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A STUDY OF THE 1995 WCPSS 9TH – GRADE STUDENTS WITH DISABILITIES COHORT

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ABSTRACT

In a study of 5,226 first-time 1995 9th-grade students, 12% of the students were students with disabilities (SWD). Academic performance indicators for the SWD group were far below the overall cohort indicators. Difficulties for students with disabilities could be observed beginning in ninth grade. The average GPA of SWD students at the end of ninth grade was 1.79 (a D+ average) compared to an average GPA of 2.58 (a C+ average) for the overall cohort. Just 57% of the SWD cohort graduated (defined as completion of 12th grade with a diploma or certificate) compared to 77% of the overall cohort. Of the graduating SWD students, only 36% took the SAT with an average total score of 949, while 76% of the overall cohort took the SAT with an average total score of 1065. Black SWD students were less likely to graduate than White SWD students (45% compared to 66%). Behaviorally/Emotionally Disabled (BED) Black female students were least likely to graduate (13%). The 43% of SWD students who dropped out had a ninth grade average GPA of 0.82 (below a D average).

BACKGROUND

Wake County Public Schools' (WCPSS) student population is growing rapidly from year to year. At the same time, the population of students with disabilities is growing not only in number, but also as a percentage of the total population. Figure 1 shows WCPSS' student enrollments compared to state enrollments as reported in the North Carolina Statistical Profiles.

The National Center for Education Statistics reports that students with disabilities are currently 12% of the national student population, with the expectation that the percentage will rise to 16% in the next 10 years.

Figure 1
WCPSS' Students with Disabilities Enrollment

YEAR	WCPSS SWD	WCPSS Total Enrollment	WCPSS SWD PERCENTAGE OF TOTAL	NORTH CAROLINA SWD	NORTH CAROLINA Total Enrollment	NC SWD PERCENTAGE OF TOTAL
1998-1999	12,325	93,315	13.2%	163,113	1,270,325	12.8%
1999-2000	13,138	95,779	13.7%	170,338	1,287,252	13.2%
2000-2001	13,876	98,772	14.0%	177,111	1,303,751	13.6%
2001-2002	15,006	101,808	14.7%	183,487	1,319,850	13.9%
2002-2003	15,525	103,970	14.9%	187,162	1,334,366	14.0%

SWD = Students with Disabilities

The challenge of meeting the needs of students with disabilities leads to many policy debates in educational, judicial, and legislative settings. The cost of educating this subset of students is raising concerns nationally and locally. There is a proposal to cap federal special education money given to states at 13.5 percent of total enrollment. There is also concern that minority students are assigned to special education in disproportionate numbers. The North Carolina Commission on Raising Achievement and Closing Gaps recommended, in their report published in Dec 2001, that efforts be made to reduce and then eliminate these gaps in identification.

The rising numbers and percentages of students identified in special education programs and concerns such as those identified above raise several questions.

- What are the graduation and dropout rates of students with disabilities?
- How do these rates compare to students who do not have disabilities?
- How does the performance of high school students with disabilities compare to other high school students?
- What is the relationship between race and gender and identification into special education programs?

This study followed a specific cohort of 5,226 students, who were in 9th grade for the first time in the 1995-96 school year (see Graduation Rates WCPSS: A Study of the 1995 9th-Grade Cohort E&R Report No. 03.07).

MAJOR FINDINGS

In order to study the high school experience of students with disabilities, the 9th grade cohort was divided into two categories:

- Students with disabilities (SWD)
- Students without disabilities (NOT SWD)

The performance of students with disabilities is contrasted to its complement group throughout this report and also compared to the total cohort. After removing transferred students and making a statistical adjustment for missing data, graduation rates for SWD students were calculated. Graduation is defined as completing 12th grade with a diploma or a certificate. The main findings of this study are:

Identification: SWD students comprised 12% of the overall cohort. Among SWD students, the most common identification was learning disabled (64%). The SWD cohort was disproportionately high in male students (70%), compared to 50% in the overall cohort, and Black students (47%), compared to 26% in the overall cohort.

Graduation: The average GPA of SWD students at the end of ninth grade was 1.79 (a D+ average), compared to an average GPA of 2.68 (a C+ average) for NOT SWD students, and 2.58 for the overall cohort. SWD students who eventually dropped out of high school had an average ninth grade GPA of 0.82.

57% of the SWD cohort graduated, compared to 79% of the NOT SWD cohort, and 77% of the overall cohort. Only 45% of Black SWD students graduated, compared to 66% of White SWD students. Just 20% of Behaviorally/Emotionally Disabled (BED) students graduated, with BED Black female students least likely to graduate (13%).

Algebra 1 Achievement: Of the SWD students who graduated, only 54% scored at level 3 or 4 on the Algebra 1 EOC, compared to 85% of the NOT SWD group. White male SWD students had the highest passing rate (67%), while Black male SWD students had the lowest passing rate (24%).

SAT Achievement: Of the graduating SWD students, only 36% took the SAT, and they achieved an average total score of 949, compared to 79% participation in the NOT SWD group who had an average total score of 1070, and 76% participation in the overall cohort with an average total score of 1065. Participation in the SAT was much lower for Black SWD students (13%) than White SWD students (48%), and lowest for Black male SWD students (11%). Black female SWD students had the lowest average total SAT score (768), and White male SWD students the highest average total SAT score (1007) among SWD.

THE STUDENTS

In 1995-96, WCPSS enrolled 5,226 first-time 9th graders who had also attended WCPSS' schools in their 8th grade year. A subset of these students came into ninth grade identified as Students with Disabilities (SWD). Figures 2-4 gives the gender and race breakdown of the 1995 SWD cohort as well as its complement, the NOT SWD group.

The following were the classifications at the beginning of the ninth grade year. Some student identifications changed during the high school years, and these reclassifications will be discussed in a later section. All the analyses in this study were based on the identification codes associated with students as they began ninth grade.

Figure 2
Distribution of 1995 SWD Cohort by Ethnicity and Gender

ETHNICITY #	SWD			NOT SWD			TOTAL		
	F	M	Total	F	M	Total	F	M	Total
1. Asian	1	2	3	70	63	133	71	65	136
2. Black	92	182	274	594	478	1072	686	660	1346
3. Am. Indian	0	2	2	4	1	5	4	3	7
4. Hispanic/Latino	3	3	6	32	33	65	35	36	71
5. White	92	256	348	1728	1581	3309	1820	1837	3657
6. Multiracial	0	0	0	7	2	9	7	2	9
Total	188	445	633	2435	2158	4593	2623	2603	5226

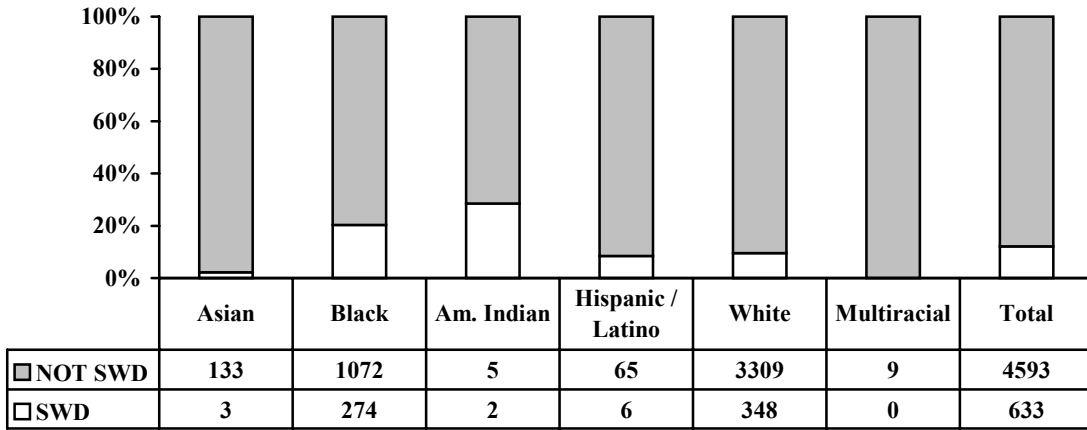
Figure 3 gives the percentage of SWD and NOT SWD students from race and gender categories. For example, 13% of the Black female students in the overall cohort were SWD, while 87% of the Black female students were NOT SWD. Ten percent of the overall White student cohort was SWD compared to 20% identified as SWD in the overall Black student cohort. Seventeen percent of the overall male student cohort was SWD, but only 7% of the female student cohort was SWD.

Figure 3
Percentage of each Ethnicity and Gender in the 1995 SWD and NOT SWD Cohort

ETHNICITY %	SWD			NOT SWD		
	F	M	Total	F	M	Total
1. Asian	1	3	2	99	97	98
2. Black	13	28	20	87	72	80
3. Am. Indian	0	67	29	100	33	71
4. Hispanic/Latino	9	8	8	91	92	92
5. White	5	14	10	95	86	90
6. Multiracial	0	0	0	100	100	100
Total	7	17	12	93	83	88

Figure 4 gives the breakdown of the overall cohort into SWD or NOT SWD by racial categories.

**Figure 4
Classifications by Ethnicity**

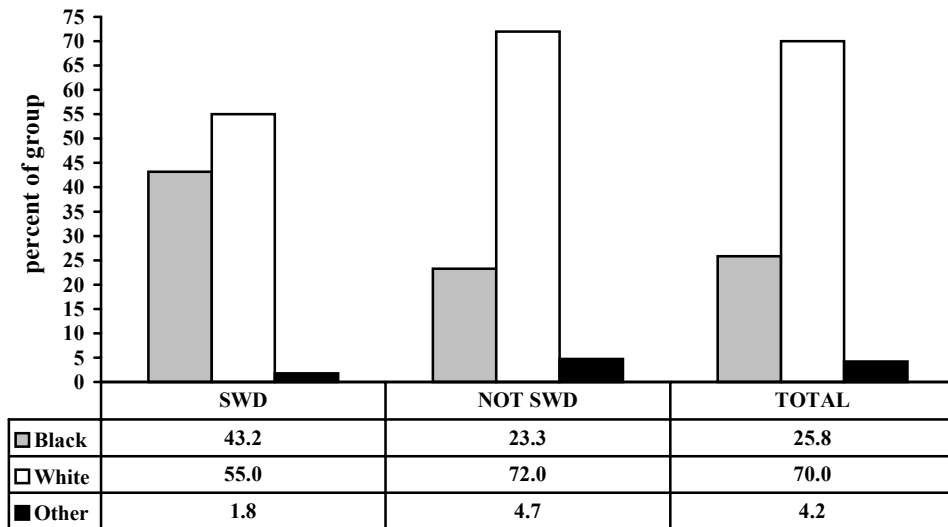


The racial makeup of the overall 1995-student cohort was:

- 70 % White
- 26% Black
- 3% Asian
- 1% Hispanic/Latino
- 0.1% American Indian and 0.1% Multiracial

The racial makeup of SWD students in the 1995 cohort varied from the total group. Figure 5 shows the SWD distribution in comparison to the NOT SWD group and the total cohort distribution. The numbers are percentages. Ninety-eight percent of SWD students were either Black students (43.2%) or White students (55.0%).

**Figure 5
Racial Distribution of Students with Disabilities**



The gender makeup of the total cohort population was 50.2% female students and 49.8% male students. The gender makeup of the SWD group again varied from the whole. It was 70% male students and 30% female students. The NOT SWD group was 47% male students and 53% female students. The gender distributions are shown in Figure 6.

Figure 6
Gender Distribution of Students with Disabilities



THE SWD CATEGORIES

There are fifteen categories of special education program codes in WCPSS and each category has one to nine subcategories that designate levels of services. The major categories are:

- AU - Autistic
- BED - Behaviorally/Emotionally Disabled
- DB - Deaf/Blind
- Preschool DD - Developmentally Delayed
- EMD - Educable Mentally Disabled
- HI - Hearing Impaired
- LD - Learning Disabled
- MU - Multihandicapped
- OHI - Other Health Impaired
- TMD - Trainable Mentally Disabled
- OI-Orthopedically Impaired
- SI/LI - Speech/Language Impaired
- SPMD - Severely/Profoundly Mentally Disabled
- TBI - Traumatic Brain Injured
- VI - Visually Impaired

In the 1995 cohort group, all categories were present except DB and Preschool DD. Ninety-eight percent of the students with disabilities were Black or White students. There were four Asian students (one female LD and two Male LD), two male American Indian students (one LD and one OI), and six Hispanic/Latino students (three female LD and three male LD).

The four largest categories in the 1995 WCPSS cohort were LD (64.3%), BED (13.3%), EMD (7.7%), and OHI (5.3%). The three largest categories by race or gender were:

- Black--LD (56.9%), BED (18.2%), and EMD (14.2%)
- White--LD (70.4%), BED (9.5%), and OHI (6.9%)
- Male--LD (65.5%), BED (14.4%), and OHI (5.7 %) / EMD (5.7%)
- Female--LD (62.0%), EMD (12.5%), and BED (10.9%)

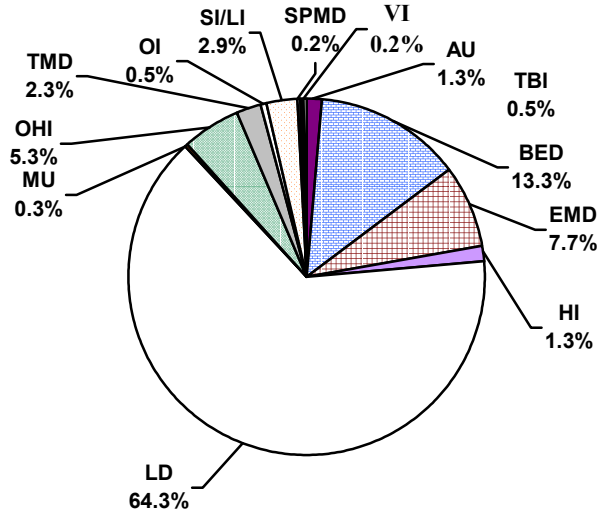
Figure 7 gives the complete major category breakdown for the Black and White students of the cohort. The percentages are based on the column numbers. For example, 16% of Black female SWD students were BED while 5% of White female SWD students were BED. See Figures 8 and 9 for graphical representations of the data in the table.

Figure 7
WCPSS 1995 Cohort
Distribution of Students with Disabilities by Category and Race

	BLACK						WHITE						TOTAL					
	F		M		Total		F		M		Total		F		M		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
AU	0	0	2	1	2	0.7	1	1	5	2	6	2	1	0.5	7	2	8	1
BED	15	16	35	19	50	18	5	5	28	11	33	10	20	11	63	14	83	13
EMD	19	21	20	11	39	14	4	4	5	2	9	4	23	13	25	6	48	8
HI	1	1	1	0.5	2	0.7	5	5	1	0.3	6	2	6	3	2	0.5	8	1
LD	50	54	106	58	156	57	64	70	181	71	245	70	114	62	287	66	400	64
MU	0	0	1	0.5	1	0.4	0	0	1	0.3	1	0.4	0	0	2	0.5	2	0.3
OHI	1	1	7	4	8	3	6	7	18	7	24	7	7	4	25	6	33	5
TMD	1	1	7	4	8	3	3	3	3	1	6	2	4	2	10	2	14	2
OI	0	0	1	0.5	1	0.4	2	2	0	0	2	0.6	2	1	1	0.2	3	0.4
SI/LI	2	2	2	1	4	2	2	2	12	5	14	4	4	2	14	3	18	3
SPMD	1	1	0	0	1	0.4	0	0	0	0	0	0	1	0.5	0	0	1	0.2
TBI	2	2	0	0	2	0.7	0	0	1	1	1	0.4	2	1	1	0.2	3	0.4
VI	0	0	0	0	0	0	0	0	1	1	1	0.4	0	0	1	0.2	1	0.2
TOTAL	92		182		274		92		256		348		184		438		622	

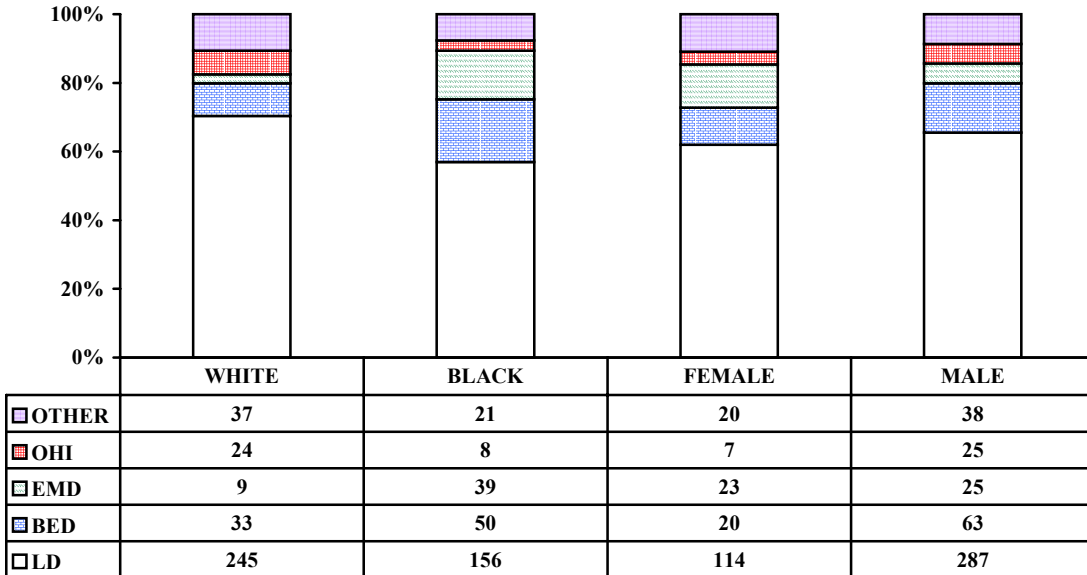
Figure 8 gives a graphical picture of the total distribution of 1995 cohort SWD students. See Attachment 1 for the 2002-03 WCPSS distribution of SWD students and the United States 1999-2000 distribution. These two distributions contain children ages 3 to 21. The proportion of LD students is higher in the 1995 WCPSS high school cohort than in these overall distributions, 64% compared to 45% or 47%, and the proportion of OHI students in WCPSS appears to be growing. The 1995 entering 9th grade cohort was 5% OHI, while in the WCPSS 2002-03 overall data, the OHI group was 17%. This growth was also seen in the OHI group of this study. Among the cohort students who graduated, 17 were identified as OHI when they entered ninth grade, but 43 were identified as OHI when they graduated (a 153% increase).

Figure 8
WCPSS 1995 Cohort
Distribution of Students with Disabilities by Category



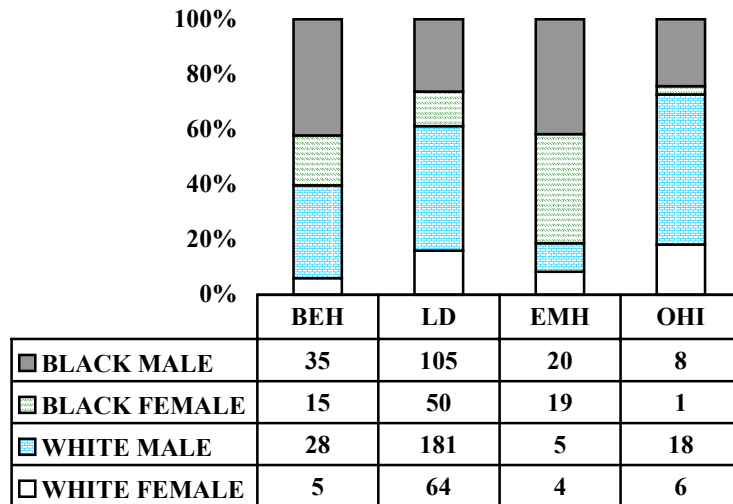
The category distributions also vary by race and gender. See Attachment 1 for complete graphical illustrations of race and gender distributions. Figure 9 gives a graphical comparison of the largest categories.

Figure 9
WCPSS 1995 Cohort-SWD Distributions by Race or Gender



There was also a relationship between race and gender within the four largest categories. White males dominated the LD and OHI category. Black students were 81% of the EMD group. The race by gender breakdown for the four largest categories is in Figure 10.

Figure 10
Race by Gender Distribution of BEH, LD, OHI, and EMD students



RECLASSIFICATION

Students classified as SWD are reevaluated throughout their high school years. In the 1995 9th grade SWD cohort, 277 students completed high school with a diploma or a certificate. Of these 277 SWD students, 77 (28%) had been reclassified as NOT SWD. This means that they entered ninth grade classified as SWD, but during high school they had been exited from Special Programs' services and no longer had an IEP (Individualized Education Plan). The categories from which students were exited were AU (6), BED (1), EMD (3), HI (2), LD (55), OHI (3), OI (1), and SI (6).

Fifty-three students from the NOT SWD group (students who began ninth grade without an identified disability) were classified as SWD before they completed high school. The new identifications were BED (1), EMD (2), LD (32), OHI (23), TBI (2), and VI (1). The OHI group went from 17 to 43 (a 153% increase)

NINTH GRADE GPA

The ninth grade year is crucial in setting the foundation for student success in high school. Average grade point averages (GPAs) at the end of ninth grade for the 1995 cohort are reported in Figure 11. American Indian and Multiracial groups were excluded from these disaggregated analyses because of very low group sizes. Note the SWD average GPAs were lower than NOT SWD average GPAs for all groups except Hispanic/Latino male students. This SWD group was very small and cannot be trusted to

reflect WCPSS's Hispanic/Latino male population accurately. Overall, the SWD group 9th grade average GPA was 1.79 (a D+), compared to 2.68 (a C+) for the NOT SWD group. These numbers indicate that the SWD group had many grades that were a D or below. The average GPA for White or Asian SWD students was slightly higher than the overall SWD group average (a C-). The average GPAs for all Black students regardless of identification was below a 2.0 (below a C average), with Black male SWD students lowest at 1.29 (a D-).

Figure 11
1995 9th grade cohort average GPAs of SWD and NOT SWD groups

ETHNICITY	SWD			NOT SWD			TOTAL			
	#	F	M	Total	F	M	Total	F	M	Total
Asian		3.00	1.98	2.32	3.47	3.25	3.37	3.46	3.20	3.34
Black		1.55	1.29	1.39	1.94	1.63	1.81	1.89	1.54	1.73
Hispanic/Latino		1.00	2.30	1.78	2.16	2.04	2.10	2.07	2.07	2.07
White		2.19	2.06	2.10	3.07	2.78	2.93	3.03	2.69	2.86
Total		1.87	1.76	1.79	2.80	2.54	2.68	2.73	2.42	2.58

Making comparisons between the average GPAs of 9th grade students who went on to graduate and those who dropped out shows that the academic performance of students in ninth grade can be used to identify students at risk of dropping out of high school. The 9th grade GPAs for dropouts were lower than those for graduates in all categories. Although many SWD students were struggling in ninth grade, note that the 9th grade average GPA for SWD students who completed high school was 2.28, compared to a 0.82 average GPA for SWD students who eventually dropped out. This average GPA of the SWD cohort dropouts was below a D average, indicating that the SWD dropouts failed most of their ninth grade courses. Figure 12 shows the cohort average GPAs of graduates and dropouts. The four largest SWD subgroups are reported separately.

Figure 12
Average Ninth Grade GPA of Graduates and Dropouts in the 1995 Cohort

ENTRY CODE	AVERAGE 9 TH GRADE GPA								
	FEMALE			MALE			TOTAL		
	DROPOUTS	GRADUATES	TOTAL	DROPOUTS	GRADUATES	TOTAL	DROPOUTS	GRADUATES	TOTAL
SWD	0.92	2.24	1.87	0.79	2.31	1.76	0.82	2.28	1.79
LD	0.80	2.07	1.69	0.84	2.20	1.74	0.83	2.16	1.73
BED	1.03	1.60	1.21	0.83	2.16	1.19	0.89	1.96	1.20
EMD	1.05	2.08	1.96	0.39	1.73	1.16	0.51	1.92	1.51
OHI	1.65	2.96	2.52	0.20	2.68	1.90	0.56	2.74	2.04
NOT SWD	1.21	3.02	2.80	1.05	2.83	2.54	1.12	2.94	2.68
TOTAL	1.17	2.98	2.73	0.97	2.77	2.42	1.05	2.88	2.58

ALGEBRA 1 PERFORMANCE OF GRADUATES

A passing grade in Algebra 1 is a graduation requirement for all students who receive a diploma. The rationale for this requirement is to ensure that all students have access to courses that prepare them for success in college. However, passing an Algebra 1 class does not always measure mastery of the course. The End-of-Course exam is a better measure of group performance. The results on the Algebra 1 EOC for the 1995 9th grade cohort who completed high school were analyzed by recording the percentage of students who scored in levels 3 or 4. For students who had taken Algebra more than once, the highest score was recorded. Note that 87% of SWD graduates and 99.91% of NOT SWD graduates received a diploma.

Only 54% of SWD students taking the Algebra 1 EOC scored at level 3 or 4, compared to 85% of NOT SWD students. White male SWD students had the highest passing rate with 67% at level 3 or 4, and Black male SWD students had the lowest with only 24% at level 3 or 4. In addition, Black male SWD students had 27% at level 1.

The percentages of students who scored in level 3 or 4 are in Figures 13-16 by educational classifications, gender, and race. The percentages for students identified as LD are in a separate table since they made up 78% of the graduating SWD students who took the Algebra 1 EOC. There is little difference in their performance and the performance of the whole SWD group

Figure 13
Performance of 1995 Cohort Students on Algebra 1 EOC by classification

	LEVELS			
	4	3	2	1
SWD	12%	42%	35%	12%
LD	12%	43%	36%	9%
NOT SWD	37%	48%	13%	2%
TOTAL	35%	48%	15%	3%

Figure 14
Performance of SWD Students on Algebra 1 EOC by gender and race

	LEVELS			
	4	3	2	1
SWD	12%	42%	35%	12%
Black Female	0%	37%	59%	4%
White Female	17%	35%	33%	15%
Black Male	5%	19%	49%	27%
White Male	14%	53%	25%	8%

Figure 15
Performance of LD Students on Algebra 1 EOC by gender and race

	LEVELS			
	4	3	2	1
LD	12%	43%	36%	9%
Black Female	0%	29%	71%	0%
White Female	17%	40%	34%	9%
Black Male	8%	23%	50%	19%
White Male	14%	52%	26%	9%

Figure 16
Performance of NOT SWD Students on Algebra 1 EOC by gender and race

	LEVELS			
	4	3	2	1
NOT SWD	37%	48%	13%	2%
Black Female	14%	53%	28%	4%
White Female	42%	46%	11%	2%
Black Male	15%	49%	30%	6%
White Male	42%	49%	9%	1%

The graphical displays of Figures 17 and 18 show clearly that SWD students scored much lower on the Algebra 1 EOC than NOT SWD students regardless of race. Their performance can be easily overlooked, since they make up a small percentage of the total cohort, and the performance of the total is only slightly lower than the NOT SWD group. Figure 18 also shows that Black SWD students scored lower than White SWD students in all subgroups. White male SWD students had the same passing rate (67%) as the Black female NOT SWD students, and a higher passing rate than Black male NOT SWD students (64%).

Figure 17
Percentages at level 3 or 4 on Algebra 1 EOC
by Academic Identification and Gender and Race categories

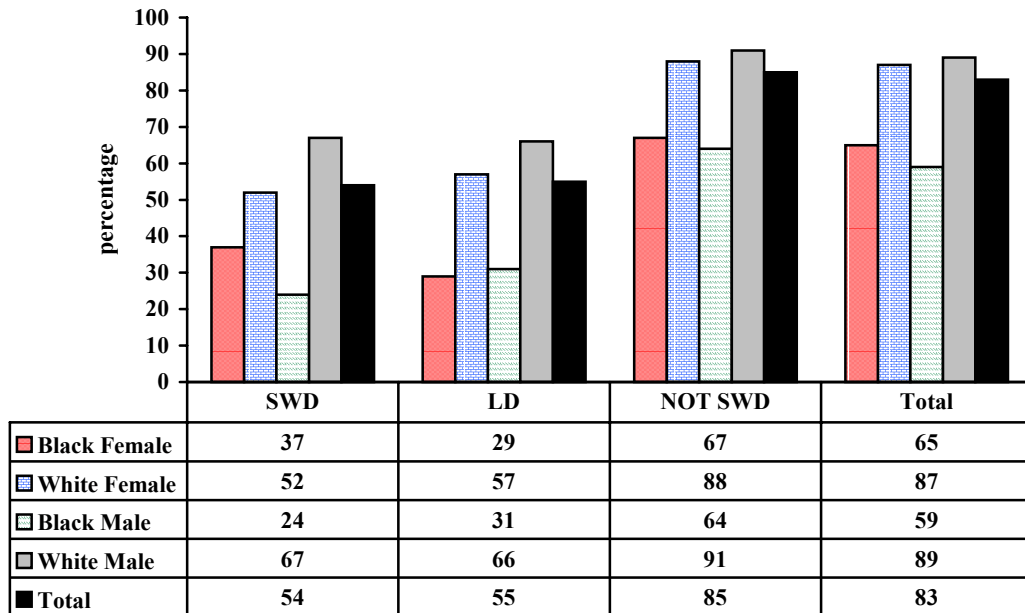
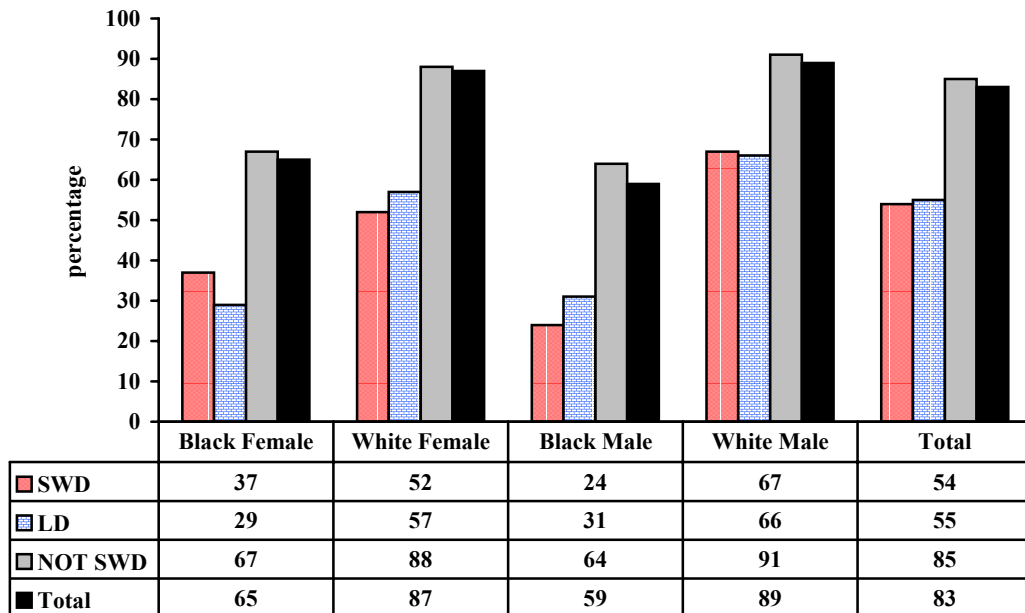


Figure 18
Percentage of SWD students at level 3 or 4 compared to NOT SWD students
on Algebra 1 EOC by gender and race



SWD COHORT GRADUATION AND DROPOUT RATES

A major goal for all high school students regardless of academic classification is to graduate. High school Individual Education Plans (IEP's) for SWD students include strategies to meet this goal. The 1995 9th grade cohort was analyzed to determine the success of SWD students in meeting this goal.

Graduation rates for the cohort were defined as the number of first-time 1995 9th-grade students who graduated (with a diploma or certificate) from a WCPSS school by Spring 2002 divided by the total number of students who graduated or dropped out. Students who transferred out of WCPSS or died were removed from the denominator.

$$\text{Graduation Rate} = \frac{\text{\# of graduates}}{\text{\# of graduates} + \text{\# of dropouts}}$$

A statistical estimate was added to the transfer and dropout numbers to account for missing data. This estimate was based on the records of the students with complete data. The missing data was the result of failure to update exit codes of students who did not return after the summer break or erroneous coding (see Graduation Rates WCPSS: A Study of the 1995 9th-Grade Cohort E&R Report No. 03.07 for details of the estimation method).

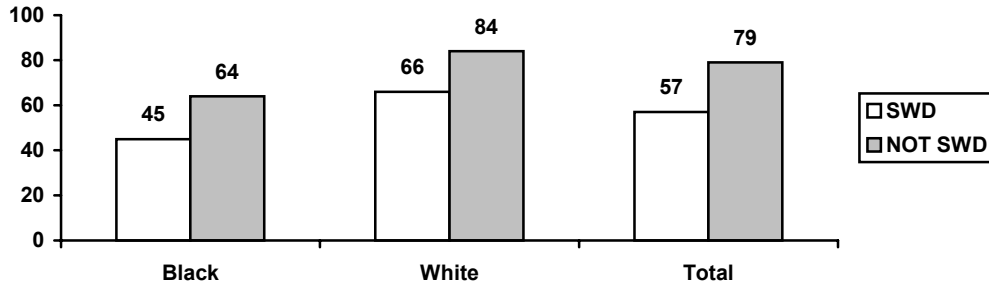
Graduation rates were calculated for all racial subgroups that had forty or more students. Rates were multiplied by 100 to convert to a percentage of students who graduated. Figure 19 shows these percentages and figure 20 gives a graphical comparison of them by racial subgroups. The difference between the graduation rates of SWD and NOT SWD students is about twenty percentage points regardless of racial category. White SWD students (66%) are more likely to graduate than Black SWD students (45%). Here again, the difference between the graduation rates of White and Black students is about twenty percentage points regardless of academic identification.

Figure 19
Graduation Rates by Classification and Ethnicity

RACE	SWD		NOT SWD		TOTAL	
	GRAD RATE	DROPOUT RATE	GRAD RATE	DROPOUT RATE	GRAD RATE	DROPOUT RATE
1. Asian	*	*	84%	16%	83%	17%
2. Black	45%	55%	64%	36%	60%	40%
3. Am. Indian	*	*	*	*	*	*
4. Hispanic/Latino	*	*	67%	33%	68%	32%
5. White	66%	34%	84%	16%	83%	17%
6. Multiracial	*	*	*	*	*	*
Total	57%	43%	79%	21%	77%	23%

* Groups with less than 40 students

Figure 20
1995 9th Grade Cohort Graduation Rates per 100 students
SWD and NOT SWD groups



GRADUATION RATES BY SWD CATEGORY

Graduation rates were calculated after adjusting for missing data. Figures 21-24 show the number and percentage of special education students in each category who graduated, dropped out, transferred, or have missing data. The percentages are based on the overall SWD cohort. For example, 40% of Black male EMD students graduated, 45% of them dropped out, and 15% of them have missing data. Of the 20 students in this group, none were recorded as transferring.

Figure 21
1995 SWD Cohort Students
Who Graduated

ENTRY Code	BLACK				WHITE			
	F		M		F		M	
	#	%	#	%	#	%	#	%
AU			2	100	1	100	4	80
BED	2	13	4	11	3	60	5	18
EMD	13	68	8	40	2	50	4	80
HI	1	100	1	100	4	80	1	100
LD	24	48	36	35	38	59	105	58
MU			1	100			0	0
OHI	1	100	1	13	3	50	11	61
TMD	1	100	7	100	3	100	3	100
OI					2	100		
SI	2	100	2	100	1	50	7	58
SPMD	1	100						
TBI	1	50					0	50
VI							1	100
TOTAL	46	50	62	34	57	62	141	55

Figure 22
1995 SWD Cohort Students
Who Dropped-Out

ENTRY Code	BLACK				WHITE			
	F		M		F		M	
	#	%	#	%	#	%	#	%
AU			0	0	0	0	0	0
BED	12	80	16	46	1	20	13	46
EMD	3	16	9	45	0	0	0	0
HI	0	0	0	0	1	20	0	0
LD	16	32	43	41	15	23	35	19
MU			0	0			0	0
OHI	0	0	4	50	2	33	3	17
TMD	0	0	0	0	0	0	0	0
OI			1	100	0	0		
SI	0	0	0	0	0	0	3	25
SPMD	0	0						
TBI	0	0					0	0
VI					0		0	0
TOTAL	31	34	73	40	19	21	54	21

Figure 23
1995 Special Programs Cohort
Students Who Transferred

ENTRY Code	BLACK				WHITE			
	F		M		F		M	
	#	%	#	%	#	%	#	%
AU			0	0	0	0	0	0
BED	0	0	6	17	1	20	4	14
EMD	1	5	0	0	1	25	0	0
HI	0	0	0	0	0	0	0	0
LD	3	6	15	14	5	8	19	10
MU			0	0			0	0
OHI	0	0	0	0	1	0	1	6
TMD	0	0	0	0	0	0	0	0
OI			0	0	0	0		
SI	0	0	0	0	1	50	0	0
SPMD	0	0						
TBI	0	0					1	100
VI					0		0	0
TOTAL	4	4	21	12	9	10	25	10

Figure 24
1995 Special Programs Cohort
Students With Missing Data

ENTRY Code	BLACK				WHITE			
	F		M		F		M	
	#	%	#	%	#	%	#	%
AU			0	0	0	0	1	20
BED	1	7	9	26	0	0	6	21
EMD	2	11	3	15	0	0	1	20
HI	0	0	0	0	0	0	0	0
LD	7	14	11	10	6	9	21	12
MU			0	0			0	0
OHI	0	0	2	25	0	17	3	17
TMD	0	0	0	0	0	0	0	0
OI			0	0	0	0		
SI	0	0	0	0	0	0	2	17
SPMD	0	0						
TBI	1	50					0	0
VI							0	0
TOTAL	11	11	25	14	6	7	34	13

There were four students with disabilities who died prior to graduation (one white male LD, one black male LD, one white female EMD, one white male MU).

After removing the transferred students and using a statistical estimate to adjust for the missing students, graduation rates were determined for the four largest special programs categories and for all the other categories combined into one group. The converted rates as percentages are shown in Figures 25-26. Groups with less than 10 members are noted. Of the four main categories with more than 10 members, EMD Black females are most likely to graduate (72%) and BED Black females are least likely to graduate (13%). Less than 50% of Black male SWD students graduated in each of the four main categories.

Figure 25
Graduation Rates for 1995 Cohort –BED, EMD, LD, OHI categories
Race By Gender

	BLACK				WHITE			
	Female		Male		Female		Male	
	GRAD RATE	DROP-OUT RATE	GRAD RATE	DROP-OUT RATE	GRAD RATE	DROP-OUT RATE	GRAD RATE	DROP-OUT RATE
BED	13%	87%	15%	85%	75%*	25%*	22%	78%
EMD	72%	28%	40%	60%	100%*	0%*	100%*	0%*
LD	52%	48%	41%	59%	66%	34%	68%	32%
OHI	100%*	0%*	14%*	86%*	60%*	40%*	69%	31%
OTHER	86%*	14%	93%	7%	92%	8%	76%	24%

* group has less than 10 students

Figure 26
Graduation Rates for 1995 Cohort –BED, EMD, LD, OHI categories
Gender and Total

	TOTAL				TOTAL	
	FEMALE		MALE		ALL	ALL
	GRAD RATE	DROP-OUT RATE	GRAD RATE	DROP-OUT RATE	GRAD RATE	DROP-OUT RATE
BED	26%	74%	18%	82%	20%	80%
EMD	75%	25%	65%	35%	69%	31%
LD	60%	40%	59%	41%	59%	41%
OHI	67%*	33%*	52%	48%	55%	45%
OTHER	89%	11%	83%	17%	85%	15%

* group has less than 10 students

Figures 27-32 give graphical displays of the SWD group’s graduation rates. Figure 27 gives a comparison between these groups and figures 28-32 give the race by gender breakdown of each group. Note that some of the groups were very small and may not be reflective of the larger student population. The LD group and the BED group (except for White female students) were large enough to expect them to be good estimates of the high school SWD group.

Figure 27
Graduation Rates – 1995 Cohort
BED, EMD, LD, OHI

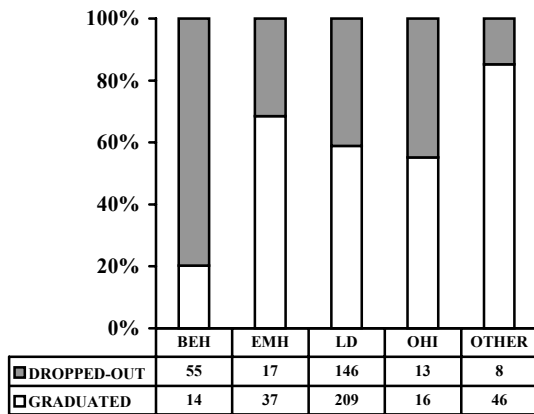


Figure 28
Graduation Rates – 1995 Cohort
EMD

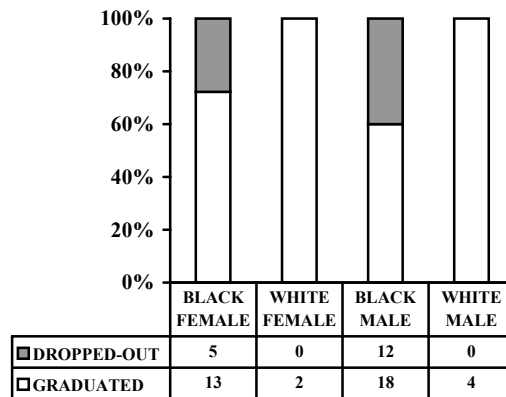


Figure 29
Graduation Rates
1995 Cohort –BED Students

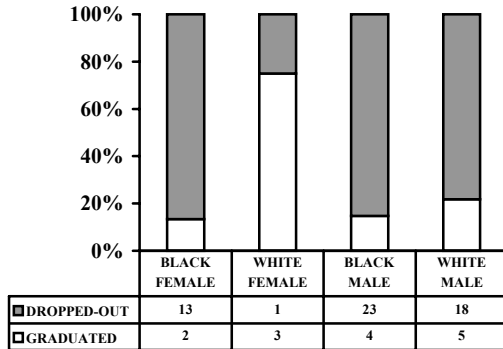


Figure 30
Graduation Rates
1995 Cohort –LD Students

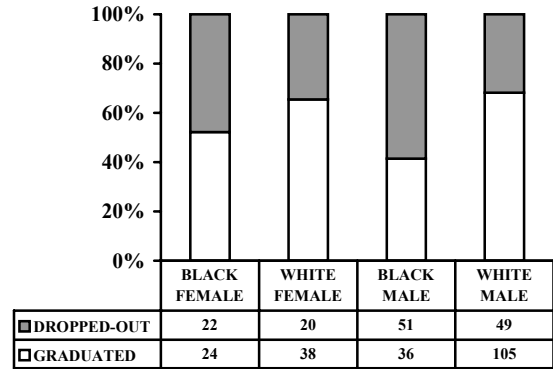


Figure 31
Graduation Rates
1995 Cohort –OHI Students

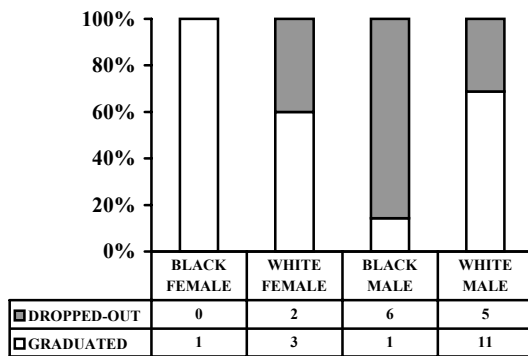
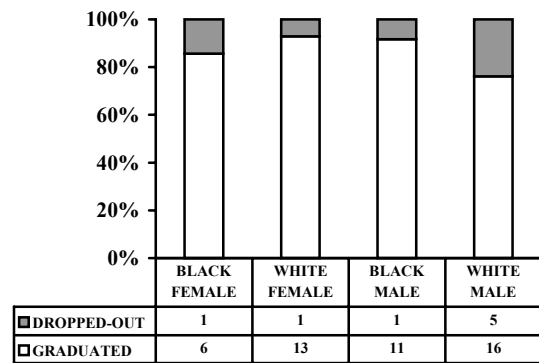


Figure 32
Graduation Rates
1995 Cohort –OTHER students



SAT PERFORMANCE OF GRADUATES

Performance on the SAT is considered a good measure of potential academic success in college. Participation in the SAT indicates a student’s intention to attend college. Figure 33 gives participation rates and average scores of the SWD group for both SAT verbal and SAT math. Participation is based on the number of SWD students who graduated. Note that the LD category was the largest among SWD students, and students in this category usually receive interventions that should not only produce academic success in high school, but also in college. There is often hope among teachers and parents of LD students that they will continue their education in a post secondary setting. Eighty-one

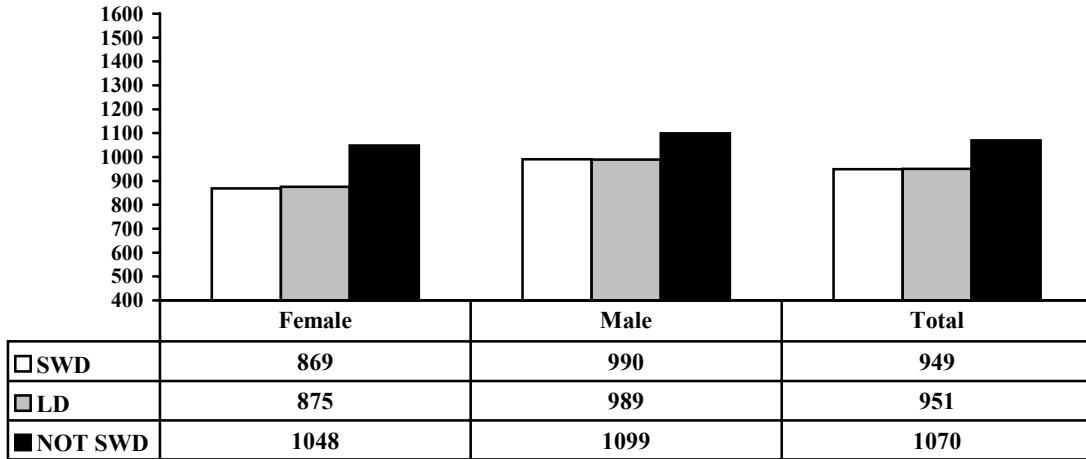
percent of the SWD students who took the SAT were LD. For these reasons, LD students were included as a separate row in the following tables. If a student took the SAT more than once, the highest score was used.

Figure 33
SAT Performance of 1995 Cohort Graduates

ENTRY CODE	FEMALE			MALE			TOTAL		
	% Participation	Average SAT Verbal	Average SAT Math	% Participation	Average SAT Verbal	Average SAT Math	% Participation	Average SAT Verbal	Average SAT Math
SWD	39	438	431	35	485	505	36	469	480
LD	46	438	437	41	486	503	43	470	481
NOT SWD	81	523	525	78	533	566	79	527	543
TOTAL	79	521	523	72	530	562	76	525	540

Figure 34 gives a graphical comparison of SWD and NOT SWD student performance on the SAT by gender and total group. Note that SWD male students scored 121 average points higher than SWD female students. The male/female difference was only 51 points in the NOT SWD group. The NOT SWD group outscored the SWD group also by 121 average points.

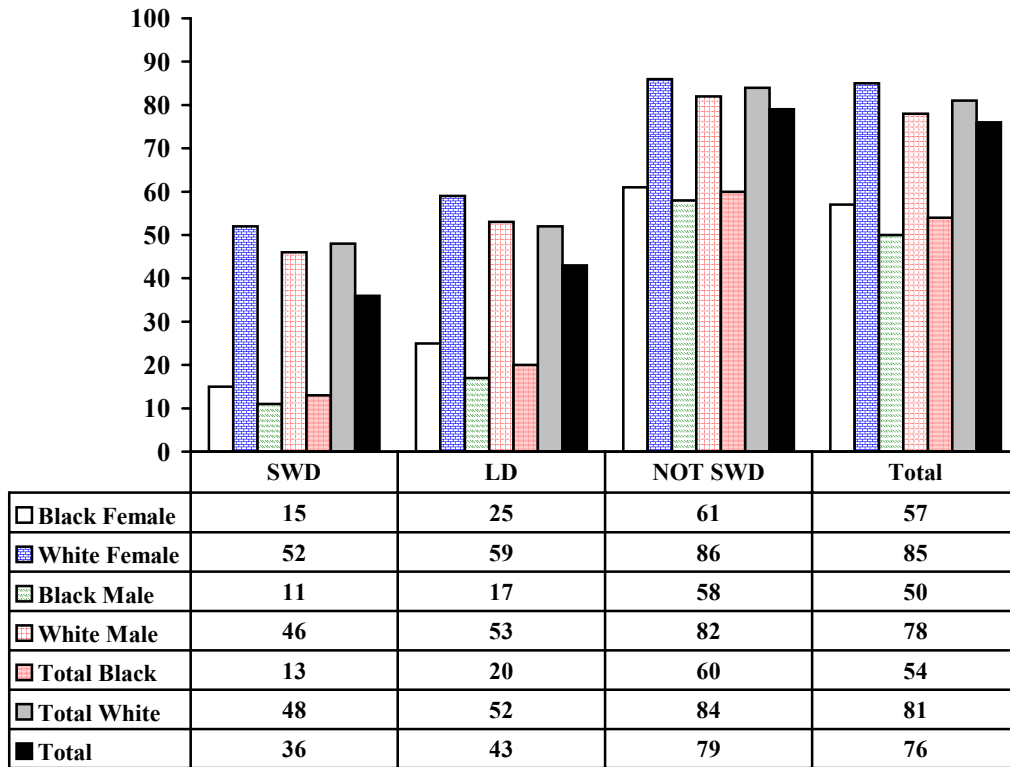
Figure 34
Average SAT Total of 1995 Cohort Graduates



Students with Disabilities had a much lower participation rate than NOT SWD students. This was true for LD identified students as well. It should be noted that SWD students could be granted additional time on the SAT tests as a modification, if they took the test. Figure 35 shows the participation rate of the graduates by group, gender, and race. The SWD group had a much lower participation rate (36%) than the NOT SWD group (79%). Female students participated at a higher rate than male students in all groups. White students had higher participation rates than Black students in all groups. In the SWD cohort, 48% of White SWD students took the SAT, but only 13% of the Black SWD

students took it. White female SWD had the highest participation rate (52%), and Black male SWD students had the lowest (11%).

Figure 35
Percentage of 1995 Graduating Cohort Taking the SAT



VERBAL

The average SAT verbal scores are in Figure 36 by identification, race, and gender. SWD students scored lower than NOT SWD students in all complementary groups. In the SWD cohort, White students outscored Black students by 103 average points. Male SWD students outscored female SWD students by 31 (Black students) and 35 (White students) average points. Black female SWD students had the lowest average score (364), and White male SWD the highest average score (494). White SWD students (483) outscored Black NOT SWD students (446).

Figure 36
Average Verbal SAT Scores by Race and Gender

ENTRY Code	BLACK			WHITE		
	Female	Male	Total	Female	Male	Total
SWD	364	395	380	459	494	483
LD	362	393	378	462	496	486
NOT SWD	443	450	446	538	545	541
TOTAL	440	447	443	536	542	539

MATH

The average SAT math scores are in Figure 37 by identification, race, and gender. SWD students scored lower than NOT SWD students in all groups. In the SWD cohort, White students outscored Black students by 66 average points. Male SWD students outscored female SWD students by 39 (Black students) and 75 (White students) average points. Black male SWD students (443) outscored White female SWD students (438). Black female SWD students had the lowest average score (404), and White male SWD students the highest average score (513). White SWD students (490) outscored Black NOT SWD students (452), but White female SWD students (438) did not outscore Black female NOT SWD students (440). Note that the average SAT math scores were higher than average verbal scores for all SWD groups except White female students.

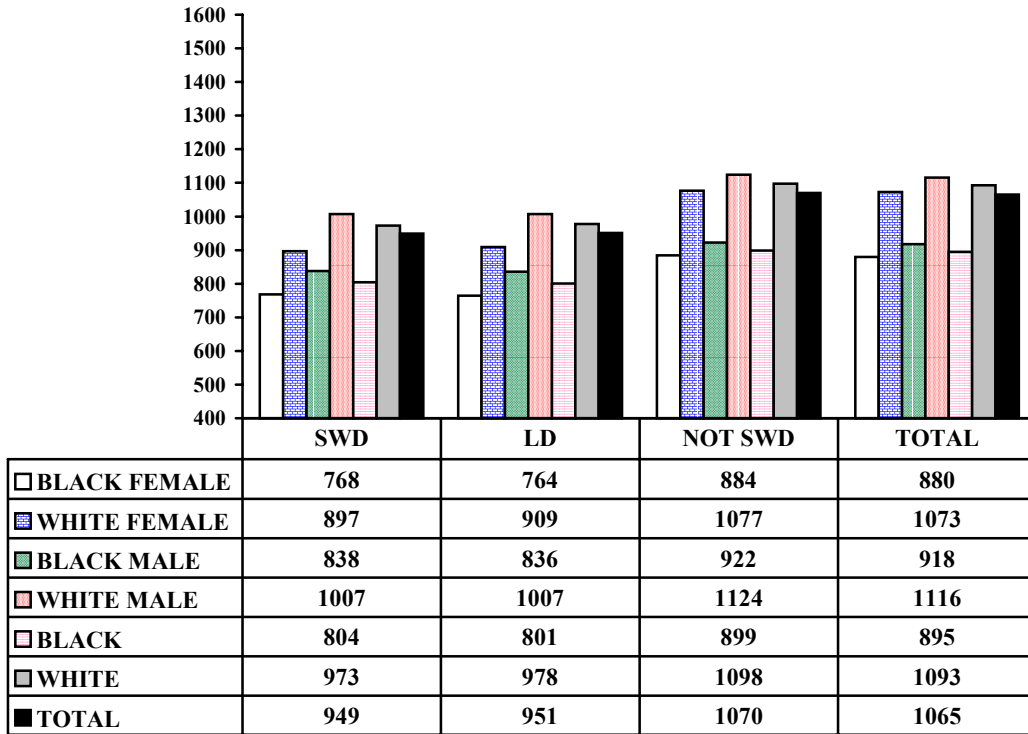
Figure 37
Average Math SAT Scores by Race and Gender

ENTRY Code	BLACK			WHITE		
	Female	Male	Total	Female	Male	Total
SWD	404	443	424	438	513	490
LD	402	443	423	447	511	492
NOT SWD	441	472	453	539	579	557
TOTAL	440	471	452	537	574	554

TOTAL SAT SCORES

Figure 38 displays the total average SAT scores by identification, race, and gender. Each SWD group scored lower than its complement NOT SWD group. Black female SWD students scored lowest (768) and White males scored highest (1007). White female SWD students (897) outscored Black female NOT SWD students (884). White male SWD students (1007) outscored Black female NOT SWD students (884) and Black male NOT SWD students (922). White SWD students (973) had a higher average SAT score than Black NOT SWD students (899).

Figure 38
Total Average SAT Scores by Classification



CONCLUSIONS

Both the number and percentage of students identified as Students with Disabilities (SWD) is rising yearly in WCPSS. In the 1995 9th grade cohort of this study, 12% were SWD. The enrollment membership data in March 2003 (see Attachment 2) had 5,187 students (14% of WCPSS high schools students) identified as SWD. The results of this study would indicate that these students are performing academically far below the majority of the students of WCPSS. In the past, the performance of these students was often hidden within the results of the total student cohort. The federal No Child Left Behind Act requires disaggregated reports with SWD as a subgroup. This reporting will give regular feedback on the progress made to improve the performance of this subgroup of students.

The ninth grade average GPA (1.79, a D+) for the 1995 SWD group was an early indicator of academic distress and the eventual risk of dropping out of school. There was a relationship to race. The Black SWD student average GPA was 1.39 (a D-), while the White SWD student average GPA was 2.10 (a C-). Only 45% of the Black SWD students graduated, but 66% of the White SWD students graduated.

Of the SWD students who graduated, few had mastered Algebra 1 as measured by the Algebra 1 EOC. Only 54% scored at level 3 or 4 (a passing level). Again there was a racial relationship as only 37% of Black female SWD students, and 24% of Black male

SWD students scored at level 3 or 4. Of particular concern is that 27% of Black male SWD students scored at level 1. It can be expected that most of the SWD graduates, who pursue attending college, will need several remedial math classes.

Most of the graduating SWD students did not have college attendance as a goal since only 36% of them took the SAT. Of those who took the SAT, White male SWD students (1007) seemed best prepared for college, and Black female SWD students (768) least prepared

RECOMMENDATIONS

1. Continue to disaggregate distributions and scores of SWD student cohorts to study solutions to academic performance problems.
2. Investigate the identification processes of SWD students in more detail and with additional cohorts of students.
3. Investigate the questions:
 - a. Are we identifying too many Black and male students or too few female students as SWD?
 - b. When are students identified? What is the performance of SWD students identified in high school compared to the performance of SWD students with earlier identification? What is the performance of those that exit the SWD program?
 - c. How does the SWD identification relate to course selection in high school?
 - d. How does the SWD identification relate to both teacher and student academic expectations?
4. Investigate the characteristics of SWD students who graduate in contrast to those that drop out.
5. Look at how schools include the SWD population into their overall school communities. Is there a relationship with student performance?
6. Look for early ninth grade intervention plans for SWD students.
7. Include graduation rate goals and SAT participation goals for SWD students in school improvement plans.

Attachment 1 Additional Graphs

Figure 39
Wake County 2002-03
Distribution of Students with Disabilities by Category

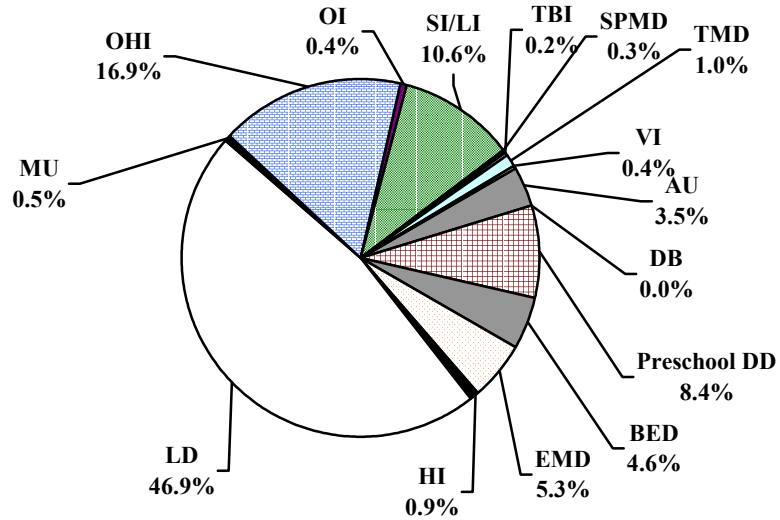


Figure 40
United States 1999-2000
Distribution of Students with Disabilities by Category

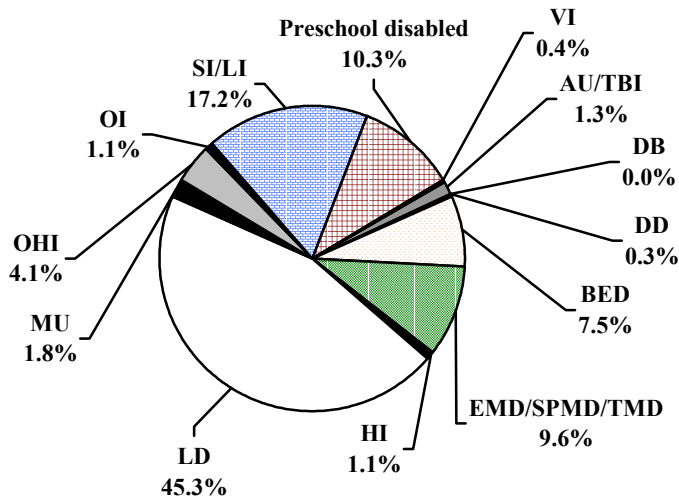


Figure 41
WCPSS 1995 Cohort
Distribution of Black Students with Disabilities by Category

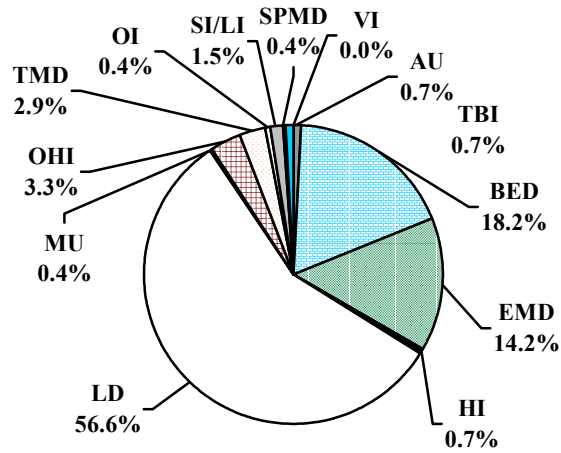


Figure 42
WCPSS 1995 Cohort
Distribution of White Students with Disabilities by Category

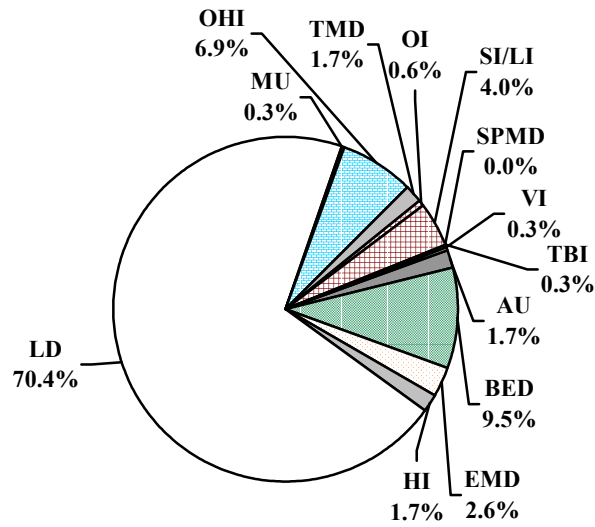


Figure 43
WCPSS 1995 Cohort
Distribution of Male Students with Disabilities

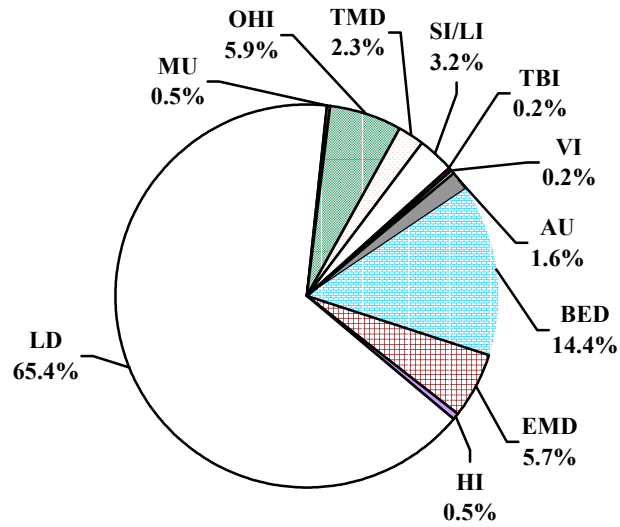
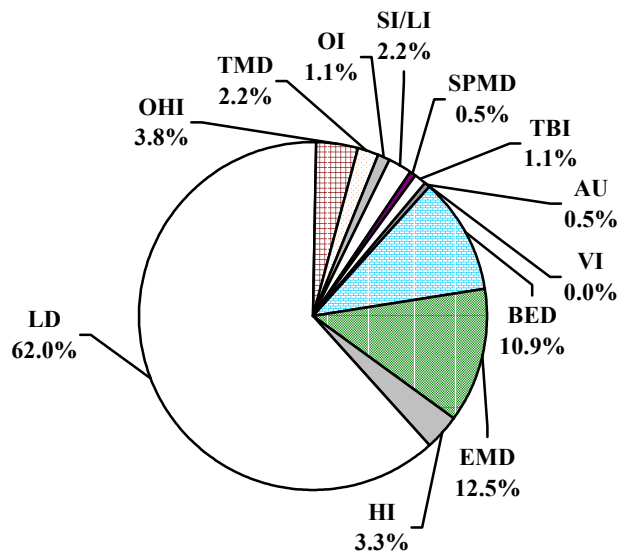


Figure 44
WCPSS 1995 Cohort
Distribution of Female Students with Disabilities



Attachment 2
March 2003 WCPSS SWD Enrollment by grade and race

	1 st grade				2 nd grade			
	SWD		NOT SWD		SWD		NOT SWD	
	#	%	#	%	#	%	#	%
1. Asian	17	4	409	96	26	6	405	94
2. Black	478	19	1983	81	427	19	1851	81
3. Am. Indian	2	9	20	91	3	12	23	88
4. Hispanic/Latino	53	9	530	91	57	10	504	90
5. White	624	12	4698	88	673	13	4496	87
6. Multiracial	28	12	210	88	30	13	203	87
Total	1202	13	7850	87	1216	14	7482	86

	3 rd grade				4 th grade				5 th grade			
	SWD		NOT SWD		SWD		NOT SWD		SWD		NOT SWD	
	#	%	#	%	#	%	#	%	#	%	#	%
1. Asian	11	3	380	97	17	5	349	95	17	4	382	96
2. Black	471	19	1962	81	440	20	1814	80	502	22	1811	78
3. Am. Indian	3	18	14	82	4	20	16	80	8	30	25	70
4. Hispanic/Latino	70	13	482	87	58	10	511	90	63	10	625	90
5. White	741	13	5113	87	778	14	4939	86	792	13	4679	87
6. Multiracial	27	13	183	87	23	11	179	89	30	12	329	88
Total	1323	14	8134	86	1320	14	7808	86	1412	15	8102	85

	6 th grade				7 th grade				8 th grade			
	SWD		NOT SWD		SWD		NOT SWD		SWD		NOT SWD	
	#	%	#	%	#	%	#	%	#	%	#	%
1. Asian	21	5	377	95	25	6	406	94	15	4	411	96
2. Black	516	21	1905	79	605	22	2097	78	556	21	2035	79
3. Am. Indian	4	17	19	83	6	25	18	75	3	12	23	88
4. Hispanic/Latino	61	10	527	90	80	12	564	88	58	8	630	92
5. White	805	14	4977	86	777	13	5060	87	767	13	5143	87
6. Multiracial	32	14	205	86	43	16	220	84	37	14	232	86
Total	1439	15	8010	85	1536	16	8365	84	1436	14	8474	86

	9 th grade				10 th grade				11 th grade				12 th grade			
	SWD		NOT SWD		SWD		NOT SWD		SWD		NOT SWD		SWD		NOT SWD	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1. Asian	14	3	402	97	21	5	413	95	13	4	353	96	17	4	404	96
2. Black	491	19	2071	81	540	22	1956	78	465	20	1828	80	487	19	2021	81
3. Am. Indian	1	4	26	96	5	17	24	83	2	7	25	93	3	10	26	90
4. Hispanic/Latino	87	12	643	88	86	12	1829	88	55	10	520	90	76	13	526	87
5. White	779	13	4156	87	671	12	3858	88	628	10	4579	90	634	12	3773	88
6. Multiracial	29	12	206	88	28	13	194	87	34	12	190	88	21	9	211	91
Total	1401	14	8504	86	1351	14	8274	86	1197	15	7495	85	1238	13	7960	87