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ABSTRACT

The records of 1,231 preschool, elementary, and secondary student receiving special education services in a central Minnesota school district were evaluated to provide information on differences according to setting, classification, and level of service. Data were analyzed within the context of four broad domains: demographics (age, race, gender, socioeconomic status, residence, school setting, and grade), academic performance (reading achievement, math achievement, written language achievement, academic aptitude, and absenteeism), special education services (handicap classification and level of service), and family constellation information (parental status, siblings, paternal education, and maternal education). Differences between students enrolled in public and nonpublic settings were observed in each of the four domains. Students' records divided according to classification resulted in substantive differences in the areas of academic performance, special education services, and family constellation information. Data analyzed according to level of service resulted in substantive differences for demographic, academic, and special education service variables. (Includes 29 references.) (Author/JDD)

Characteristics of Students Receiving Special Education Services in a Central Minnesota School District According to Setting, Classification, and Level of Service

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Abstract

The records of 1,231 preschool, elementary, and secondary students receiving special education services in a central Minnesota school district were used to provide information on differences according to setting, classification, and level of service. All data were analyzed within the context of four broad domains: demographics, academic performance, special education services, and family constellation information. Differences between students enrolled in public and nonpublic settings were observed in each of the four domains. Students' records divided according to classification resulted in substantive differences in the areas of academic performance, special education services, and family constellation information. Data analyzed according to level of service resulted in substantive differences for demographic, academic, and special education service variables.

Characteristics of Students Receiving Special Education Services in a Central Minnesota School District According to Setting, Classification, and Level of Service

Students receive special education services for many different reasons. For some, it is because they have limitations that prevent them from competing adequately in the classroom. For others, it is because they are achieving well beyond that of most classmates. And for still others, it is because parents, teachers, or service providers see alternative forms of instruction as necessary for continued growth. Whatever the reason, the premise remains the same, to provide all students with the skills and abilities necessary to achieve in school. One way of assuring that all students receive a free and appropriate education in the least restrictive environment is through federally mandated guidelines. The Education for All Handicapped Children Act of 1975 (Public Law 94-142; Federal Register, 1977) and its newest amendment, the Education of the Handicapped Act Amendments of 1986 (Public Law 99-457; Federal Register, 1989) guarantee this right. Although the law is recognized by most educators as the guarantor of services to children with disabilities, a lesser known component of the law is one that requires agents of the United States Department of Education to evaluate these services and report the results to Congress on an annual basis.

The mechanism for evaluating these services is the active and ongoing child-count surveys conducted by the respective state agencies. Though the surveys provide Congress with a numerical picture of special education services across America, the surveys fall short of providing local educators with readily usable information on variables other than demographics. An overview of frequently used introductory special education texts such as Heward and Orlansky (1980), Kirk and Gallagher (1986), and Ysseldyke and Algozzine (1990) suggests that groups of students receiving special education services are often evaluated according to the most general of all indices (e.g., level of classification, level of service). Rarely, if ever, are students who receive special education services evaluated according to the type of school they attend or family background variables. This lack of information exists despite the fact that a sizeable percentage of students who participate in special education programs in the public schools are actually enrolled in nonpublic schools, and, as a result, are coming to the public schools with substantially different backgrounds and experiences. Investigators who fail to account for such differences may be overlooking a critical educational component.

Educators at the federal level are not the only ones who may take advantage of the annual child-count survey results. Interpreting child-count data in the context of major background variables such setting, classification, and level of service, also provides valuable information to state and local policy makers, as well. To the practicing educator, however, planning for changes in special education services requires more than mere frequency counts of demographic variables. Effective long-range planning also requires that state and local administrators evaluate their own population of students receiving special education services using supplementary indices of academic performance, indices that directly affect the type and range of services provided. For example, measures of academic aptitude and achievement, absenteeism, parental status, number of siblings, and parental level of education are just a few of the many indicators of probability for success in school. The challenge for educators, then, is to take advantage of local, state, and national child-count data bases and expand them to include the aforementioned variables, measures that may be useful in understanding the students who are being served as well as in preparing to meet the needs of a population of students whose demographics are changing daily.

The purpose of the present study was to describe a population of students receiving special education services in a central Minnesota school district according to three major background variables: setting, classification, and level of service, in the context of four broad but educationally-relevant domains: demographics, academic performance, special education services, and family constellation information.

Method

Participants

The records of 1,231 students 0 to 21 years of age (M = 10.41 years, SD = 4.00 years) were collected and used for this analysis. The data represent all students in the St. Cloud school system (ISD 742) included in the December 1, 1989 child-count survey. The District 742 school system is located in a community that is reported by school administrators to be a heterogeneous bedroom community of Minneapolis-St. Paul with three major universities, a population of approximately 40,000, and several large factories; yet the district has a characteristically rural influence. The population of special education students had proportionately more males (65%) than females (35%). The greatest percentage of students reported themselves as Caucasian (98%). Maternal level of education served as the measure of socioeconomic status (SES) with 40% of the students' mothers reporting a high school education, 16% reporting some college, and 7% reporting an educational level equal to or greater than a college degree. Because the study is descriptive in nature, all additional references to this particular population of special education students are contained in the results/discussion section of this report.

Instruments

Data used for this analysis came primarily from existing records. Two very brief questionnaires were used to solicit categorical information from parents and teachers/casemanagers (see Appendices A and B). Table 1 contains a description of all measures used in the study.

Table 1
Description of Measures

Variable	Description
Demographic information	
Age	Student's age in years as of September 1, 1989.
Race	Student's primary racial identification (1 = Asian, 2 = Black, 3 = Hispanic, 4 = Middle Eastern, 5 = Native American, 6 = Caucasian).
Gender	Gender of student (1 = male, 2 = female).
SES	Measure of student's socio-economic status based on maternal education (years of school mother completed).
Residence	Area of residence (1 = rural, 2 = urban).
School setting	Type of school attended by student (1 = public, 2 = nonpublic).
Grade	Student's grade in school (preschool, kindergarten, grade 1 through grade 12).
Academic performance	
Reading achievement	Student's most current reading achievement standard score on the Woodcock-Johnson Psycho-Educational Battery (W/J).

Note. Table 1 continued on following page.

Table 1 Continued
Description of Measures

Variable	Description
Math achievement	Student's most current math achievement standard score on the W/J.
Written language achievement	Student's most current written language achievement standard score on the W/J.
Academic aptitude	Student's most current scholastic aptitude standard score (1 = WPPSI, WISC-R, WAIS-R, 2 = Stanford-Binet, 3 = Woodcock-Johnson, 4 = Kaufman Assessment Battery for Children).
Absenteeism	Total number of days student was absent from school during the first 3 quarters (September 5, 1989 through March 30, 1990).
Special education services	
Classification	Primary handicap of student (0 = other health impaired, 1 = developmentally delayed, 2 = learning disabled, 3 = educably mentally handicapped, 4 = trainably mentally handicapped, 5 = communication disordered, 6 = hearing impaired, 7 = vision impaired, 8 = emotionally behaviorally disordered, 9 = physically handicapped).
Level of service	Level or amount of special education service provided to student in area of primary handicap (2 = consultative to teacher or parent, 3 = direct service less than half-time, 4 = direct service, half-time or more but less than full time, 5 = full time direct service, 6 = full time direct service in a separate (day-treatment or residential setting).
Family constellation information	
Parental status	Status of parent(s) with whom student lives (1 = single, 2 = married, 3 = separated/divorced, 4 = widowed, 5 = living with significant other).
Siblings	Total number of preschool and school-aged (kindergarten through grade 12) siblings in student's family.
Paternal education	Total number of years of school completed by student's father.
Maternal education	Total number of years of school completed by student's mother.

Procedures

Data were collected using four different techniques. First, a comprehensive data base used solely for special education purposes was used as the principal source of information. Second, ID numbers were used

to link the special education data base with the district-wide data base to obtain additional information on age, gender, residence, number of school-age siblings, and number of daily absences. Third, a team of three Research & Development Compliance Assistants on staff and working with the Special Education Department was employed to obtain family constellation information (viz., parental education, parental occupation, parental status) from the student's cumulative folders, information that was not readily available from the two aforementioned data bases. All three Compliance Assistants were bachelor's level employees and received instruction and supervision on this task. Fourth, a letter was sent to teachers and casemanagers requesting information on racial affiliation. All data were collected from March through May 1990. Treatment of records was in keeping with American Psychological Association ethical guidelines. See Appendices C and D for examples of correspondence with school administrative personnel.

Data Analysis

All data were analyzed using SYSTAT statistical software (Version 4.1; Wilkinson, 1988) and an IBM XT 286 personal computer. Mean and standard deviation values were used to describe interval level data (e.g., aptitude and achievement test scores, length of service); frequencies and percentages were used to describe ordinal or categorical data. One-way and two-way frequency tables were used to describe trends for the population as a whole and according to the three principal background variables listed previously. Not all percentages equaled 100 due to rounding error. Additionally, there are instances and columns where a single value may have more than one percentage associated with it (1 = 4% and/or 1 = 5%); this adjustment was necessary to prevent repetitive rounding bias in one direction or the other.

Results/Discussion

The purpose of this study was to describe the population of District 742 students receiving special education services using academic and academically-related indices. Recommendations on the part of the reviewing committee and suggestions made by the investigative team broadened the scope of the study from simple demographics to a multitude of other measures. Although the report was not designed to be comprehensive, it was designed to include a number of characteristics that have not been reported elsewhere, for students in general or for special eduction students in particular. All data were analyzed for the population of students receiving special education services as a whole and according to the three comparisons as outlined in the prospectus: setting (nonpublic-public), classification (primary handicap), and level of service (II through VI). All data are presented within the context of four broad domains: demographics, academic performance, special education services, and family constellation information.

Population Characteristics

Demographics. In general, the population of students receiving special education services in District 742 appeared to be a relatively heterogeneous group. There was, however, one major exception in that 98% of the population was reported to be Caucasian. Only Blacks were represented in enough numbers to constitute a whole number percentage (1); all others (Asian, Hispanic, Middle Eastern, Native American) combined totalled less than 1%. The breakdown of males to females, while far from the 50/50 breakdown characteristic of the general school-age population, is consistent with Ysseldyke and Algozzine's (1990) finding that males outnumber females in special education programs nationwide by a ratio of nearly 2:1. Not surprisingly, the average special education student was in fifth grade and 10.41 years of age (SD = 4.00); 77% of the students were between the ages of 6 and 16; 17% were younger than age 7 and 6% were older than age 16. Maternal education values for students enrolled in special education programs were as follows: 8% reported 11 or fewer years of formal education (low-SES), 56% reported 12 to 15 years of formal education (middle-SES), and 7% reported 16 or more years of formal education (high-SES); maternal education was not available for 29% of the population. Efforts to describe the general school population as primarily urban with a decidedly rural component was confirmed for the population of special education students as 64% of all children were reported to be from neighborhoods in or immediately around the city of St. Cloud (hereafter referred to as urban neighborhoods); 35% were from neighborhoods well-beyond the city limits (hereafter referred to as rural neighborhoods); residence data were unavailable for 1% of the

Table 2
Descriptive Statistics for District 742 Special Education Population

Variable	*n*	Percentage of Population
Age (in years)		
0 to 2	27	2
3 to 4	74	6
5 to 6	115	9
7 to 8	182	15
9 to 10	232	19
11 to 12	215	18
13 to 14	178	15
15 to 16	127	10
17 to 18	67	5
19 ≤	14	1
Race		
Asian	6	*
Black	7	1
Caucasian	1208	98
Hispanic	5	*
Middle Eastern	2	*
Native American	3	*
Gender		
Female	426	35
Male	805	65
Maternal education		
Low	94	8
Medium	690	56
High	90	7
Unreported	357	29
Residence		
Rural	432	35
Urban	782	64
Unreported	17	1
School status		
Public	1160	94
Nonpublic	71	6

Note. n = 1231. Maternal education has three levels: low (≤ 11 years), medium (12 to 15 years/high school diploma), and high (16 ≤ years/college degree). * ≤ .05.

population. The majority (94.2%) of special education students were enrolled in one of the District's 17 public schools; 5.8% of the population were enrolled in one of the district's 14 nonpublic schools. This particular breakdown deviates somewhat from the 88% (public)-12% (nonpublic) breakdown of schools

reported nationwide (National Center for Education Statistics, 1989). See Tables 2 and 3 for a more complete breakdown of District 742 special education population characteristics.

Table 3
Grade Distribution for District 742 Special Education Population

Grade	*n*	Percentage of Population
Preschool	142	11.5
Kindergarten	61	5.0
Grade 1	65	5.3
Grade 2	92	7.5
Grade 3	133	10.8
Grade 4	107	8.7
Grade 5	114	9.3
Grade 6	121	9.8
Grade 7	96	7.8
Grade 8	78	6.3
Grade 9	65	5.3
Grade 10	63	5.1
Grade 11	51	4.1
Grade 12	43	3.5

Note. n = 1231.

Academic performance. Consistent with the notion of lowered levels of academic aptitude and achievement, this particular population scored on average 1- to 1½-standard deviations lower than the normative population on traditional measures of academic aptitude (cf. Kaufman & Kaufman, 1983; Thorndike, Hagen, & Sattler, 1986; Wechsler, 1974; McGrew, Werder, & Woodcock, 1989) and achievement (cf. Kaufman & Kaufman, 1985; McGrew, Werder, & Woodcock, 1989). Performance on measures of reading achievement (M = 82.64, SD = 12.55), math achievement (M = 84.46, SD = 17.53), and written language achievement (M = 83.24, SD = 12.36) were consistent with performance on measures of overall aptitude (M = 87.95, SD = 14.60). Though the relationships between absenteeism and measures of academic performance are less clear than between indices of achievement and aptitude, number of absences remains a useful index of probability for success in school (cf. Bruininks, Thurlow, Lewis, & Larson, 1988). This population of students was absent from school an average of 6.11 days (SD = 6.95 days) during the first three quarters of the academic year, a value well above the average value (M = 4.31 days, SD = 5.47 days) for all students district-wide.

Special education services. Consistent with the overall mission of special education and as required by Public Law 94-142, services are required to meet the needs of each student individually, regardless of handicap. Programmatically, however, the needs of all students with exceptionalities are organized into one of 10 different categories at the district level. High-incidence programs such as communication disordered (CD), emotionally/behaviorally disordered (E/BD), learning disabled (LD), and mentally retarded (MR), comprised the largest single percentage (82.4%) of the District's special education population. Low-incidence programs such as hearing impaired (HI), other health impaired (OHI), physically impaired (PI), and visually impaired (VI) comprised another 5.2% while the noncategorical preschool classification of developmentally delayed (DD) was reported as the primary classification for 12.3% of the special education

Table 4
Incidence Comparisons for Classification

Classification	District 742	State of Minnesota	Nation
Communication Disordered	15.4	20.4	21.4
Developmentally Delayed	12.3	7.8	8.2
Emotional/Behavioral Disordered	7.6	13.9	8.4
Hearing Impaired	1.8	1.3	1.2
Learning Disabled	43.0	40.1	43.4
Mentally Retarded	16.7	12.7	13.1
Other Health Impaired	.8	.6	1.0
Physically Impaired	2.1	1.6	1.0
Visually Impaired	.5	.4	.5

Note. All State of Minnesota values are taken from *Special Education Unduplicated Child Count* (Minnesota State Department of Education, 1990). All national figures were taken from the *Digest of Education Statistics 1989* (National Center for Education Statistics, 1989, p. 59).

population. This particular breakdown of District 742 students was consistent with those of other districts across the state and nation (see Table 4). Comparative indices for level of service were also fairly consistent with state and national values. For example, Level III services (less than ½ day) were provided to 54.9% of the special education population, more than any other single level of service. The breakdown of other service levels are as follows: Level II (consultative, 16%), Level IV (½ day or more, 14.4%), Level V (full-time, 13.2%), and Level VI (residential/day treatment, 1.5%). State of Minnesota values, which represent settings where special education services are delivered, provided the closest approximation to level of service data for comparative purposes. Comparisons revealed no differing interpretations whether the values for the state were contrasted with District 742 level of service or setting data (see Table 5).

Table 5
Incidence Comparisons for Level of Service

Level of service		District 742	State of Minnesota
II	Regular classroom with consultation, full-time	16.0	12.6
III	Direct service, less than half-time	54.9	61.5
IV	Direct service, half-time or more	14.4	10.4
V	Direct service, full-time	13.2	13.9
VI	Residential/Day treatment	1.5	1.2

Note. All State of Minnesota values are taken from *Special Education Unduplicated Child Count* (Minnesota State Department of Education, 1990). State of Minnesota values represent the percentage of students with handicaps in various settings defined as follows: II = regular classroom/full-time, III = regular classroom > half-time, IV = separate classroom > half-time, V = separate classroom/full-time, VI = residential.

Family constellation information. Four variables were used to describe this domain, all of which were believed by the investigative team t › influence the children's academic performance. Nearly two-thirds (64.7%) of the population were reported to have parents who were married; 2.8% had parents who were single, 13.6% separated/divorced, 1.9% widowed, and .9% living with a significant other. Parental status information was not available for 16.1% of the population. Small families, or children from families with one or two school-age siblings appeared to be the norm: 21% of the students reported no school-age siblings, 53% reported one or two siblings, and only 12.6% of the population reported three or more school-age siblings. Parental education, though considered by many to be primarily a measure of SES, is also a useful indicator of level of academic involvement at home (Bauch, 1988). Father's level of education (M = 12.79 years, SD = 2.47 years) was found to be higher than mother's level of education (M = 12.57 years, SD = 1.82 years), but the two did not not appear to be different enough to be of any real consequence. See Table 6 for a breakdown of parental education information.

Table 6
Parental Education Distributions for District 742 Special Education Population

Years of formal education	Mother		Father	
	n	%	*n*	%
1 to 8	17	1.4	34	2.8
9 to 11	77	6.3	79	6.4
High-school diploma (12)	492	40.0	376	30.5
13 to 15	198	16.1	174	14.1
College degree (16)	71	5.8	62	5.0
17≤	19	1.5	53	4.3
Unreported	357	29.0	453	36.8

Comparisons According to Setting

Much has been written on the merits of public versus nonpublic schooling in America. Unfortunately, that which has been written has been limited primarily to qualitative essays (position papers, reviews of literature, case studies), studies using only secondary and post-secondary students, and students outside of traditional special education programs. Very few, if any, studies have resulted in direct comparisons between public and nonpublic students enrolled in special education programs. This deficit exists despite the fact that 12% of all American school children were likely to be enrolled in nonpublic schools as recently as 1989 (National Center for Education Statistics, date not reported, cited in Bingham, 1989), the economic benefits to all taxpayers of educating children in nonpublic schools, and the needs of families with children who have handicaps to pursue their own form of education without regard to exceptionality.

Demographics. Of the 13,346 preschool, elementary, and secondary students in the St. Cloud area, 10,866 (81%) were enrolled in public schools; 2,480 (19%) were enrolled in nonpublic schools. Although there are nearly as many nonpublic schools (n = 14) as public schools (n = 17) in the St. Cloud area, 11 of the 14 nonpublic schools are Catholic schools, giving the nonpublic school sample a very Catholic influence. Further, 66 of the 71 (93%) children from nonpublic schools receiving special education services in the public schools are enrolled in Catholic schools, giving the nonpublic special education sample a more homogeneous makeup. When compared with the public (88%)-nonpublic (12%) breakdown for all schools nationwide (cited previously), or the 90% (public)-10% (nonpublic) breakdown for all schools in the state of Minnesota (Minnesota State Department of Education, 1990), one may surmise that parents of children in the St. Cloud area are indeed exercising their freedom to pursue alternatives to public education. But, when one considers

the number and percentage of students enrolled in special education programs, a different picture emerges. A much smaller percentage of students from nonpublic schools (2.9%) are actually receiving special education services than students from public schools (9.5%), values that are highly consistent with those from other districts across the state (Minnesota State Department of Education, 1990).

Table 7
Demographic Information According to Setting

Variable	Public		Nonpublic	
	n	%	*n*	%
Race				
Asian	6	*		
Black	7	1		
Caucasian	1137	98	71	100
Hispanic	5	*		
Middle Eastern	2	*		
Native American	3	*		
Gender				
Female	403	35	23	32
Male	757	65	48	68
Maternal education				
Low	94	8		
Medium	676	58	14	20
High	86	7	4	6
Unreported	304	26	53	75
Residence				
Rural	406	35	26	37
Urban	739	64	43	61
Unreported	15	1	2	3
Grade				
Preschool	142	12	3	4
Kindergarten	52	4	9	13
Grade 1	57	5	8	11
Grade 2	85	7	7	10
Grade 3	119	10	14	20
Grade 4	100	9	7	10
Grade 5	107	9	7	10
Grade 6	113	10	8	11
Grade 7	91	8	5	7
Grade 8	77	7	1	1
Grade 9	63	5	2	3
Grade 10	60	5		
Grade 11	51	4		
Grade 12	43	4		

Note. Public n = 1160, Nonpublic n = 71. Maternal education has three levels: low (≤ 11 years), medium (12 to 15 years/high school diploma), and high (16 ≤ years/college degree). * ≤ .05.

It has been reported that children who attend public schools differ from children who attend nonpublic schools in many respects (Education Commission of the States, 1981). The finding appears to hold for this population of special education students, as well. For example, children enrolled in public schools were on average one year older (M = 10.47 years, SD = 4.06 years) than children enrolled in nonpublic schools (M = 9.47 years, SD = 2.76 years). In addition, there were no 10th, 11th, or 12th grade students from nonpublic schools receiving special education services. Third, the sample of students from nonpublic schools receiving special education services contained no racial minorities. Though there may not be much difference between 1.8% (public) and 0.0% (nonpublic) in a practical sense, in an absolute sense it means that unless these children travel to schools where minority children are enrolled, or pursue activities away from school which involve minority children, they may never come in contact with children whose race is different from their own. The absence of minority students for both groups stands in sharp contrast to the nationwide average of 19% for all public schools and 23% of all Catholic schools nationwide (Bingham, 1989; National Center for Education Statistics, 1989, page 21). Concerning SES, mothers of children in nonpublic schools reported higher levels of formal education (M = 13.28 years, SD = 1.67 years) than mothers of children in public schools (M = 12.56 years, SD = 1.82 years). This compares favorably with findings generated from the National Assessment of Educational Progress study in which parents of children from nonpublic schools were more likely to have (a) higher levels of formal education and (b) residences in advantaged neighborhoods than parents of children in public schools (Education Commission of the States, 1981). The two groups were nearly identical in terms of gender and area of residence. See Tables 7 and 8 for a more compiete listing of demographic information according to setting.

Table 8
Gender and Residence According to Setting

	Gender		Residence		
Setting	Male	Female	Urban	Rural	NR
Public	65.3	34.7	63.7	35.0	1.3
Nonpublic	67.6	32.4	60.6	36.6	2.8

Note. NR = unreported.

Academic performance. No studies examining differences between students in public and nonpublic schools who were receiving special education services were located. There is, however, a body of literature comparing students in public and nonpublic settings overall. Coleman, Hoffer, and Kilgore (1982) reported that nonpublic high schools in general and Catholic high schools in particular produced better cognitive outcomes in their students than public high schools. Studies conducted using the National Assessment of Educational Progress data sets with nationally-representative samples of elementary and secondary students have produced results similar to those identified for secondary students (Education Commission of the States, 1981; Lee, 1985, 1987 cited in Bingham, 1989). While the debate is far from over and researchers continue to line up on both sides of the issue (e.g., Hallinan, 1982, 1985 [special issues]), there appears to be common ground, that minority children enrolled in nonpublic school settings consistently outperform minority children in public school settings. Although there were no minority students with which to make comparisons in this study, students from nonpublic schools outperformed students from public schools on all measures of academic aptitude and achievement by an average of ⅛- to ½-standard deviation (see Table 9). Another and perhaps the most striking difference between the two groups pertains to school absences. Public school students enrolled in special education programs were absent on average 6.51 days (SD = 7.00 days) during the first three quarters of the school year as compared with 3.61 days (SD = 3.87 days) for the nonpublic school sample. Keith and Page (1985) raised the possibility that it is the more stringent curriculum that allows children from Catholic schools to do better than children from public schools on

Table 9
Academic Performance According to Setting

Setting	n	Reading Achievement M	Reading Achievement SD	Math Achievement M	Math Achievement SD	Written Language Achievement M	Written Language Achievement SD	n	Academic Aptitude M	Academic Aptitude SD
Public	721	82.46	12.49	84.29	17.49	82.97	12.31	692	87.65	14.58
Nonpublic	29	87.10	13.49	88.90	18.37	90.07	11.84	29	94.07	17.24

standardized achievement tests. Another explanation is also tenable--that school attendance makes a difference. Those who attend school learn a greater percentage of the material than those who do not.

Special education services. As expected, and based on statistics for the entire population of special education students reported previously, public school children enrolled in special education programs appeared to be representative of state and national figures (reported in Table 4). That is not the case for the sample of students from nonpublic schools where there was no evidence of students with moderate to severe handicaps (see Table 10). The relationship is not surprising, given the length of daily service, number of personnel required for provision of services, and the number of curriculum modifications required for effective instruction. Nonpublic schools may not have the personnel or the resources to provide such services. In short, all students from nonpublic schools were receiving one of two types of service, Level II (consultation, 32%) or Level III (less than ½ day, 68%) (see Table 10). A self-selection process is one

Table 10
Special Education Services According to Setting

Variable	Public n	Public %	Nonpublic n	Nonpublic %
Classification				
Communication Disordered	156	13	33	46
Developmentally Delayed	145	12	6	8
Educably Mentally Handicapped	144	12	2	3
Emotionally/Behaviorally Disordered	94	8		
Hearing Impaired	21	2	1	1
Learning Disabled	501	43	27	38
Other Health Impaired	9	1	1	1
Physically Handicapped	26	2		
Trainably Mentally Handicapped	59	5		
Vision Impaired	5	*	1	1
Level of Service				
II Regular classroom with consultation, full-time	174	15	23	32
III Direct service, less than half-time	628	54	48	68
IV Direct service, more than half-time	177	15		
V Direct service, full-time	162	14		
VI Residential/Day treatment	19	2		

Note. * ≤ .05.

possible explanation for this dichotomy. That is, parents of children with moderate to severe exceptionalities are more likely to become involved with personnel from public schools at an earlier age, and, therefore, opt for enrollment in the setting with which they are most familiar, the local public school system. Equally likely is the possibility that as a child proceeds through school and the number and length of services increase, the parents (or student and parents) may opt for transferring to the public school rather than struggle with the problems of travelling back and forth between two settings.

Family constellation information. The two samples are only moderately different for this domain. All levels of parental status were represented in the sample of students attending public schools but not in the sample of students attending nonpublic schools. The two responses most prone to social mores, single parenthood and living with a significant other, were not observed in the nonpublic school sample (see Table 11). The likelihood that responses for these categories were present but not reported is diminished by the fact that only 7% of the responses for students attending nonpublic school were unreported, a figure 10% lower than that for public school students. The single greatest response for both samples, married, was reported for 64% of the public school sample and 82% of the nonpublic school sample, a finding that may well be influenced by the relatively high percentage of Catholics in the nonpublic schools and the Church's strong preference for traditional family units. Number of school-age siblings produced only slightly higher values for students from nonpublic schools (M = 1.91, SD = 1.31) than for students from public schools (M = 1.32, SD = 1.13). Although the difference points in the direction of slightly larger families for students from nonpublic schools, the difference is so small as to make further speculation highly tenuous (see Table 11). The third and final set of variables examined in this domain, parental education, produced an interesting pattern of results. Not only did both sets of fathers have higher levels of formal education than both sets of mothers, but parents of students enrolled in nonpublic schools had higher levels of formal education than parents of students enrolled in public schools (see Table 12). These findings are consistent

Table 11
Family Constellation Information According to Setting

Variable	Public		Nonpublic	
	n	%	*n*	%
Parental status				
Single	35	3		
Married	739	64	58	82
Separated/Divorced	163	14	4	6
Widowed	19	2	4	6
Living with significant other	11	1		
Unreported	193	17	5	7
Number of school-age siblings				
0	252	22	6	8
1	374	32	19	27
2	242	21	15	21
3	98	8	14	20
4	28	2	2	3
5	8	1	1	1
6 ≤	4	*	1	1
Unreported	154	13	13	18

Note. * ≤ .05.

with those of other studies in which relationships were found among indices of parental education, parental involvement in their children's schooling, and children's academic achievement (Bauch, 1988; Education Commission of the States, 1981).

Table 12
Parental Education According to Setting

Setting	Mother			Father		
	n	*M*	*SD*	*n*	*M*	*SD*
Public	856	12.56	1.82	761	12.77	2.47
Nonpublic	18	13.28	1.67	17	14.00	2.15

Comparisons According to Classification

Classifying children who are in need of special education services remains a difficult task for educators. Even more difficult is the task of providing each child with an Individualized Education Plan (IEP) within the context of national, state, and district criteria. For provision of services most state and local agencies have organized special education programs to meet the needs of children with the following handicaps and as mandated in Public Law 94-142: Deaf, Deaf-Blind, Hard of Hearing, Mentally Retarded, Multihandicapped, Orthopedically Impaired, Other Health Impaired, Seriously Emotionally Disturbed, Specific Learning Disability, Speech Impaired, and Visually Handicapped. Just as it is important to understand how one handicap varies from another, it is also important to understand how students within each category vary from one to another. For purposes of this study, all District 742 students receiving special education services were divided into one of ten categories based on their primary handicap; students were not assigned to more than one category.

Demographics. Not all students are identified at the same point in life. It is, however, a commonly accepted belief that certain exceptionalities are much more common at certain stages of life than at others. The mean ages of students in each of the various categories ranged from a low of 3.34 years (SD = 1.61 years) for students classified as developmentally delayed to a high of 12.42 years (SD = 2.84 years) for students classified as emotionally/behaviorally disordered. Ysseldyke and Algozzine (1990) have reported on research which has established a relationship between age, gender, and the presence of an E/BD classification. Racially, very little information was accessible beyond that already described for the population in general. With so few minority students, it was virtually impossible to identify any trends across classification. Only one category, developmentally delayed, had representation from each of the minority affiliations present in the population of all special education students. In terms of SES, one finding emerged above all others, that high-SES (7.1%) families were as likely to have children with exceptionalities as low-SES families (7.3%) (see Table 13). Two distributions also emerged as noteworthy, communication disordered and educably mentally handicapped. In the case of those classified as communication disordered, students were three times more likely to come from high-SES families as from low-SES families. For children classified as educably mentally handicapped the opposite was true, students were three times as likely to come from low-SES families as from high-SES families. Concerning gender, most exceptionalities approximated the 2:1 ratio favoring males cited previously. But, discrepant values were obtained for two classifications, emotionally/behaviorally disordered and educably mentally handicapped, where the approximate ratios were 5:1 and 1:1, respectively. There was a greater percentage of students receiving special education services from rural neighborhoods than from urban neighborhoods for some classifications. Where one might expect a 2:1 ratio in favor of children from urban neighborhoods (based on population characteristics reported in Table 2), that was not the case for a substantial portion of the sample. For

example, the nearly 2:1 favoring students from urban neighborhoods was found to be equalled or exceeded in four of the 10 classifications (DD, EMH, E/BD, and TMH), with the EMH and TMH classifications showing the highest urban versus rural ratio (3:1 and 4:1 respectively). All others demonstrated ratios which were less than 2:1. The breakdown of students in public and nonpublic settings according to classification was reviewed in the previous section. See Tables 13 and 14 for a more complete breakdown of demographic characteristics according to classification.

Table 13
Demographic Information According to Classification

Variable	Classification										
	CD	DD	EMH	E/BD	HI	OHI	PI	LD	TMH	VI	Total
Race											
Asian	2	1						3			6
Black		1		1	1			4			7
Caucasian	187	146	142	93	20	10	26	519	59	6	1208
Hispanic		1	3		1			1			6
Middle-Eastern		1									1
Native-American		1	1					1			3
Maternal education											
Low	6	13	17	6	1		1	49		1	94
Medium	112	51	78	35	12	7	14	341	37	3	690
High	19	6	5	8	2	1	4	41	3	1	90
Unreported	52	81	46	45	7	2	7	97	19	1	357
Gender											
Female	71	59	73	17	9	3	11	161	18	4	426
Male	118	92	73	77	13	7	15	367	41	2	805
Residence											
Rural	76	48	36	24	8		10	215	12	3	432
Urban	111	99	109	64	13	10	16	311	46	3	782
Unreported	2	4	1	6	1			2	1		17
Setting											
Nonpublic	33	6	2		1	1		27		1	71
Public	156	145	144	94	21	9	26	501	59	5	1160

Note. Maternal education has three levels: low (≤ 11 years), medium (12 to 15 years/high school diploma), and high (16 ≤ years/college degree). CD = Communication Disordered. DD = Developmentally Delayed. EMH = Educably Mentally Handicapped. E/BD = Emotionally/Behaviorally Disordered. HI = Hearing Impaired. LD = Learning Disabled. OHI = Other Health Impaired. PH = Physically Handicapped. TMH = Trainably Mentally Handicapped. VI = Vision Impaired.

Table 14
Grade Distribution According to Classification

Grade	Classification										
	CD	DD	EMH	E/BD	HI	OHI	PI	LD	TMH	VI	Total
Preschool	15	111	1	1	6				8		142
Kindergarten	10	34	3	1	2	1	3	2	5		61
Grade 1	19	6	8	1	1	1	4	17	6	2	65
Grade 2	26		10	5			3	43	4	1	92
Grade 3	47		22	4	1	1	4	52	2		133
Grade 4	17		11	8	2		2	65	2		107
Grade 5	23		16	7	3			63	2		114
Grade 6	11		11	22	4	1	1	68	3		121
Grade 7	8		17	12		1	1	53	3	1	96
Grade 8	6		14	8	1	1	4	43	1		78
Grade 9	3		9	10		2	1	36	4		65
Grade 10	3		9	9		1		36	5		63
Grade 11	1		7	3	1	1	1	26	10	1	51
Grade 12			8	3	1		2	24	4	1	43

Note. CD = Communication Disordered. DD = Developmentally Delayed. EMH = Educably Mentally Handicapped. E/BD = Emotionally/Behaviorally Disordered. HI = Hearing Impaired. LD = Learning Disabled. OHI = Other Health Impaired. PH = Physically Handicapped. TMH = Trainably Mentally Handicapped. VI = Vision Impaired.

Academic performance. Qualifying criteria for many exceptionalities includes measures of both achievement and aptitude. Although placement decisions are not based on test scores alone, they are important components of the assessment process. When considering students across classification only, and as reported in Table 15, students classified as communication disordered, emotionally/behaviorally disordered, and hearing impaired were the only ones to score in the Average range across all three measures of achievement (*Mdn* = 92.25) and aptitude (*Mdn* = 93.85). Students classified as developmentally delayed and trainably mentally handicapped had reading achievement scores in the Well Below Average and Lower Extreme regions, respectively; all others can fairly be described as scoring in the Below Average range. The pattern for math achievement scores was similar to that of reading achievement scores with two major exceptions, students classified as hearing impaired performed in excess of ½-standard deviation better than in reading achievement; students classified as educably mentally handicapped scored ½-standard deviation worse. Math achievement scores for students classified as trainably mentally handicapped were not available. Mean scores across classification for written language achievement were higher overall than for reading achievement or math achievement (see Table 15). Only one group, those classified as trainably mentally handicapped, had a mean score lower than -2 standard deviations from the general population mean of 100. The distribution of aptitude scores across classification was very similar to those for measures of achievement. Five of the ten groups (50%) had mean scores in the Average range, three were in the Below Average range (DD, OHI, PH), and one in the Well Below Average range (TMH). Performance for the three groups with definitional requirements for placement (i.e., LD, EMH, TMH) were consistent with state and local guidelines. The range of values for number of absences was also consistent across category. That is, only one group did not have a mean absence value between 5.50 and 7.80 for the first three quarters of the school year, communication disordered, for whom the average student was absent 3.80 days (*SD* = 4.82 days).

Table 15
Academic Performance According to Classification

Classification	*n*	Reading Achievement *M*	Reading Achievement *SD*	Math Achievement *M*	Math Achievement *SD*	Written Language Achievement *M*	Written Language Achievement *SD*	*n*	Academic Aptitude *M*	Academic Aptitude *SD*
CD	36	93.39	11.84	94.39	12.90	92.25	10.38	33	93.85	11.87
DD	3	67.00	10.82	63.33	4.04	69.67	7.64	3	80.33	12.01
EMH	128	75.01	11.79	67.78	16.55	75.35	12.63	126	70.71	9.55
E/BD	70	91.01	13.99	90.20	17.41	89.66	15.79	63	91.68	13.36
HI	3	91.33	18.77	99.67	25.32	99.33	18.15	9	99.22	20.53
LD	480	82.84	10.34	88.19	13.46	83.91	9.33	459	92.32	11.22
OHI	7	88.57	18.98	85.43	15.99	91.86	13.79	6	80.50	9.03
PH	16	82.56	17.97	77.94	17.48	84.94	13.53	15	85.33	11.85
TMH	4	53.00	19.54			34.00	12.03	6	37.17	2.86
VI	2	88.50	7.78	84.50	14.85	99.00	12.73	1	100.00	0.00

Note. CD = Communication Disordered. DD = Developmentally Delayed. EMH = Educably Mentally Handicapped. E/BD = Emotionally/Behaviorally Disordered. HI = Hearing Impaired. LD = Learning Disabled. OHI = Other Health Impaired. PH = Physically Handicapped. TMH = Trainably Mentally Handicapped. VI = Vision Impaired.

Special education services. See the special education services section of Level of Service for a more complete description of variables as they relate to this domain.

Family constellation information. Much has been written on unique needs of families with children enrolled in special education programs (cf. Dyson, Edgar, & Crnic, 1989; Bradley, Rock, Caldwell, & Birby, 1989). Analysis of parental status information provided very little information beyond that reported for the population of all children receiving special education services. The greatest percentage of children with disabilities came from families with parents who were married (*Mdn* = 61%); responses for parents who were single, separated/divorced, widowed, or living with a significant other rarely exceeded 15%. The only group for which responses deviated slightly were for students classified as emotionally/behaviorally disordered. The percentage of parents reported to be married (32%) and separated/divorced (19%) was lower and higher than for all other classifications, respectively. However, with an unreported response rate of nearly 40% it is difficult to generalize beyond these data (see Table 16). The values for school-age siblings across classification were consistent with one another and with the population value. All values were between .91 (E/BD) and 1.59 (DD) suggesting relatively small families overall. Parental education values were aggregated across parent for each classification (see Table 17). No parental education mean values fell below the 12th grade level for any group; parental education values for five of the classifications were above 13 years. Those with the highest mean levels of parental eduction were for children classified as physically handicapped (*M* = 13.86 years, *SD* = 2.60 years) and communication disordered (*M* = 13.32 years, *SD* = 2.06 years). Those with the lowest levels of parental education were for students classified as educably mentally handicapped (*M* = 12.02 years, *SD* = 1.90 years) and developmentally delayed (*M* = 12.14 years, *SD* = 1.96 years), respectively (see Table 17).

Table 16
Family Constellation Information According to Classification

Level of Service	Classification CD	DD	EMH	E/BD	HI	OHI	PI	LD	TMH	VI	Total
Parental status											
Single	1	8	3	3	2	1	2	14	1		35
Married	149	84	96	32	13	6	15	365	32	5	797
Separated/divorced	12	22	22	18	1	3	4	76	9		167
Widowed	3	2	3	4				10	1		23
Living with significant other		8	2						1		11
Unreported	24	27	20	37	6		5	63	15	1	198
Number of school-age siblings											
0	18	19	42	29	4	2	7	114	23		258
1	55	34	44	28	4	4	11	194	14	5	393
2	51	24	39	8	5		3	118	9		257
3	20	6	11	2	1	3	3	59	6	1	112
4	5	10	2	1	1			11			30
5	1	1		2				5			9
6 ≤		1						4			5
Unreported	39	56	8	24	7	1	2	23	7		167

Note. CD = Communication Disordered. DD = Developmentally Delayed. EMH = Educably Mentally Handicapped. E/BD = Emotionally/Behaviorally Disordered. HI = Hearing Impaired. LD = Learning Disabled. OHI = Other Health Impaired. PH = Physically Handicapped. TMH = Trainably Mentally Handicapped. VI = Vision Impaired.

Table 17
Parental Education According to Classification

Classification	Mother *M*	*SD*	Father *M*	*SD*	Combined *M*	*SD*
Communication Disordered	12.97	1.69	13.67	2.42	13.32	2.06
Developmentally Delayed	12.20	1.64	12.09	2.28	12.14	1.96
Educably Mentally Handicapped	11.98	1.75	12.05	2.04	12.02	1.90
Emotionally/Behaviorally Disordered	12.98	1.86	13.26	3.25	13.12	2.56
Hearing Impaired	13.00	1.65	12.62	1.50	12.81	1.58
Learning Disabled	12.48	1.86	12.64	2.35	12.56	2.10
Other Health Impaired	12.62	1.41	13.25	2.66	12.94	2.04
Physically Handicapped	13.79	2.28	13.94	2.44	13.86	2.60
Trainably Mentally Handicapped	13.02	1.51	13.06	3.30	13.04	2.40
Visually Impaired	12.40	1.86	13.26	3.25	13.12	2.56

Comparisons According to Level of Service

The issue of level of service concerns the longstanding question of how to most effectively and humanely educate student's with learning and/or behavioral problems. Special classes and schools became more common throughout public education following World War II (Skrtic, 1987). During the 1960s, questions regarding the effectiveness of these special classes and issues of civil rights came to the forefront of the debate over how these students should be educated (Dunn, 1968). This debate, culminated by the passage of Public Law 94-142 in 1975, introduced the principle of least restrictive environment and thereby mandated the provision of special education services to students with handicaps in ways that would minimize their displacement from mainstream educational settings. The effectiveness of special education programs continues to be challenged (Algozzine & Ysseldyke, 1983); however, Carlberg and Kavale (1980) have suggested that overall effectiveness has seldom been evaluated with respect to the type of special education services provided. While the present study is not designed to assess effectiveness issues as they relate to level of service, trends in demographic patterns may help answer the most basic question of all, "How do we best educate children with special needs?"

Demographics. Information gathered in this study suggests that the predominant model of service delivery is the resource room; 69% of all students with handicaps were served in this type of setting. Fifty-five percent of students spent less than half their school day in a resource room while 14% spent more than half the school day in a special education resource room. Sixteen percent of students spent the entire day in a regular classroom with consultative services while 13% spent all day in a separate classroom for students with handicaps. Only 1.5% were reported to be in a residential setting. These figures are consistent with data reported for the State of Minnesota as a whole. However, state of Minnesota values represent settings, which are defined differently from level of service. Comparisons revealed no differing interpretations whether contrasted with District 742 level of service or setting data (see Table 5).

Valid comparisons between race and level of service were difficult due to the limited number of minority students in the handicapped population (1.8%). Of the 23 minority students with handicaps, 11 (48%) were in regular classrooms for more than half the school day, 12 were in special classes more than half-time. In contrast, roughly 70% of Caucasian students with handicaps were in regular classrooms more than half the school day. The breakdown of males to females across level of service was consistent with the handicapped population in general (approximately a 2:1 ratio in favor of males) except for Level VI (residential/day treatment), where the ratio was closer to 3:1, also in favor of males. Data collected regarding maternal education (SES) were also generally consistent across level of service and for the broader population of students with handicaps. Two tendencies were noted but must be interpreted cautiously due to the relatively high number of respondents (29%) who failed to provide this information. Students from high-SES backgrounds were more likely to be served in regular classrooms (Level II) than students from low-SES backgrounds. Twenty-eight percent of high-SES students were served on a Level II (consultative) basis compared to 18% of low-SES students. Conversely, 28% of low-SES students spent more than half of the school day in special class settings compared to 13% of their high-SES peers. Trends in areas of residence were also consistent with the general population of special education students. Comparisons indicated that all students from nonpublic schools with handicaps were receiving Level II or Level III services (regular classroom more than half the school day). This is likely due to logistical problems associated with transporting students from nonpublic schools to public schools for special education services, which would presumably lead parents of students whose handicapping condition requires more extensive services to enroll that student in a public school. For a more complete breakdown of characteristics according to level of service, see Table 18.

Data regarding grade placement and level of service reveals that the majority of students receiving Level V (full-time special class) services are preschoolers (52.5%). Of the students with handicaps in grades 1 through 6, 88% are in regular classrooms more than half the school day (Level II or III) while 53% of students with handicaps in grades 7 through 12 are in regular classrooms more than half the school day. Of the 260 students who are receiving special education services for more than half of the school day

(Level IV, V, and VI), 72% are in grades 7 through 12. In contrast, students with handicaps in grades 7 through 12 make up only 38% of the population of students with handicaps in grades 1 through 12. While some of this difference can be accounted for by the fact that the communication disordered population is served exclusively on a Level II or III basis, and is made up predominantly of students in grades 1 through 6, removing this group from the grades 1 through 6 population still results in only 17% of students served at Levels IV, V, or VI in comparison to 47% of the sample of students in grades 7 through 12 (see Table 19). Further information beyond that gathered here is necessary to explain this discrepancy.

Table 18
Demographic Information According to Level of Service

	Level of Service									
	II		III		IV		V		VI	
Variable	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Race										
Asian			4	1	1	1	1	1		
Black			3	*	3	2	1	*		
Caucasian	197	100	665	98	170	96	157	97	19	100
Hispanic			3	*	2	1	1	1		
Middle-Eastern							1	*		
Native American			1	*	1	1	1	1		
Gender										
Female	64	32	233	34	67	38	57	35	5	26
Male	133	68	443	66	110	62	105	65	14	74
Maternal education										
1 to 8	1	*	11	2	5	3				
9 to 11	16	8	40	6	15	8	6	4		
High school diploma (12)	74	38	307	45	67	38	44	27		
13 to 15	33	17	116	17	20	11	28	17	1	5
College degree (16)	17	9	45	7	6	3	3	2		
17 ≤	8	4	8	1	1	1	2	1		
Unreported	48	24	149	22	63	36	79	49	18	95
Residence										
Rural	70		256	38	59	33	40	24	7	37
Urban	127		416	62	117	66	115	71	7	37
Unreported			4	1	1	1	7	4	5	26
Setting										
Nonpublic	23		48	7						
Public	174		628	92	177	100	162	100	19	100

Note. * ≤ .05. Level of service has five levels: II (regular classroom with consultation, full-time), III (direct service, less than half-time), IV (direct service, more than half-time), V (direct service, full-time), VI (residential/day treatment).

Table 19
Grade Distribution According to Level of Service

Grade	Level of Service II	III	IV	V	VI	Total
Preschool	9	41	7	85		142
Kindergarten	33	22	2	4		61
1	13	47		5		65
2	7	76	5	4		92
3	15	107	6	5		133
4	14	81	7	3	2	107
5	23	73	4	13	1	114
6	36	68	6	10	1	121
7	13	36	40	6	1	96
8	5	34	35	2	2	78
9	10	25	20	5	5	65
10	6	29	18	6	4	63
11	5	21	11	11	3	51
12 ≤	8	16	16	3		43

Note. Level of service has five levels: II (regular classroom with consultation, full-time), III (direct service, less than half-time), IV (direct service, more than half-time), V (direct service, full-time), VI (residential/day treatment).

Academic performance. Consistent with the expectation that lower levels of academic achievement and aptitude necessitate greater levels of special education intervention, decreases in levels of academic achievement and aptitude were found to be inversely related to level of service. For example, Level II students scored no more than ½- to ⅔-standard deviations below that of normative populations. Resource room students who spent more than a half-day in regular classrooms scored ⅔- to 1-standard deviation below Level II students in reading, math, and written language achievement and on measures of academic aptitude. Levels IV and V students scored quite similarly to each other (1- to 1½-standard deviations below Level II students); Level V students showing much greater variability on measures of achievement and aptitude than any other group, suggesting greater heterogeneity of that population. As Table 20 shows, Level VI students scored better than all groups except Level II students. The small number of Level VI students in this sample was comprised largely of students with emotional/behavioral disorders, resulting in both greater variability and somewhat higher scores.

Special education services. Not surprisingly, the data indicate that the learning disabled classification, which comprises about 43% of the handicapped population, represents the greatest level of consistency when compared to the handicapped population as a whole. Students with communication disorders were served almost exclusively in resource room settings for less than a half-day (85%) with the remaining 15% served on a consultative basis. The nature of the preschool population and program models designed to serve them resulted in higher rates of Level V (full-time) and Level II (consultative) service options than found in the total population of handicapped students. Educably mentally handicapped students were served predominantly in resource room settings (88%) while students who are trainably mentally handicapped were found to be served in full-time special class placements (90%). Students with emotional/behavioral disorders comprised 63% of all Level VI (residential) placements. The majority of E/BD students (67%) spent at least part of the school day in a regular classroom setting with 50% in regular classrooms more than a half-day. Students with low incidence handicaps (i.e., HI, OHI, PI, VI) were more likely to be served on a consultative basis (39%) than students with any other classification (see Table 21).

Table 20
Academic Performance According to Level of Service

Level of Service	*n*	Reading Achievement *M*	Reading Achievement *SD*	Math Achievement *M*	Math Achievement *SD*	Written Language Achievement *M*	Written Language Achievement *SD*	*n*	Academic Aptitude *M*	Academic Aptitude *SD*
II	113	90.32	11.44	96.04	13.47	90.13	11.47	109	97.03	12.64
III	449	81.81	11.91	85.15	15.30	83.40	11.09	430	89.16	12.76
IV	149	79.65	10.02	75.16	16.64	78.11	10.52	146	79.77	12.31
V	27	78.22	21.05	73.88	32.37	76.44	20.49	30	76.02	24.83
VI	11	87.91	20.18	89.27	22.69	92.45	23.44	6	95.17	22.72

Note. Level of service has five levels: II (regular classroom with consultation, full-time), III (direct service, less than half-time), IV (direct service, more than half-time), V (direct service, full-time), VI (residential/day treatment).

Family constellation information. Information contrasting family constellation data across level of service revealed no dramatic deviations from trends found in the handicapped population as a whole. One trend noted was a gradual decline in the percentage of students living with married parents as one progressed upward into more extensive levels of service (see Table 22). However, these differences would not likely be considered statistically significant. Parental status, number of school-age siblings, and parental level of education did not appear to be related substantively to level of service (see Table 23).

Table 21
Classification According to Level of Service

Classification	Level of Service II	III	IV	V	VI
Communication Disordered	14.8	85.2			
Developmentally Delayed	23.8	23.8	1.3	51.0	
Educably Mentally Handicapped	2.1	39.0	49.3	8.9	.7
Emotionally/Behaviorally Disordered	16.0	34.0	17.0	20.2	12.8
Hearing Impaired	9.1	54.5	36.4		
Learning Disabled	16.9	68.4	13.6		1.1
Other Health Impaired	60.0	30.0	10.0		
Physically Impaired	53.8	30.8	15.4		
Trainably Mentally Handicapped	1.7	5.1	3.4	89.8	
Visually Impaired	50.0	50.0			

Note. Level of service has five levels: II (regular classroom with consultation, full-time), III (direct service, less than half-time), IV (direct service, more than half-time), V (direct service, full-time), VI (residential/day treatment).

Table 22
Family Constellation Information According to Level of Service

Grade	Level of Service II	III	IV	V	VI	Total
Parental status						
Single	7	15	4	7	2	35
Married	138	460	117	81	1	797
Separated/Divorced	23	95	19	28	2	167
Widowed	4	15	2	2		23
Living with other	1	1	1	8		11
Unreported	24	90	34	36	14	198
Number of school-age siblings						
0	35	128	54	41		258
1	60	233	56	44		393
2	38	160	36	23		257
3	20	68	14	10		112
4	9	14	2	5		30
5	4	4	1			9
6 ≤	1	3	1			5
Unreported	30	66	13	39	19	167

Note. Level of service has five levels: II (regular classroom with consultation, full-time), III (direct service, less than half-time), IV (direct service, more than half-time), V (direct service, full-time), VI (residential/day treatment).

Table 23
Parental Education According to Level of Service

Level of service		Mother *n*	Mother *M*	Mother *SD*	Father *n*	Father *M*	Father *SD*
II	Regular classroom with consultation, full-time	149	12.96	2.10	140	13.21	2.40
III	Direct service, less than half-time	527	12.55	1.78	472	12.77	2.47
IV	Direct service, more than half-time	114	12.10	1.79	98	12.40	2.19
V	Direct service, full-time	83	12.61	1.42	67	12.69	2.92
VI	Residential/Day treatment	1	13.00		1	13.00	

Conclusions

The population of students with handicaps in District 742 did not differ greatly from all students nationwide on most demographic indices. Yet, District 742 is composed of a higher percentage of students from nonpublic schools than most districts throughout Minnesota and the nation. Students from nonpublic schools tended to be under-represented in the population of students with handicaps. District 742 students

differ from other districts throughout the state and nation in terms of the low number of minority students in general and receiving special education services. As expected, students with handicaps in District 742 scored 1- to 1½-standard deviations lower than normative populations on traditional measures of academic achievement and aptitude. The breakdown of students by classification for other variables did not differ substantially with that of other districts in the state. The majority (⅔) of students with handicaps were living parents who were married, had two or few school-age siblings, and were from middle-SES backgrounds.

A much smaller percentage of students from nonpublic schools received special education services than students from public schools. Consistent with national trends, mothers of students with handicaps from nonpublic schools reported higher levels of formal education than mothers of students with handicaps from public schools. Students from nonpublic schools outperformed students from public schools on standardized measures of achievement and aptitude, and also demonstrated much lower rates of absenteeism than their public school counterparts. While students from public schools were representative of the state and nation in terms of handicapped classification and level of service, no students with moderate to severe handicapping conditions from nonpublic schools were observed in this population. Only moderate differences in family constellation data were noted, with slightly larger families and a greater percentage of students living with married parents found among students from nonpublic schools.

Demographic indices related to classification resulted in an overrepresentation of males identified as emotionally/behaviorally disordered. This is consistent with state and national trends. High-SES families were as likely to have students with handicaps as low-SES families. Children with communication disorders were three times more likely to come from high-SES families as low-SES families. In contrast, children identified as educably mentally handicapped were three times as likely to come from low-SES families as high-SES families. Only students classified as communication disordered, emotionally/behaviorally disordered, and hearing impaired scored in the Average range on standardized measures of achievement and aptitude. Students classified as developmentally delayed and trainably mentally handicapped scored the lowest. Family constellation information for students with handicaps differed little from the broader population. Students classified as emotionally/behaviorally disordered were less likely to be from families with parents who were reported to be married and more likely to be from families with parents who were reported to be separated/divorced. Lowest levels of parental education were observed for students classified as educably mentally handicapped.

Students with handicaps in District 742 were served predominantly in resource rooms with a majority spending less than a half-day in the resource room. Students from high-SES families were somewhat more likely to be served in regular classrooms than students from low-SES families. Conversely, students from low-SES families were more likely to be spending more than a half day in special education services than students from high-SES families. Students from nonpublic schools were served on a Level II or Level III basis. Consistent with other districts throughout the state, the majority of Level V students in District 742 were preschoolers. Students in grades 7 through 12 were much more likely to be served in Level IV settings than students in grades 1 through 6. Decreases in academic achievement and aptitude were found as levels of service progressed from Level II to Level V. While students classified as emotionally/behaviorally disordered comprised a majority of the Level VI (residential) placements in District 742, approximately ⅔ of students classified as emotionally/behaviorally disordered spent at least part of their school day in a regular classroom setting. Trainably mentally handicapped students were, for the most part, served in special classrooms fulltime. Information contrasting family constellation data with levels of service revealed no deviations from trends found in the population of handicapped students as a whole.

References

Algozzine, B. & Ysseldyke, J. (1983). Learning disabilities as a subset of school failure: The oversophistication of a concept. *Exceptional Children, 50*, 242-246.

Bauch, P. A. (1988). Is parent involvement different in private schools? *Educational Horizons, Winter* 78-82.

Bradley, R. H., Rock, S. L., Caldwell, B. M., Brisby, J. A. (1989). Uses of the HOME Inventory for families with handicapped children. *American Journal on Mental Retardation, 94*(3), 313-330.

Bringham, F. J. (1989). *United states Catholic elementary and secondary schools 1988-89: A statistical report on schools, enrollment, & staffing.* Washington, DC: National Catholic Education Association.

Bruininks, R. H., Thurlow, M. L., Lewis, D. R., & Larson, N. W. (1988). Post-school outcomes for students in special education and other students one to eight years after high-school. In R. H. Bruininks, D. R. Lewis, & M. L. Thurlow (Eds.), *Assessing outcomes, costs, and benefits of special education programs* (Report Number 88-1). Minneapolis, MN: University of Minnesota, Department of Educational Psychology, University Affiliated Program on Developmental Disabilities.

Carlberg, C., & Kavale, K. (1980). The efficacy of special versus regular class placement for exceptional children: A meta-analysis. *The Journal of Special Education, 14*, 295-309.

Cohen, S., Agosta, J., Cohen, J., Warren, R. (1989). Supporting families of children with severe disabilities. *Journal of the Association for Persons With Severe Handicaps, 14*(2), 155-162.

Coleman, J., Hoffer, T., Kilgore, S. (1981). *Public and private schools.* Washington, DC: National Center for Education Statistics.

Dunn, L. (1968). Special education for the mildly retarded: Is much of it justifiable? *Exceptional Children, 35*, 5-22.

Dyson, L., Edgar, E., & Crnic, K. (1989). Psychological predictors of adjustment by siblings of developmentally disabled children. *American Journal on Mental Retardation, 94*(3), 292-302.

Education Commission of the States. (1981). *Reading and mathematics achievement in public and private schools: Is there a difference?* (National Center for Education Statistics Contract No. OEC-0-74-0506). Denver, CO: author.

Federal Register. (1977). Regulations implementing Education for All Handicapped Children Act of 1975 (Public Law 94-142). August 23, pp. 42474-42518. Washington, DC: U.S. Government Printing Office.

Federal Register. (1989). Regulations implementing Education of the Handicapped Act Amendments (Public Law 99-457). April 27, pp. 18248-18256. Washington, DC: U.S. Government Printing Office.

Hallinan, M. T. (Ed.). (1982). *Sociology of Education, 55* (2 & 3), 63-182.

Hallinan, M. T. (Ed.). (1985). *Sociology of Education, 58* (2), 73-135.

Heward, W.L., & Orlansky, M.D. (1980). *Exceptional children: An introductory survey to special education.* Columbus, OH: Merrill Publishing.

Kaufman, A. S., & Kaufman, N. L. (1983). *Kaufman Assessment Battery for Children: Interpretive manual.* Circle Pines, MN: American Guidance Service, Inc.

Kaufman, A. S., & Kaufman, N. L. (1985). *Kaufman Test of Educational Achievement: Comprehensive form manual.* Circle Pines, MN: American Guidance Service, Inc.

Keith, T. Z., & Page, E. B. (1985). Do Catholic high schools improve minority student achievement? *American Educational Research Journal, 22*(3), 337-349.

Kirk, S. A., & Gallagher, J. J. (1986). *Educating exceptional children* (5th ed.). Boston: Houghton Mifflin Co.

McGrew, K. S., Werder, J. K., & Woodcock, R. W. (in press). *WJ-R technical manual.* Allen, TX: DLM Teaching Resources.

Minnesota State Department of Education. (1990). Special education unduplicated child count. December 1, 1989. Unpublished raw data.

National Center for Education Statistics. (1989). *Digest of education statistics 1989* (25th ed.) Washington, DC: U.S. Government Printing Office.

Skrtic, T. (1987). An organizational analysis of special education reform. Fairfax Station, VA: The National Inquiry.

Thorndike, R. L., Hagen, E. P., & Sattler, J. M. (1986). *Stanford-Binet Intelligence Scale: Fourth Edition, Technical manual.* Chicago: Riverside Publishing.

Wechsler, D. (1974). *Manual for the Wechsler Intelligence Scale for Children–Revised.* San Antonio, TX: The Psychological Corporation.

Wilkinson, L. (1988). *SYSTAT: The system for statistics.* Evanston, IL: Systat, Inc.

Woodcock, R. W., & Johnson, M. B. (1989). *Woodcock-Johnson Psychoeducational Battery–Revised.* Allen, TX: DLM Teaching Resources.

Ysseldyke, J. E., & Algozzine, B. (1990). *Introduction to special education* (2nd ed.). Boston: Houghton Mifflin.