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ABSTRACT

This study compares 1988 National Merit Scholars enrolled in rural public schools with a senior class smaller than 99 students to other merit scholars and the national sample of SAT takers. Rural scholars were more likely to be female (45.5%) and Caucasian (98%) than other scholars. Involvement in extracurricular activities was significantly higher for rural merit scholars. Among rural scholars, 37% completed the equivalent of 5 years of English and mathematics, but only 26% of scholars finished 3 years of a foreign language, and 12.1 percent reported taking no foreign language. Only 14% of nonrural scholars had an A average, but 64.7% of rural scholars did. Rural scholars reported using computers for word processing and math drill and practice. Only 10% of rural scholars' schools had satellite (distance-learning) instruction. A total of 58% of all students tested had a family income under $40,000 but 65% of rural scholars' families had an income of $20,000 or less. Results suggest that the culture of rural areas and environment of small schools produces rapport between teachers and students, greater involvement in school affairs, and closeness of families, all of which contribute to students' academic achievement. This paper contains 6 references. (DHP)

CHARACTERISTICS OF NATIONAL MERIT SCHOLARS FROM SMALL RURAL SCHOOLS

by

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Introduction

The national results of the Scholastic Aptitude Test (SAT) are routinely reported to the media and are seen as a national "report card" for the Nation's schools. The results of the Preliminary Scholastic Aptitude Test/National Merit Scholar Qualifying Test (PSAT/NMSQT) are also viewed as a quality indicator for schools as this test determines which schools can take pride in having National Merit Scholars (NMS).

Each year approximately 15,000 juniors who score at the top of the National Merit Scholar Qualifying Test (NMSQT) become identified as Semifinalists for the National Merit Scholarship Corporation (NMSC). The following year these students, some of whom come from small rural public secondary schools, are named National Merit Scholars (NMS).

The Study

The NMSC stated in the Annual Report (1987) that only 9% of the 15,414 Semifinalists were enrolled in schools with a senior class of under 99.

This study focused on the 1988 Merit Scholars who were enrolled in 99 rural public schools with a senior class of fewer than 99 students. These 99 schools also had an English and mathematics teacher who had taught the NMS for at least three years. One of the major assumptions of the study was that these two teachers were influential in the development of a NMS.

Information obtained from these schools was compared with data published about the entire group of National Merit Scholars in the Annual Report 1986-1987. Students and principals provided data about the small rural schools and the students' completed course work, the verbal and mathematics PSAT scores, and extra-curricular attainments. To compare the background of the rural student with the population of the nation's 1987 juniors who took the PSAT/NMSQT, student data was compiled on ethnic background; high school grade point average; number of years of English, mathematics and foreign language, and experience with computers.

Results of the Study - The Population

A higher percentage of females (45.5%) qualified as NMSC semifinalists from the small rural schools as compared to the number of females (37.2%) who qualified for the nation as a whole.

The ethnic background of all the juniors completing the PSAT/NMSQT in 1986 indicated that 80.8% of the students were Caucasian. The ethnic makeup of the NMS from small rural public schools indicated that 98% of the students were Caucasian, one student was Asian-American, and one student was of Puerto Rican background.

Extracurricular Involvement

The amount of involvement in extracurricular activities for the NMS from the small rural school was substantially higher than those from larger districts. In small schools, students were

able to be more active in a variety of groups than were the Merit Scholars from the nation as a whole (see Table 1). This would substantiate the literature which purported that greater participation in rural schools was needed in order to justify the music, athletic, and drama events offered in small schools. The only areas in which the NMS for the nation as a whole showed greater involvement were in poem, story, and art work.

Table 1

Leadership Activities

	Nationwide*/Small-Rural			
	% All Scholars	% Boys	% Girls	% + or All
OFFICES:				
school government	24/40	25/41	22/40	+16
class	16/59	16/59	16/58	+43
other school activity	56/69	54/72	58/64	+13
community/church group	38/44	38/44	38/44	+6
PUBLICATIONS:				
newspapers, yearbook, literary magazine, editor	27/55	24/44	32/69	+28
poem, story, art work	48/27	45/19	51/17	-21
PERFORMANCES:				
drama, dance	35/56	30/48	42/64	+21
orchestra, band, choral	49/76	44/78	59/73	+27
ATHLETICS:				
letter or award	41/63	45/63	34/6	+22
AWARDS:				
leadership	35/51	31/48	33/53	+19
speech/debate	21/30	22/28	20/33	+9

*From 1986-87 NMSC Annual Report.

Academics

Thirty-seven percent of the small rural NMS completed the equivalent of both five years of English (National NMS 16%) and mathematics (National NMS 64%). In the area of foreign language, 26% of the NMS from the small rural schools finished three years of a language as compared to 73% for the nation as a whole. In fact, 12.1% of the small rural NMS reported taking no foreign language, 19.2% pursued only one year of a language, while 37.4% indicated enrolling in two years of foreign language.

A comparison of the grade point averages reported for the entire population of juniors who completed the PSAT/NMSQT with the NMS Semifinalists from small rural schools indicated that 64.7% of the students from small schools had an "A" average compared to 14% of the NMS juniors for the whole nation. In addition, the NMSC Finalist data reported that 53% of the males and 45% of the females had used computers in their classrooms.

Significant Elementary Teacher

The NMS was asked to recall an elementary teacher who made a significant impact, and briefly describe the influence that this teacher had on the student. The NMS listed the fifth grade teacher with the greatest frequency (20%). Forty-one percent did not recall or list any elementary teacher and three percent of the students listed the gifted course teacher.

A tally of the reasons given by the student produced 25 (43%) responses that stated "encouraging or supportive" in the

description. The next most frequent characteristics mentioned in descending order were the statements "tough/demanding" 14 (24%) responses, "kind" 11 (19%), and "gave individual attention" 11 (19%).

Student comments recorded in this study were very similar to those described by Bloom (1985) in his discussion of the teachers who were vital in the development of outstanding artists, athletes, and scientists. One item of importance identified by this study was that 41 (40.59%) of the NMS from the small rural schools did not recall any elementary teacher who had a significant impact. That finding certainly was not in line with the conclusions from Bloom's study.

Significant High School Teacher

The NMS was asked to describe the high school teacher who had the greatest influence and list the subject taught. Ninety-two of the 99 NMS responded to this question. The two most common teachers selected were the English teacher with 32 (35%) and the mathematics teacher with 26 (28%). Since the PSAT/NMSQT covers only English and mathematics, this may indicate that these students performed well in these subjects and these teachers have been a significant influence.

Science teachers were the next highest in impact with 17 (18%) choices. Since these classes also require the use of mathematics skills, this could have influenced the mathematics score on the PSAT/NMSQT.

A tally of the comments by the NMS was made to identify any common characteristics of these influential teachers. The most frequently mentioned statement was "demanding and challenging," 33 times (36%). The next areas mentioned according to frequency were the motivational role of a teacher: "interested in me or the class," 28 times (30.4%); "encouraged thinking," 22 times (23.9%); "encouraged me or the class," 21 times (23%). A personal relationship developed with this teacher seemed to be the topic for the next popular statements: "can talk to," 16 times (17.4%); "good friend," 13 times (14%); "made classes fun," 12 times (13.0%).

After-School Activities

The rural NMS were asked to indicate how the hours immediately after school were spent. Thirty-three percent participated in sports, 24% relaxed, 14% studied after school, 12% did chores, and 11% worked after school. Forty-one percent of the rural NMS worked during the school year sometime during the week. Males reported substantially less homework than the females, yet nationally more males are selected as NMS every year. A comparison of the hours that the NMS work illustrated that comparatively few students' performances at school would be interfered with by working too many hours. These scholars also reported daily averages of hours spent reading for class (1.5 hours), reading for pleasure (2.1 hours), watching television (2.4 hours), and homework (2.0 hours).

Data were also collected on other academic factors in an effort to determine if they would be characteristic of the NMS participating. Bloom (1985) concluded from his study that excelling (winning) was important to the participant at an early age and that getting the student to competitions became a priority over any other family event. With this factor in mind, the NMS were asked to identify the age that grades were important to them and to their parents. The rural NMS reported that grades were always important to 36.4% of their parents. However, only 20% of the NMS indicated that grades were always important. An additional thirty-four percent of the students decided grades were important between the first and fourth grades.

Bloom (1985) also found that the factor that kept youth working hard enough to excel was the winning of competitions during the teen years. The rural NMS did indicate that 79% had received academic awards and 72% had won academic competitions. This would substantiate the findings in research that the extra effort required to excel comes from the enjoyment earned from winning in competitions in one's area of endeavor. In the main, the information gained from the questionnaires completed by the 99 NMS would certainly indicate that the family members and characteristics were very much consistent with the research regarding family influence on academic achievement.

Technology

Educational publications and programs have stressed the importance of using technology in the rural schools to provide the educational experience and enrichment to the academically talented students. The use of the computer in the English classroom was reported by 34.3% of the schools and the mathematics teachers used the computer in 52.5% of the schools. Further investigation into the specific manner in which the computer was used in the rural schools found that it was mainly used as a tool for word processing, and drill and practices (playing math games and calculating grades). Only 10% of the NMS small rural schools have the Satellite Instruction. Thus the high academic achievement of the NMS cannot be traced to the extensive use of technology.

Teachers

The literature on rural education has also claimed that one of the disadvantages of a small rural school was that the teachers were less qualified, with many teaching out of their major field, or with a degree in education rather than specific subject matter. This sample found that only 36% of the English and 37% of the mathematics teachers possessed at least a Bachelor's Degree in the subject field. Nationally one out of seven teachers is misassigned. However, 19% of the English teachers and 28% of the mathematics teachers had a Master's Degree in the respective subject. The number of advanced degrees

earned by the teachers from the small rural schools were higher than had been anticipated.

Data were also collected on class size and number of student contacts. The most frequent number with regard to teacher/ student ratio was between 10 and 15 students in each class. Eighty-eight percent of the schools had class sizes that ranged from 6 to 20. The total number of students per day ranged from 15 to 164 with a majority of the mathematics teachers (60.6%) meeting with 65 to 104 students per day and the English teachers (66.7%) meeting with 55 to 124 students per day.

Economic Influence

Academic achievement and wealth of the family is usually highly correlated. We compared the parental income of all of the students in the nation who took the SAT the same year as the sample students took the PSAT/NMSQT (see Table 2). A total of 58% of all students who took the SAT had a family income of $40,000 and under but 65% of the NMS small rural families had an income of $20,000 or less.

Table 2

Parental Income

INCOME	*Total SAT Takers Nationwide Number	Percent	NMS Small Rural Number	Percent
Less than $10,000	49,296	5	66	36.3**
$10,000 - $20,000	125,669	14	22	28.6**
$20,000 - $30,000	170,045	18	35	19.2**
$30,000 - $40,000	190,485	21	20	11.0**
$40,000 - $50,000	127,524	14	5	2.7**
$50,000 - $60,000	90,110	10	10	5.5**
$60,000 - $70,000	51,978	6	0	0.0**
$70,000 or more	124,009	13	1	4.9**
No response	151,310		9	9.1

*From 1987 Profile of SAT and Achievement Test Takers.

**The data for the SAT students was for the parents in one figure; the data for the NMS students were reported separately for the father and the mother - the figures in the table represent a combined total of 91 fathers and 91 mothers (N=182).

Parent Education

A comparison of parental educational levels (see Table 3) of the total students who took the SAT and the NMS students from small rural schools found that a total of 38% of the total SAT population and 21% of the NMSC parents had only a high school diploma. At the upper end of educational levels 24% of the total SAT students and only 9% of the NMS rural students had parents with a graduate degree. However, a higher percentage of rural NMS students' parents had a bachelor's degree (35%) than the SAT population as a whole (27%).

Table 3

Highest Level of Parental Education

EDUCATION LEVEL	*Total SAT Nationwide Number	Percent	NMS Small Number	Rural Percent
No High School Diploma	44,110	4	15	8.2**
High School Diploma	373,428	38	38	20.9**
Associate Degree	65,674	7	47	25.8**
Bachelor's Degree	279,899	27	63	34.6**
Graduate Degree	240,975	24	17	9.3**

*From 1987 Profile of SAT and Achievement Test Takers.

**The data for the SAT students was for the parents in one figure; the data for the NMS students were reported separately for the father and the mother - the figures in the table represent combined total of 91 fathers and 91 mothers (N=182).

Other researchers have reported that the rural school environment encouraged student social interaction, the development of self-identify, the establishment of character traits of value, and smaller class size which increased personal contact between the teacher and student (Aubertine & Jinks, 1969, 1984). Bull (1987) found unique features of rural schools than can contribute to educating the academically talented students:

- Small class size. This allows teachers to spend more time with students, thus individualizing the curriculum to meet the needs of the gifted child.

- A role for every student. Small schools need everyone for academics, art, sports, etc. No one, including the gifted child, can be an isolate and withdraw.
- More potential for multiple age grouping. This allows gifted students to move ahead academically without being uprooted from their chronological age peer group.
- Greater opportunity for teacher mentoring. In small schools, the student load is lower and a greater percentage of students can be mentored.
- Great potential for community involvement with gifted children because all of them are known to the community and to other children.
- More potential for flexibility of course offerings at the junior/senior high level. In small schools there are fewer proprietary interests in filling certain high level courses; therefore, more opportunity exists for individualization using non-traditional methods. (p. 1)

Conclusion

One of the outcomes of this study was an "academic portrait" of the student enrolled in a small rural school who was able to score in the top one percent of the nation on the PSAT--the National Merit Scholar.

It was found that the culture of small rural areas and the environment of small schools led to a close rapport between the teachers and the students. The greater involvement in school and

community affairs and the closeness of the families experienced by the NMS from small rural schools are significant. The rapport between students and faculty and the involvement of parents appeared to be the most important factors in the desire of the student to do well in school.

This study found that these students did indeed feel special, were disciplined, inspired and made exclusive. The students' descriptions of the outstanding characteristics of their teachers did in fact present a vision of high schools where teachers taught and students learned.

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