maehr,& Dowson, 2004 ), Norwegian Saami (McInerney, Lillemyr & Sebstad, 2004), and American Indian students living in towns and urban areas (McInerney & Swisher, 1995). The ISM was used to determine which of the eleven motivation constructs were most salient for the students in this study, and what if any differences were indicated between males and females, and between students in middle and high school grades. Participating students indicated their level of agreement to statements in the ISM about types of motivators using a 5-point Likert scale with 1 being strongly disagree, 2 disagree, 3 sometimes agree and sometimes disagree, 4 agree, and 5 strongly agree. In addition to the ISM, students were asked open-ended questions about their preferences for school content areas and activities, social engagement, and issues in popular and traditional culture.

The participating rural Navajo Nation schools focus on traditional studies and language throughout their academic and extracurricular program. The schools are explicitly committed to teaching Navajo culture, language and traditions, as part of their curriculum. They are unique in their high percentage of Navajo teachers and community involvement, of elders, tribal organizations as well as families of students. Students are taught in the English and Navajo languages, have Navajo Studies courses that emphasize cultural values and history, and participate in traditional activities such as horsemanship, weaving, and ceremony.

All data were collected in classrooms at two Navajo Nation schools during the spring semester of 2005.

Results. The instrument used had strong reliability (Cronbach's alpha = .95). In addition, a Cronbach's alpha, calculated for each 6-item construct subscale, provided support for eleven reasonably reliable subscales: competition/performance orientation (Cronbach's alpha = .79), interest/intrinsic motivation (Cronbach's alpha = .76), self-efficacy (Cronbach's alpha = .68), mastery goal orientation (Cronbach's alpha = .77), future value (Cronbach's alpha = .78), affiliation (Cronbach's alpha = .80), social concern/caring (Cronbach's alpha = .80), leadership (Cronbach's alpha = .84),

recognition (Cronbach's alpha = .76), rewards/extrinsic motivation (Cronbach's alpha = .78) and self-determination (Cronbach's alpha = .54).

Descriptive statistics of means and standard deviations are presented in Table 1. A Multivariate Analysis of Variance (MANOVA) was done to determine any gender or education level differences among the eleven motivation constructs. The MANOVA showed no interaction of sex and educational level. We did observe two significant main effects for sex and one main effect for education level. As can be seen in Table 2, we observed a significant main effect for sex and interest,  $F(1, 183) = 6.784$ ,  $MSe = 112.78$ ,  $p = .01$ , as well as sex and leadership,  $F(1, 183) = 7.60$ ,  $MSe = 199.09$ ,  $p < .01$ . In addition, we observed a significant main effect for education level and social concern,  $F(1, 183) = 3.965$ ,  $MSe = 94.06$ ,  $p < .05$ .

For girls ( $M = 24.47$ ,  $SD = 3.96$ ) interest was a significantly higher motivator for school than it was for boys ( $M = 22.88$ ,  $SD = 4.17$ ), whereas leadership was a significantly higher motivator for boys ( $M = 17.12$ ,  $SD = 4.86$ ) than it was for girls ( $M = 14.48$ ,  $SD = 5.41$ ). Effect sizes ( $\eta^2$ ) were .04 for both. It's important to note, however, that leadership had the lowest means by gender and education level, indicating that leadership was the least important motivator for boys and girls in both middle and high school. In regard to education level, high school students ( $M = 20.17$ ,  $SD = 4.61$ ) were motivated significantly more by social concern than were middle school students ( $M = 18.63$ ,  $SD = 5.41$ ). The effect size was .02.

**TABLE 1. Mean scores and standard deviations for measures of eleven motivation subscales as a function of gender and education level**

Variables	Variables by gender and education level	<i>M</i>	<i>SD</i>	Variables	Variables by gender and education level	<i>M</i>	<i>SD</i>
Affiliation	Total	21.24	4.47	Recognition	Total	20.23	3.65
	Female	21.35	4.79		Female	20.11	4.63
	Male	21.16	4.22		Male	20.33	4.42
	Middle school	21.12	4.81		Middle school	20.61	4.60
	High school	21.30	4.33		High school	20.06	4.48
Future Value	Total	25.70	3.70	Rewards	Total	20.40	4.56
	Female	26.13	3.19		Female	20.59	4.86
	Male	25.34	4.06		Male	20.25	4.31
	Middle school	25.68	3.84		Middle school	21.27	4.61
	High school	25.70	3.66		High school	20.02	4.50

Interest	Total	23.60	4.14	Self Determination	Total	21.11	3.62
	Female	24.47	3.96		Female	20.55	3.48
	Male	22.88	4.17		Male	21.57	3.70
	Middle school	23.02	4.34		Middle school	21.09	4.01
	High school	23.85	4.04		High school	21.12	3.46
Leadership	Total	15.93	5.27	Self-Efficacy	Total	23.24	4.09
	Female	14.48	5.41		Female	23.36	3.61
	Male	17.12	4.86		Male	23.14	3.69
	Middle school	16.16	5.02		Middle school	23.23	3.65
	High school	15.83	5.39		High school	23.24	3.66
Mastery Goal	Total	23.68	4.09	Social Concern	Total	19.70	4.90
	Female	24.01	4.17		Female	20.16	4.73
	Male	23.42	4.04		Male	19.33	5.03
	Middle school	23.48	4.04		Middle school	18.62	5.41
	High school	23.77	4.13		High school	20.17	4.61
Performance Goal	Total	17.92	5.13				
	Female	17.39	5.57				
	Male	18.37	4.72				
	Middle school	18.12	5.78				
	High school	17.84	4.84				

**TABLE 2. Multivariate Analysis of Variance for Sex and Education Level**

Source	Df	Mean Square	F
Sex Interest	1	112.747	6.784**
Sex Leadership	1	199.087	7.596***
Education Level Social Concern	1	94.062	3.965*

\* p < .05. \*\* p = .01. \*\*\* p < .01.

Upon reviewing these results, one can appreciate several interesting trends. The top four motivators for boys, girls, middle school and high school students were the same, though in different orders. Table 3 provides the detail regarding these most powerful motivators for the Navajo students participating in this study. All four groups mentioned – boys, girls, middle school and high school students – expressed the same top motivator in their schooling: Future Value. In addition, the top four motivators for boys were the same, in the same order, as the top four motivators for middle school students. In this same vein, the top four motivators for girls were the same, in the same order, as the top four motivators for high school students.

**TABLE 3. Top four motivators for rural Navajo students by gender and education level**

<b>BOYS</b>	<b>GIRLS</b>
<ol style="list-style-type: none"> <li>1. Future Value</li> <li>2. Mastery Goals</li> <li>3. Self Efficacy</li> <li>4. Interest</li> </ol>	<ol style="list-style-type: none"> <li>1. Future Value</li> <li>2. Interest</li> <li>3. Mastery Goals</li> <li>4. Self Efficacy</li> </ol>
<b>MIDDLE SCHOOL STUDENTS</b>	<b>HIGH SCHOOL STUDENTS</b>
<ol style="list-style-type: none"> <li>1. Future Value</li> <li>2. Mastery Goals</li> <li>3. Self Efficacy</li> <li>4. Interest</li> </ol>	<ol style="list-style-type: none"> <li>1. Future Value</li> <li>2. Interest</li> <li>3. Mastery Goals</li> <li>4. Self Efficacy</li> </ol>

In addition, the two least important motivators expressed by the students were the same in all four categories of gender and educational level: leadership is the lowest motivator in all four groups, while performance goals are the second lowest motivator in all four groups. Other motivating factors in school, such as self determination,

rewards, social concern, recognition, and affiliation affect boys and girls in middle and high school in different ways.

**Favorite school subjects, school activities, sports, and other likes and dislikes.**

Frequencies were calculated for students’ responses to open-ended questions about their favorite school subject, sport and school activity, along with each student’s favored spare time activities, preferred vacation place and favorite food. Table 4 shows the most favored of these areas for middle and high school participants.

**TABLE 4. Highest frequencies of responses by middle and high school students to questions about their favorite school subjects, school activities, spare time activities, foods and preferred vacation spots.**

Topic	Middle school students’ responses	Freq.	High school students’ responses	Freq.
Favorite school subjects	Math	17	Math	45
	Reading	10	Science/biology	15
	Social studies	6	English	13
	Art	6	Drama	9
			Computer	8
			Diné history / language philosophy	7
Favorite school activities	Nature Walk	10	Sports activities	24
	Art/drawing/craft	8	“none”	14
	Basketball	6	Hang out with friends	11
			Drama club	11
			“all kinds”	6
Favorite spare time activities	Listen to music	9	Hang out/talk with friends	27
	Play computer games	7	Play basketball	18
	Draw	6	Read	11
	Play basketball	4	Listen to music	8
	Ride bikes	4	Play music	7
			Ride horses	7
Favorite sports	Basketball	23	Basketball	53
	Football	12	Football	33
	Baseball	8	“don’t play sports” or “don’t like sports”	19
	Volleyball	6	Volleyball	12
	“none”	6		
Preferred vacation spots	California	17	California	16
	Hawaii	9	Hawaii	16
	Phoenix	6	New York	8
			Arizona	7
			Mexico	7

Favorite foods	Pizza	28	Pizza	45
	Burgers	7	Mexican food	22
	Native American food/Navajo tacos	4	Native American food/Navajo tacos	17
	Mexican food	4	Burgers	13
			Chinese food	13

Middle school students' most favored subjects were math (17) and reading (10), followed by social studies (6) and art (6). The least mentioned favorite school subjects for middle schoolers, mentioned once each, were "none," basketball, and work, followed by physical education (2) and English/essay (2). The most favored school activity for middle schoolers was the nature walk (10), followed by art/drawing/craft (8) and basketball (6). The least mentioned favored school activities, mentioned once each, were cleaning, water balloons, watch movies, roping, math and free time.

In their spare time, middle schoolers listen to music (9), play computer games (7), draw (6), and play basketball or ride bikes (4 each). Least mentioned spare time activities included riding horses (1), cleaning (1), watching tv (1), playing football (1), getting blixxed (1), and bullriding (1). For a vacation, middle schoolers want to visit California (17), Hawaii (9), and Phoenix (6). The least mentioned places to visit on a vacation were everywhere (1), nowhere (1), Paris (1), and Portland (1). The favored sport of middle schoolers was basketball (23), followed by football (12), baseball (8), volleyball (6) and "none" (6). Least mentioned of favorite sports were track (1), soccer (1) and roping (1). Favorite foods in middle school included pizza (28), burgers (7), Native American food/Navajo tacos (4) and Mexican food (4). Favorite foods least mentioned by middle schoolers included "any kind" (1), "not cheetos" (1), and fries (1).

High school students responded similarly to favorite subjects: Most favored subject was math (45) followed by science/biology (15), English (13), drama (9), computer (8) and Diné language/history/philosophy (7). Least mentioned as favorite school subjects include "all" (1), anything but math (1), P.E. (1), and sitting in the seat (1). The most favored school activity for high school students were sports activities (24) including general sports (6), high school rodeo (5), basketball (4), football (4), volleyball (2) and weight lifting (2). Other favored school activities included "none" (14), hang out with friends and drama club (11 each), and "all kinds" (6). The least mentioned favored school activities, mentioned once each, were laboratory, biology, computer and after school studies.

In their spare time, high school students like to hang out or talk with friends (27), play basketball (18), read (11), listen to music (8), play music (7) and ride horses (7).

Least mentioned spare time activities, mentioned once each, included acting, chop wood, drive, laugh, play with my animals and work on projects. For a vacation, high school students want to visit California (16) and Hawaii (16), New York (8), Mexico and Arizona (7 each), Florida (6) and Paris (5). The international list of least mentioned places to visit on a vacation, mentioned once each, were “space,” Tokyo, Tuba Fair, St. Louis, Russia, Puerto Rico, Omaha, other families, North Carolina, National Finals Rodeo, Montana, Mississippi, Jamaica, Gallup, Farmington, China and Colorado. The favored sport of high school students was basketball (53), football (33), “don’t play sports” or “don’t like sports” (19), and volleyball (12). Least mentioned of favorite sports, mentioned once each, were boxing, swimming, golf, horseback riding, team roping, extreme sports, and snowboarding. Favorite foods in high school included pizza (45), Mexican food (22), Navajo food/Navajo tacos (17), burgers (13), and Chinese food (13). Favorite foods least mentioned by high schoolers, mentioned once each, included Krispy Kreme donuts, munchies, spicy food, steaks, BBQ fish, corn and Italian food.

**Importance for Education.** This study has implications for understanding different aspects of Navajo students' academic motivation. For example, previous studies have shown that mastery goals were most prevalent among Navajo students, though this did not translate into high academic achievement (Flowerday, 2005). Many studies show that motivation drops with transition to middle school, and Flowerday (2005) has shown that this is true among Navajo students as well. However, this study provides more information on motivation among Navajo students in very rural middle and high schools, to complement other studies' findings (McInerney & Swisher, 1995; Flowerday, 2005). Mastery goals are very important to the students in this study, and future value taken even higher precedence.

The students' emphasis on future value as a vital motivator for their schooling echoes back to Brickman & Miller's model (2000). They explained the importance of future value and goals in the following way:

“Future goals influence self-regulation through their role in the planning of a path of proximal subgoals leading to future goal attainment, their addition to the overall incentive value and meaning of proximal (immediate or intermediate) task performance, and their influence on self-evaluative reactions. However...future goals only have their impact on proximal self-regulation when current task performance is perceived to have an instrumental relationship to the attainment of the future goals...the sociocultural context [is] pivotal in this process on two levels. First, the histories of experiences people have in their sociocultural contexts influence their values, knowledge of possibilities and perceptions of ability. Each of these factors influences the development of future goals and their related subgoals. Secondly, the perceived immediate context, which is part of the larger sociocultural context, is the place in which all the self-regulatory action occurs. Particularly critical here are the goals and tasks perceived to be instrumental to future goal attainment” (p.122-123).

This research is important because motivational constructs have historically been examined with Anglo American populations, who most often have been in urban areas, middle SES, and enrolled in college. Participation by populations other than Anglo Americans has been limited. The current study begins a series of much needed work to look at motivation among early and late adolescent Navajo students whose sociocultural knowledge and experiences are reinforced at home, school and in the community .

Several important questions follow from this research. How applicable are these major motivation constructs to rural Navajo students? Can and should they be measured in a different way? What similarities and differences can we identify within the Navajo population. What similarities and differences can we identify with the well-studied Anglo, middle class, urban students? It is vital to continue to study motivation as it is closely linked to students' achievement, future goals and aspirations, interest, self-efficacy and mastery goal orientations. However, we have to measure overall motivation and different types of motivation with different populations. In addition, we have to make sure that we are measuring overall motivation and applicable motivation constructs in an appropriate fashion for different populations in order to insure useful results.



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