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Gifted Students' Perceptions of Their Class Activities: Differences Among Rural, Urban, and Suburban Student Attitudes

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ABSTRACT

The purpose of this study was to investigate differences in attitudes toward classroom activities among rural, urban, and suburban gifted students. More specifically, the instrument *My Class Activities*, designed to assess students' attitudes toward their class activities with respect to Interest, Challenge, Choice, and Enjoyment, was used to show how gifted students from rural schools differed from their counterparts in urban and suburban schools. Rural elementary students found their classrooms less frequently interesting and challenging, but found them more frequently enjoyable than their urban and suburban peers. Rural middle school students reported less challenge and less enjoyment than their suburban peers. Implications of the findings for gifted students in rural settings are discussed and suggestions for addressing these dimensions for gifted students in rural areas provided. Additionally, validity and reliability evidence is provided for *My Class Activities*.

The dimensions of Interest, Challenge, Choice, and Enjoyment, measured by the instrument *My Class Activities*, are based in theory and practice from the field of gifted education and tied directly to motivation and learning. This instrument has the potential to assist both researchers and educators because they tend to study areas that they can measure. A review of the extant literature on student attitudes toward classroom activities, placement in gifted programs, and attendance in rural, urban, or suburban schools has revealed few studies. *My Class Activities* provides a format for assessing student attitudes toward the above-mentioned dimensions, thereby providing a tool that can be used in research and in practice. The issue of what students think about their classroom experiences concerning these dimensions merits exploration. In addition to reporting validity and reliability evidence for the instrument, the present study investigated students' attitudes toward classroom activities with specific emphasis on differences among rural, urban, and suburban gifted students.

Background

Dimensions

The dimensions of Interest, Challenge, choice, and Enjoyment, which are measured by the instrument *My Class Activities*, have been shown in the literature to be central to learning. These dimensions comprise the theoretical basis upon which the instrument was constructed, and following is a brief overview of the literature that supports each dimension.

PUTTING THE RESEARCH TO USE

The research presented in this article is useful in two ways, first by introducing the instrument *My Class Activities* that others can use to measure elementary and middle school student attitudes toward their class activities in areas that are important to both motivation and learning. This instrument is available through Creative Learning Press. Information gathered concerning students' perceptions of interest, challenge, choice, and enjoyment in their classrooms can be of value to both researchers and practitioners interested in studying and improving schools. Second, the findings of this study reinforce the importance of gifted education programming in rural areas. Rural schools have many strengths upon which to build, and educators in these schools should pay special attention to the needs of their gifted students who perceive less challenge, interest, and, in some cases, enjoyment than their urban and suburban peers. Concentration on meeting and developing student interests, incorporating challenge and choices in the curriculum, collaborating with other rural districts, considering a variety of programming options, then making an effort to afford students access to these programs are means to help ensure that rural gifted students' needs are met.

Drawing from and using student *interests* as a means to engage students in learning has been advocated by many researchers and theorists (e.g., Dewey, 1916; James, 1890; Renzulli, 1978; Ward, 1980). Schiefele (1991) described interest as a directive force that influences performance and motivation within specific content areas. Advocates for the education of gifted children have suggested that student interests should be central in determining educational programs (Gallagher, 1985; Maker, 1982; Parke, 1989; Passow, 1982; Renzulli, 1994). Good and Brophy (1987) suggested that all students should have opportunities in school to develop and explore their interests. Interest is tied to motivation, and motivation is tied to learning; therefore, studying interests can lead to insights that improve teaching and learning (Deci & Ryan, 1985; Schiefele; Tobias, 1994). By the middle school years, many students view school as uninteresting (Eccles, Wigfield et al., 1989). To counter this trend, Hootstein (1994) suggested relating learning to students' needs, interests, concerns, and experiences as well as encouraging students to pursue their own interests.

Although the need for *challenge* in America's schools is widely recognized, challenge seems to be lacking in many classrooms, which leads to bored and frustrated students who do not reach their potentials (Archambault et al., 1993; Feldhusen & Kroll, 1991; Goodlad, 1984; Reis et al., 1993; Westberg, Archambault, Dobyns, & Salvin, 1993). Among the issues outlined in the federal report *National Excellence: A Case for Developing America's Talent* (U.S. Department of Education, 1993) was that of providing more challenging curricula and establishing high-level learning opportunities. Researchers from the field of gifted education have suggested providing challenge by focusing on high-level content, integrating advanced thinking skills, using advanced and authentic methodologies, developing products or services for a real audience, and compacting or accelerating curricula (Bloom, 1985; Reis et al.; Renzulli, 1994; Schlichter, 1986; Tomlinson, 1992; Treffinger, 1986; U. S. Department of Education). It is through the development of challenging curriculum and instruction that quality education can be delivered (Bloom; Shore, Cornell, Robinson, & Ward, 1991; Vygotsky, 1962). Eccles and Midgley (1989) suggested that teachers should have high expectations for the academic performance of youth, and thus appropriately challenge them. Clifford (1990) asserted that success is a motivational issue driven by issues of challenge, explaining that children show preferences for tasks that are slightly beyond their abilities, and intellectual development requires difficult tasks.

Next, the issue of providing students with *choices* in education has been identified as a motivational tool that encourages learning (Bloom, 1985; Dewey, 1913, 1916; Gardner, 1991;

Goodlad, 1984; Renzulli & Reis, 1985; Shore et al., 1991; Wang & Lindvall, 1984). For example, a recurring theme in adolescent literature is one of offering students choices as a means of increasing motivation (Ames, 1992; Deci & Ryan, 1985; Eccles & Midgley, 1989). Renzulli (1994) explained that students are engaged in meaningful learning when they are involved with projects about which they care deeply and that they choose to pursue. Eccles and Midgley suggested giving students choices and input into class discussions, while Robinson (1991) and Rogers (1991) emphasized the importance of allowing choices regarding group assignments. Pintrich and DeGroot (1990) found that involvement in self-regulated learning that included choice led to higher self-efficacy and improved academic performance for middle school students. Similarly, Kerka (1994) argued that choice of goals, objectives, type of participation, content, method, and assessment are important to self-directed learning. Choice within classrooms offers students autonomy and control regarding learning, which may serve to enhance academic achievement and relevance.

Finally, *enjoyment* as a motivating factor in learning cannot be ignored. Providing learning experiences that are engaging and enjoyable is key to effective educational practice (Csikszentmihalyi, 1990; Dewey, 1916; Renzulli, 1994; Schiefele, 1991). Renzulli (1994) proposed that the best learning takes place when children enjoy what they are doing, and he suggested that highly creative productive people are at optimal performance levels when they are doing what they most enjoy. Tied to the notion of enjoyment in learning is the idea that students are more likely to learn from teachers who show enjoyment in their teaching (Csikszentmihalyi & McCormack, 1986) and a passion for their subject (Renzulli, 1988). By incorporating enjoyment into everyday classroom activities, school might become a better place for students and teachers alike.

Factors in Educating Elementary and Middle School Students

It has been well documented that, as students move through the grades from elementary school to middle school, there is decline in motivation, academic performance, interest in school, and behavior (e.g., Anderman & Maehr, 1994; Eccles & Midgley, 1989). Middle school students are faced with a variety of problems associated with adolescence, yet one must wonder how much of the decline in motivation and performance is attributable to factors over which schools have some control (Anderman & Maehr). For example, as suggested in the literature, changes in the learning environment that occur from elementary school to middle school may affect the

changes in the academic motivation, achievement, and behavior of students (Eccles et al., 1993; Midgley, Anderman, & Hicks, 1995). Perhaps the single biggest challenge faced by all educators, and especially those who work with middle school students, is maintaining student interest and motivation. It has been suggested that the middle school years are critical in determining whether students will, in fact, succeed in school and in life (Anderman & Maehr). As demonstrated by Roeser and Eccles (1998), adolescents' school perceptions were significant predictors of their academic and psychological adjustment at the end of eighth grade.

Rural, Urban, and Suburban Schools and Their Gifted Students

The literature reveals differences among the issues that affect students in rural, suburban, and urban school settings. Inherent in these differences is the manner in which they affect educators in these environments. The problems faced by rural schools include financial difficulties associated with funding cuts, disjointed allocation of available funds, the high cost of building repair, and the cost of replacing outdated resources (Wooley, 1999). Although rural schools offer lower drop-out rates, smaller class sizes, community support, and teacher autonomy, these positive issues are not enough to prevent the loss of teachers to more affluent suburban and urban schools or to cause redirection of resources to underfunded rural districts (Wooley). One solution to problems associated with rural schools is consolidation, which is seen as a viable option for providing equal access to educational support in districts witnessing declining school enrollment and a dwindling tax base. Seal and Harmon (1995) identified school consolidation as the most visible and controversial reform movement in some rural schools today. Ironically, one result of the reform effort instigated by parents seeking better educational opportunities was school consolidation without additional funding or support. It would seem that economic climates affect rural schools far more than their urban and suburban counterparts. Theobald and Nachtigal (1995) argued that the positive community ties and individual attention afforded rural students should dictate school reform. The question of how to further the positive influences of rural education and student needs should be the primary concern of reform efforts. Unfortunately, demographic shifts in population directly influence economic trends in the rural community, which in turn dictates funding to social institutions like education.

A West Virginia task force on education found that children from sparsely populated rural settings are less likely to receive special services or to be classified as gifted and are more likely to drop out of school (Seal & Harmon, 1995). In an

overview of the research on gifted students in rural settings, Cross and Dixon (1998) identified three themes: deficiency of resources, lack of support for special populations of gifted students, and the importance of the context of individual schools on the lives of gifted students. Spicker, Southern, and Davis (1987) identified problems of size, poverty, nonurban acculturation experiences, and traditional rural values as barriers to providing for the educational needs of rural gifted students. Jones and Southern (1992) found that, although types of services offered to gifted students in rural and urban settings were not different, access and availability differed greatly between the two areas. Gifted children in rural areas were less likely to be afforded appropriate placement and services because of program novelty, lack of financial support for programs, and low enrollment rates for gifted students. Together these issues seem to indicate that being rural and gifted might equate to being at-risk for receiving an inadequate education.

Urban schools, like their rural counterparts, face issues of funding and additional issues of community involvement. Although the increased population base found in urban areas directly influences the number of programs and amount of funding, Russo (1999) argued that larger is not necessarily better. Issues of governance and equity are still problematic in urban school districts, with mismanagement of large school districts among the greatest difficulties they face (Button, 1993). Diversity has become the key to understanding urban education and the issues of governance. Russo explained that diversity refers to the wide variety of student needs and educational philosophies that have developed in response to the needs of inner-city environments. The issue of governance has both helped and hindered large school districts. Although administrators are now given autonomy in local issues, which may result in innovative programs, decentralization is still an issue for large urban school districts (Berliner & Biddle, 1995).

The final issue affecting urban schools as outlined by Russo (1999) is that of school choice, which is often questioned by those who see it as an issue of equity. School choice, according to Wagner (1994), is a goal, not a stand-alone movement. Without proper care to ensure quality product (good students), he argued there really is no choice. The loss of the enrollment of high-potential students is a major concern facing large urban school districts. Therefore, school choice and vouchers pose an economic conundrum. Equal access to funds and programs, as well as the quality of educational programs, are among the problems faced by urban students. Urban gifted students are at risk of not being identified and served due to issues of culture or poverty (Borland & Wright, 1994; Ford, 1999).

Although urban schools receive more funds than their rural counterparts, the largest per capita spending still occurs in suburban districts. Kozol (1991) coined the phrase "savage

inequalities” to describe how differences in spending affect education in urban areas. Social class remains the best indicator of how funds are distributed in urban and suburban areas. Suburban schools are often seen as the solution for parents seeking refuge from the dangerous and unchallenging environments of urban schools (Kozol, 1998; Shen, 1999). The mystique of suburban education is supported by reports of higher test scores and better services (Chenoweth, 1998; NAEP, 1998; Orfield et al., 1997). Increased funding afforded to suburban districts is often cited as the main difference in available services (Kozol, 1991, 1998; NAEP; Reinstein, 1998). One possible explanation was provided by Clarke (1993), who found that funding may be similar in urban and suburban schools, but that suburban schools are better able to spend their monies on instruction and not social service programs as found in urban schools. Burnett (1996) outlined a list of noninstructional services provided by urban schools, including teen parenting support, drop-out prevention, and substance abuse prevention. Until these issues are addressed, learning takes a back seat in many urban schools. Gifted students in suburban areas face challenges of pressure and perceptions that do not often affect similar students in rural or urban areas. Kohn (1998), for example, blamed the failure of school reform on suburban parents of the “so-called” gifted, while educators in urban areas cry for parental involvement. In comparison, Reinstein identified the problem of overinvolved suburban parents and suggested that these parents believe their children are entitled to gifted program services. Such charges of elitism may plague suburban gifted programs, with the major dilemma being who is identified for services, rather than a lack of available services as might occur in rural areas.

No studies were found that directly compared the attitudes of gifted students in rural areas with counterparts in suburban and urban schools regarding classroom activities. This is partly because of the lack of available instrumentation by which to assess student attitudes toward their class activities, specifically in the areas of interest, challenge, choice, and enjoyment. However, attitudes of gifted students compared to their nongifted counterparts were investigated by Feldhusen and Kroll (1991), who found that, although gifted students were bored in school, they liked school better than their nongifted peers. Karnes and Whorton (1988) investigated gifted students’ attitudes toward school and found that these students had very positive attitudes toward their own performance and experiences. Later, Shields (1995) found few differences between students in homogeneous classes and their counterparts in heterogeneous classrooms and their attitudes about their experiences in school. Both of these studies defined *attitude* as the students’ perception of their performance in school.

Investigating student attitudes has long been a mainstay in the area of program evaluation research, but little has been done in the area of validating the surveys used in these projects. Further, such evaluation studies preclude comparison of student attitudes among rural, urban, and suburban communities. Instrumentation on student attitudes is often found in the research done regarding learning and personality styles. For example, instruments such as the Myers-Briggs Type Indicator (Myers & Briggs, 1976) and the Style Delineator (Gregorc, 1982) address personality aspects of style. Others, such as the Learning Style Inventory (Dunn, Dunn, & Price, 1978), the 4MAT System (McCarthy, 1980, 1990), and the Learning Styles Inventory (Renzulli, Smith, & Rizza, 1998), identify the educational implications of style and learning in school. Although all of these instruments provide useful information regarding student learning preferences, My Class Activities extends the scope of investigating student attitudes, specifically as applied to classroom events.

By the time they enter middle school, many youth perceive school as uninteresting and unimportant (Eccles et al., 1989). Deci and Ryan (1985) suggested that providing opportunities for autonomy and participation in learning may positively influence adolescents’ motivation, behavior, and psychological well-being. Clearly, the dimensions of interest, challenge, choice, and enjoyment, because of their strong theoretical and practical ties to learning, are important areas to consider when educating children and youth. Further, as suggested by the literature, the community may affect how students view school and therefore how well students achieve in school. Because of the differences among communities and in identification and programming opportunities for gifted students, it is important to determine if perceptions of gifted students in these various communities differ. By using an instrument with evidence of validity and reliability to investigate perceptions of students who make up classrooms across the country, perhaps changes can be made that positively affect these students’ educational experiences.

Methods and Procedures

The present study includes instrument validation, as well as comparison of rural, urban, and suburban gifted students’ attitudes toward their class activities. Specifically, regarding the instrumentation, existing data concerning the reliability and validity of the instrument, My Class Activities, for use with middle school students is reviewed. This is followed by analyses of a national sample of data ($n = 2,221$) to provide evidence of the validity and reliability of this instrument for use with elementary-aged students. Then, differences were investigated

among the attitudes of rural, urban, and suburban gifted students regarding the dimensions of Interest, Challenge, Choice, and Enjoyment as assessed by the instrument. Separate analyses (MANOVA with DFA follow-up procedures) were run for elementary-aged gifted students ($n = 534$) and for middle-school-aged gifted students ($n = 672$) who were drawn from the national sample of students used in the instrument validation studies.

Sample

The sample was drawn from the National Research Center on the Gifted and Talented (NRC/GT) collaborative school districts and included 3,744 diverse students from 24 schools in 7 states, with approximately one-third of the students attending rural, suburban, and urban schools. The community designations of rural, suburban, or urban were made based on data on school demographics as collected by the NRC/GT, with rural districts serving communities classified in the United States census as rural. Students who were identified as gifted and who received special services from their schools comprised the subsamples of gifted students ($n = 1,206$) used for the comparative analyses in this study. Identification procedures varied by district and included the use of tests, matrices, portfolios and performances, with no trends existing by demography with the exception that in the urban and suburban areas more students were identified than in rural areas. This may have been due to more programming opportunities in urban and suburban communities, such as magnet schools and special classes, that did not exist in the rural areas. In general, the rural schools in the study had fewer economic resources than did the urban and suburban schools, although the socioeconomic profiles in the urban and rural areas were similar with a larger percentage of students living in poverty than in the suburban areas.

The grade 3–6 elementary sample ($n = 2,221$) included students from 18 schools and 139 classrooms (5 urban, 10 suburban, 3 rural) in six states from the Northern, Northeast, Midwest, Eastern, and Western United States. The students in the elementary sample were 51% male and 75% Caucasian; other ethnic groups represented included African American (13%), Asian American (6%), and Hispanic American (4%). Districts identified 534 of these students for gifted education program services, and half of them were female. Sixty-three percent of the gifted students were Caucasian, 25% Asian American, 7% African American, and 4% Hispanic American. Table 1 contains sample information by community and grade level.

The grade 6–8 middle school sample ($n = 1,523$) included students from 61 classrooms (in subjects including social sciences, language arts, science, and math), from eight schools

Table 1
Elementary Gifted Students by Grade Level and Community

Grade Level	Community		
	Urban	Suburban	Rural
3	98	22	27
4	91	37	17
5	101	19	24
6	96	2	0
Total	386	80	68

Table 2
Middle School Gifted Students by Grade Level and Community

Grade Level	Community		
	Urban	Suburban	Rural
6	0	207	0
7	3	243	4
8	0	172	43
Total	3	622	47

(one urban, five suburban, two rural), in five states from the Northeast, Midwest, Southern, and Western United States. Of these middle school students, 672 were identified as gifted by their school districts, with the majority of these students from suburban areas ($n = 622$). Unfortunately, this sample only included one urban middle school; and, although this middle school had a program for gifted students, the number of students identified as gifted ($n = 3$) who completed the survey was fewer than we would have liked. Consequently, these students were dropped from the comparative analyses, which limits the findings of the study. Consistent with the ethnicity of the entire middle school sample, gifted students were Caucasian (85%), African America (6%), Asian American (6%), and

Hispanic American (3%). Forty-nine percent were female and 51% were male. A breakdown of students by grade level and community is depicted in Table 2.

Instrumentation

My Class Activities contains 31 items responded to on a five-point Likert-type scale (*Never, Seldom, Sometimes, Often, Always*) and has been undergoing extensive validation study (Gentry, Gable & Rezendes, 1999; Gentry, Maxfield, & Gable, 1998). In earlier studies, extensive content validation was done through the literature and through content experts, followed by a pilot study that utilized exploratory factor analysis to assess evidence of construct interpretation (i.e., construct validity; Gentry, Maxfield, & Gable, 1998). Results from the pilot study led to changes in the instrument and to the present confirmatory study of elementary data and the recent confirmatory study of middle school data (Gentry, Gable, & Rezendes). The instrument assesses four dimensions identified through the literature: Interest, Challenge, Choice, and Enjoyment. Gentry, Gable, and Rezendes reported content, construct, and alpha reliability support for this instruments' use with middle school students. In a study of 1,523 middle school respondents, they found support for construct validity through confirmatory factor analyses in which items fit the hypothesized model with adequate goodness of fit indices and through item response theory, which defined the differentiation of high and low scoring people. Additionally, they reported that the Likert-type response format operated properly, thus contributing to the construct validity of the instrument. Alpha reliabilities were reported for each of the dimensions as follows: Interest (.89), Challenge (.78), Choice (.75), and Enjoyment (.92) and are considered quite good for an affective instrument used with students in these grade levels (Gable & Wolf, 1993).

Further construct validity analyses and alpha reliability estimates from the elementary sample of students are reported in this study. Additionally, alpha reliability estimates for each of the dimensions are provided for the gifted students who were compared by community in this study.

Data Collection Procedures

Data for the present study were gathered during the 1996–97 and 1997–98 school years in the late fall and winter months. School district contact persons administered surveys to the classrooms of students to help ensure uniformity in the administration of the instrument. Each contact person followed standardized directions and administered the instrument in school to classrooms of students, resulting in a 100% return

rate for all students present during the administration. Additionally, by using contact persons who informed students that their teachers would not see their responses, students were more likely to answer honestly than if the instrument had been administered by their teachers. Student demographics were collected from classroom teachers and included gender, ethnicity, special programming, and achievement levels.

Data Analyses

Confirmatory factor analyses and alpha reliability estimates were done to provide validity and reliability evidence concerning the use of the instrument with elementary students. Then, to compare rural, urban, and suburban gifted students' attitudes toward their class activities with respect to the dimensions measured by the instrument, MANOVA with DFA follow-up procedures were used for both the elementary and middle school gifted student samples.

Results

Evidence of Construct Interpretation: Confirmatory Factor Analysis

The area of construct validity addresses the extent that certain explanatory concepts (i.e., constructs) explain covariation in the responses to the items in the survey (Gable & Wolf, 1993). Whereas the support for the validity evidence of the test content was judgmental in nature (i.e., literature-based and opinions of content experts), the examination of construct validity was empirically based on the data obtained from the elementary school respondents.

Although several empirical techniques are available for the ongoing process of examining construct validity, a confirmatory factor analysis approach (LISREL) was chosen for this analysis (Jöreskog & Sörbom, 1989). This procedure required the researchers to first identify (i.e., hypothesize) the literature-based item-dimension assignments used in the survey. The analysis then examined how well the data fit the hypothesized model. Overall model fit was examined, as well as each item's contribution to the respective dimension.

Table 3 contains the standardized weights for the items assigned to each of the four dimensions. With the exception of item 17 ($t = 2.36$), each of the weights is sufficiently high with a minimum t -value of 9.97 to indicate that the items fit the hypothesized model. Various "goodness of fit" indices were also calculated: the Tucker-Lewis (.92); goodness of fit index (.95); and root mean square residual (.04) were judged supportive of model fit. This information, together with the eval-

Table 3

Confirmatory Factor Analysis Maximum-Likelihood Loadings: Elementary Sample (n = 2,221)

Items	Factor			
	I	II	III	IV
<i>Interest</i>				
1. What I do in my class fits my interests.	.57			
2. I have an opportunity to work on things in my class that interest me.	.52			
3. What I do in my class gives me interesting and new ideas.	.51			
4. I study interesting topics in my class.	.53			
5. The teacher involves me in interesting learning activities.	.53			
6. What I learn in my class is interesting to me.	.63			
7. What I do in my class is interesting to me.	.64			
8. My class has helped me explore my interests.	.56			
<i>Challenge</i>				
9. The activities I do in my class are challenging.		.39		
10. I have to think to solve problems in my class.		.33		
11. I use challenging materials and books in my class.		.49		
12. I challenge myself by trying new things.		.46		
13. My work can make a difference.		.48		
14. I find the work in this class demanding.		.25		
15. I am challenged to do my best in class.		.45		
16. What we do in class fits my abilities.		.49		
17. This class is difficult.		.06*		
<i>Choice</i>				
18. I can choose to work in a group.			.49	
19. I can choose to work alone.			.29	
20. When we work together, I can choose my partners.			.51	
21. I can choose my own projects.			.45	
22. When there are many jobs, I can choose the ones that suit me.			.55	
23. I can choose materials to work with in the class.			.50	
24. I can choose an audience for my product.			.40	
<i>Enjoyment</i>				
25. I look forward to my class.				.71
26. I have fun in my class.				.79
27. The teacher makes learning fun.				.75
28. I like what I do in my class.				.78
29. I like working in a class.				.66
30. The activities I do in my class are enjoyable.				.71
31. I like the projects I work on in my class.				.69

Note. *Item 17 is associated with an especially low loading.

uation of the modification indices, suggested that the construct validity of the proposed four-factor solution could be supported for these data.

Reliability

Item analysis and alpha internal consistency reliability information are presented in Table 4. Overall, the total grade 3–6 alpha reliability estimates of the data ranged from .63 to .88. These reliabilities, as expected, are lower than the reliabilities reported for the middle school sample, and, as the breakdown by grade level indicates, improve as the grade level of the students increases. Separate reliability estimates by grade level, total, gifted elementary, and gifted middle school data are listed in Table 5. Concerning all dimensions, the reliabilities are higher (.68 to .91) for the students in the gifted subsample, indicating that this instrument functions well when used with gifted students. For the items defining each dimension in Table 4, the response percentages, along with the item-level means and standard deviations, are listed. Items associated with low or high means and low standard deviations may not contribute greatly to the reliability estimate for the dimension. This situation appears to be the case for item 17. The next column presents the correlation of each item with the remaining items defining the respective dimension. These values indicate the correlation of each item, with the remaining items defining the category. For this sample of elementary students, we note that items 12, 13, 16, and 17 from the Challenge dimension and item 19 from the Choice dimension have low correlations with the remaining items. However, deleting these items would not raise the overall category reliability estimate of the data (see far right columns of Table 4).

Overall, the internal consistency reliability estimates for Interest and Enjoyment are considered quite good for this type of affective instrument and student age level. Further, with students from the data set who are either in grades 5 and 6 or who are identified as gifted, the reliabilities for all dimensions are acceptable (Gable & Wolf, 1993). Ideally, the reliability estimates for Choice and Challenge that are in the lower .60s should be higher; however, given the young age of the students, estimates of this magnitude are difficult to obtain. Consequently, results regarding student attitudes on the dimensions of Choice and Challenge from use of this instrument with younger students must be interpreted with caution. Consistent with Nunnally's (1978) domain item sampling model, we conclude that the empirical evidence supports the judgmental evidence regarding the sampling of item content from the intended domain of content identified earlier in the literature review.

Differences Among Rural, Urban, and Suburban Gifted Students' Perceptions of Interest, Challenge, Choice, and Enjoyment

MANOVA with DFA follow-up procedures using SPSSx 8.0 were used to compare students' attitudes toward their classrooms on the combined dependent variables of interest, challenge, choice, and enjoyment for the independent variable of community for the elementary and middle school samples of students identified as gifted. MANOVA was selected due to the intercorrelations of the dependent variables, thus protecting against inflated Type I error (Tabachnick & Fidell, 1996). To interpret the meaningfulness of the findings, effect sizes were estimated by subtracting Wilks' Lambda from 1 to provide a measure of r^2 (Tabachnick & Fidell), then referring to Cohen (1988) for interpretation of the effect size. Data for elementary students and middle school students were analyzed separately.

Elementary Students. Concerning elementary-aged gifted students, examination of Wilks' Lambda ($F [8,1056] = 2.337, p = .017$) indicated a significant difference among rural, urban, and suburban communities with respect to student attitudes toward school on the combined dependent variables of Interest, Challenge, Choice, and Enjoyment. Because this difference had a small effect size ($r^2 = .03$) indicating practical importance (Cohen, 1988), follow-up DFA was performed to determine which variables accounted for the separation among groups. Two functions were generated, with the first accounting for 94% of the group separation; therefore, the second function was judged as unimportant and not given further consideration. Examination of the standardized canonical discriminant function coefficients revealed that two primary variables, Enjoyment (-1.425) and Interest (1.006), and one secondary variable, Challenge (.552), accounted for the separation of rural, urban, and suburban groups. As indicated in Table 6, rural students scored their classroom activities less frequently interesting and challenging than their urban and suburban counterparts, whereas they indicated more frequent enjoyment than did students from urban areas. As suggested by the means and determined by the DFA, no differences existed among the groups on choice.

Middle School Students. Using Wilks' criterion, overall differences were found between rural and suburban gifted middle school students with respect to the combined dimensions of Interest, Challenge, Choice, and Enjoyment ($F [4,662] = 23.784, p < .001$). One minus Wilks' Lambda yielded a medium effect size of $r^2 = .13$ (Cohen, 1988), which warranted DFA follow-up to determine to what extent and in what manner membership in rural or suburban schools could be explained by the four dimensions from the instrument. Examination of standardized discrim-

Table 4

Student Survey About Class: Response Percentages and Alpha Reliability Estimates Grades 3–6 (n = 2,221)

Dimension	Item	Response Percentage					Mean	SD	Corrected r w/dimension	Alpha Rel. if deleted	Alpha Reliability
		1	2	3	4	5					
I Interest	1	3	7	46	33	12	3.5	.88	.51	.76	.78
	2	3	11	37	34	15	3.5	.98	.45	.77	
	3	3	9	30	33	25	3.7	1.03	.44	.77	
	4	4	10	32	33	21	3.6	1.05	.45	.76	
	5	3	9	27	32	30	3.8	1.07	.47	.76	
	6	3	9	32	34	22	3.6	1.02	.52	.75	
	7	2	9	30	35	23	3.7	1.00	.55	.75	
	8	8	15	34	30	12	3.2	1.10	.50	.76	
II Challenge	9	6	12	37	30	16	3.4	1.06	.40	.57	.63
	10	2	7	25	28	38	3.9	1.04	.34	.59	
	11	6	13	32	30	20	3.5	1.12	.37	.58	
	12	4	9	29	33	25	3.7	1.08	.27	.60	
	13	3	9	27	29	31	3.8	1.08	.27	.61	
	14	11	16	33	25	16	3.2	1.20	.31	.59	
	15	2	6	14	22	56	4.3	1.02	.37	.58	
	16	4	8	29	35	24	3.7	1.04	.26	.61	
	17	24	27	31	12	7	2.5	1.16	.18	.63	
III Choice	18	12	19	41	18	11	3.0	1.12	.37	.60	.65
	19	6	9	27	26	32	3.7	1.19	.23	.64	
	20	7	13	42	24	15	3.3	1.07	.41	.59	
	21	19	24	33	16	9	2.7	1.20	.38	.60	
	22	12	15	34	24	16	3.2	1.20	.40	.59	
	23	7	14	31	29	18	3.4	1.15	.39	.60	
	24	20	21	30	17	13	2.8	1.28	.30	.62	
IV Enjoyment	25	6	9	21	24	40	3.8	1.22	.65	.87	.88
	26	4	7	21	24	44	4.0	1.09	.74	.86	
	27	4	13	34	30	19	4.0	1.14	.69	.86	
	28	3	8	28	35	27	3.7	1.03	.72	.86	
	29	5	8	25	26	37	3.8	1.17	.62	.87	
	30	2	8	30	32	28	3.8	1.03	.66	.87	
	31	3	7	26	32	32	3.8	1.04	.63	.87	

Note. Responses: 1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always.

inant function coefficients revealed that Challenge (1.02) was the primary contributor, followed by a secondary contribution from Enjoyment (-.524). Rural gifted students reported fewer opportunities for challenge than their suburban peers, and, unlike the rural elementary gifted students, they reported a lower frequency of enjoyment than

did the suburban students. Closer examination of the means and standard deviations for the Challenge dimension as reported in Table 7 revealed that the rural gifted students indicated they find their class activities only “sometimes” challenging, while the suburban students report that they are “often” challenged. Additionally the differences

Table 5

Alpha Reliability Estimates by Grade Levels, Samples, and Dimensions

Dimension	Items	Grade					Sample	
		3	4	5	6	3-6	Elem. Gifted	Middle Gifted
Interest	1-8	.72	.80	.77	.83	.79	.86	.89
Challenge	9-17	.60	.61	.66	.67	.63	.68	.79
Choice	18-24	.59	.63	.70	.70	.65	.68	.76
Enjoyment	25-31	.86	.89	.87	.91	.88	.91	.92
		(n = 607)	(n = 678)	(n = 551)	(n = 307)	(n = 2,146)	(n = 519)	(n = 671)

between these means exceeded one standard deviation, indicating a large difference between the rural and suburban students concerning student perceptions of challenge. Interest and choice were not significant predictors of community membership for the middle school gifted students in this sample.

Discussion

Instrument Validation

Currier (1986) suggested that students need to explore real issues and have an impact on their world and recommended that schools offer choice, inquiry, and a variety of high-interest activities that address individual differences among students. Haas and Lambert (1995) described the importance of challenge in rural schools and discussed a collaborative program among rural schools and communities that ties the curriculum to real-world situations and transforms students into “producers of goods, services, and new information” (p. 137). Following such suggestions and incorporating choice, challenge, and student interests may make it possible to create an enjoyable environment that engages students in meaningful learning. My Class Activities is an instrument that can be used in both educational evaluation and research. How students respond to the items on this instrument can provide insight into classrooms from the students’ points of view. Such information can provide teachers with feedback and thus help them set goals to improve the levels of enjoyment, interest, choice, and challenge present in their classrooms—all of which are dimensions tied to motivation and learning in the literature. Researchers can use My Class Activities to measure student

attitudes and changes in student attitudes when considering factors in schools related to the four dimensions that this instrument addresses. Therefore, this instrument has the potential to help teachers set goals and increase learning within classrooms by focusing on areas shown by the literature to positively affect student learning and to assist researchers in measuring student attitudes toward their classroom activities.

Implications for Education of Rural Gifted Students

Enjoyment and Challenge. This study compared the attitudes of students from rural, urban, and suburban schools identified for gifted education services at both elementary and middle school levels. Consistent with the literature on middle school students’ attitudes toward school, elementary students had higher overall perceptions of enjoyment, with the elementary rural gifted students reporting more enjoyable classrooms than their urban and suburban peers. By middle school, the rural gifted students reported less enjoyment than their gifted suburban peers, indicating that gifted middle school students may be especially at risk of all the things that plague middle school students in general, such as lower achievement, motivation, and interest in school (Eccles et al., 1993; Midgley, Anderman, & Hicks, 1995) and increased boredom (Plucker & McIntire, 1996). Despite the fact that they reported more enjoyment in school, rural gifted elementary students reported significantly less challenge and interest than their urban and suburban peers. Considering the work of Reis, et al., (1993), Archambault et al., (1993), Goodlad (1984), and Westberg et al., (1993), all of whom found a lack of challenge in America’s classrooms, especially for gifted students, this is a troublesome, although expected, finding. It is one more piece of evidence, this time through the eyes of gifted children in rural schools, that school is only slightly

Table 6

My Class Activities Dimension Means and Standard Deviations for Elementary Gifted Students from Urban, Suburban, and Rural Schools

Dimension	Community					
	Urban (n = 386)		Suburban (n = 80)		Rural (n = 68)	
	Mean	SD	Mean	SD	Mean	SD
Interest*	3.57	.60	3.60	.63	3.48	.59
Challenge*	3.56	.48	3.51	.51	3.42	.47
Choice	3.21	.56	3.21	.50	3.18	.63
Enjoyment*	3.67	.78	3.78	.86	3.80	.73

Note. *Significant predictors of group differences.

more than “sometimes” challenging and that it is even less challenging in rural areas. By the middle school years, gifted students in rural areas report that school is only “sometimes” challenging and enjoyable, with considerably less challenge perceived by the rural gifted students than their suburban peers. When considering the potential of gifted students together with their perceptions of how challenging, interesting, and enjoyable school is to them, it becomes clear that the cognitive and affective needs of rural gifted students are at risk of not being met.

The fact that the rural gifted elementary students reported significantly higher levels of enjoyment in their classrooms may reflect the strengths of rural education with regard to small schools, nurturing environments, personal attention, and stable communities (Herzog & Pittman, 1995; Jones & Southern, 1992; Wooley, 1999). This finding is encouraging and might be the basis from which to build and incorporate more effective programming to address areas of interest, challenge, and, at the middle school level, waning enjoyment. The methods and processes by which challenge can be delivered in schools include presenting high level content, using advanced thinking skills, using advanced and authentic methodologies, developing products or services for a real audience, and compacting the curriculum (Bloom, 1985; Reis et al., 1993; Renzulli, 1994; Schlichter, 1986; Treffinger, 1986; U.S. Department of Education, 1993). The continuum of services as suggested by Renzulli (1994, p. 78) offers a variety of gifted programming options available for schools and should be considered by rural educators. As suggested by Renzulli, the more of these options available to students, the better the chances are that gifted students' needs will be met. For rural districts to effectively offer a variety of well-developed program services to their

Table 7

My Class Activities Dimension Means and Standard Deviations For Middle School Gifted Students from Suburban and Rural Schools

Dimension	Community*			
	Suburban (n = 621)		Rural (n = 46)	
	Mean	SD	Mean	SD
Interest	3.42	.61	3.13	.54
Challenge**	3.78	.52	3.06	.42
Choice	3.00	.61	2.69	.60
Enjoyment**	3.37	.79	3.20	.65

Note. * Urban gifted students were eliminated from the analyses due to a low number of identified students. ** Significant predictors of group differences.

gifted students, collaboration and sharing of resources is essential (Spicker, Southern, & Davis, 1987). Collaborative programs such as StATS (Gentry & Ferriss, 1999), SEARCH (Swanson, 1995), and Pacer (Haas & Lambert, 1995) provide models for other rural schools to follow in their efforts to provide effective programs and services to a limited population.

For a variety of reasons including limited funding and isolation, rural gifted students are less likely to have access to a well-developed variety of programs, to be identified, and to have peers with whom to work. Their perceptions of less challenge indicated how important gifted programming is in rural schools. This is especially noteworthy in light of the wholesale elimination of gifted programs and ability grouping nationwide in favor of a more politically correct, albeit less challenging, policy of heterogeneous grouping and inclusion. Therefore, another area that might serve to increase challenge for gifted students in rural schools is the use of flexible achievement grouping as discussed by Gentry (1999) and acceleration and ability grouping as suggested by gifted program coordinators (Jones & Southern, 1992). Gifted students need the opportunity to work with and be challenged by their intellectual peers (Gentry & Owen, 1999; Kulik, 1992; Rogers, 1991), and this is of special concern in rural areas with small populations of gifted students.

Interest. The dimension of interest can be addressed in classrooms in several ways. First, the use of student interest assessment can provide teachers with insight regarding their students' interests, which can then be used as the basis for independent study and curricular extensions. Second, the teacher

or school might consider developing a series of ongoing activities designed to expose students to new areas and develop new interests (Renzulli & Reis, 1997). Third, teachers might want to consider adding some personal artistic modifications (Renzulli, 1988) to their teaching in order to make their curriculum and instruction more interesting in general. Finally, student interests can be used as the basis for curricular design (Ferguson et al., 1996; Stein & Poole, 1997). Within each of these general areas there are many specific strategies that can be developed and incorporated on a daily basis, but the emphasis should be directed toward assessing, developing, integrating, and holding student interests as a means of adding personal meaning to school for students.

Choice. Choice was consistently scored the lowest by all groups of children of the four dimensions measured by My Class Activities; and, although there were no differences among gifted students from the various communities, this finding merits discussion. Choice is a powerful yet underused motivating factor for all students, especially those at the middle school level. Offering choices and autonomy as a means for increasing motivation is evident in the adolescent literature (Ames, 1992; Deci & Ryan, 1985; Eccles & Midgley, 1989), yet gifted students from all communities reported that they were only “sometimes” offered choices within their classrooms. The mean for this dimension of gifted rural middle school students was lowest of all at 2.69—less than “sometimes,” suggesting that care needs to be taken in rural middle schools not to reduce motivation and enjoyment in school by restricting choices. One simple way to increase student interest, enjoyment, and challenge in school might be offering choices within educational assignments—and these choices should not be trivial in nature (Currier, 1986). Other means of incorporating choice include offering students choices regarding with whom they work, what jobs they do when working in groups, and whether they work together or alone (Robinson, 1991). Autonomous behavior that is self-determined, freely chosen, and personally controlled elicits high task interest, creativity, cognitive flexibility, positive emotion, and persistence (Deci & Ryan, 1985). Thus, choice offered to students within educational activities may serve to enhance relevance, achievement, and belonging. Therefore, like interest and challenge, offering students choices should be a daily consideration in the planning of curriculum and instruction.

Summary. Rural schools have many strengths upon which to build, but they need to pay special attention to the needs of their gifted students who perceive less challenge, interest, and, in some cases, enjoyment than their urban and suburban peers. Concentration on meeting and developing student interests, incorporating challenge and choices in the curriculum, collaborating with other rural districts, and considering a variety of

programming options and then making an effort to offer students access to these programs are ways to help ensure that rural gifted students’ needs are met.

Limitations

This study sought to compare the attitudes of gifted students from rural, urban, and suburban areas. Data were collected from groups of students across the country. Although there are advantages to a large national sample, the sample limited the results of this study in several ways. Students included in the study as gifted were identified as such by their respective districts; therefore, the definition of giftedness varied across the districts. In many schools, gifted students surely existed who were not identified. In addition, findings at the middle school level must be interpreted with the reminder that there were so few urban students identified as gifted that they were not included in the statistical analyses. One is left to wonder how the urban gifted students might have compared with the rural and suburban gifted students and, given the similarities between some urban areas and rural areas, whether there might have been similar attitudes among students from these communities. Generalizability may be limited because the students in this sample may not be representative of students across the country. Additionally, because the data were collected after the fact, this study is subject to the common limitations of causal-comparative research such as history, differential selection, and lack of attribution of causality. This study allows for comparison and discussion of rural gifted students from the sample with their counterparts from urban and suburban areas and has added to the literature in this regard. Further study is warranted to determine if the findings in this study are consistent with findings from other samples. An area not addressed by this study was the difference in attitudes of students in content areas such as science, math, and technology. Considering the findings of this study and the issues facing rural education, further study is warranted to determine whether gifted students perceive that their interests in these areas are met with appropriate challenges. ¶

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