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ABSTRACT

Findings of a study that examined the effect of the reforms mandated by South Carolina's Educational Improvement Act of 1984 on student outcomes are presented in this paper. Specifically, the study sought to determine the impact of higher standards for grade promotion and graduation on retention rates, the proportions of students overage for their grade, different demographic groups, and student achievement between the years 1985-86 and 1989-90. Methodology involved analysis of statewide testing and demographic data and school policy reports submitted to the state department of education. Findings indicate that the stricter requirements created a high stakes testing environment. The data suggest modest gains in achievement but no improvement in the dropout rate and school holding power. In addition, student retention in grade increased, with differential effects on students with different demographic characteristics. A conclusion is that despite the modest improvement in achievement, the higher standards have had deleterious effects for some groups, particularly nonwhite males. Four figures and eight tables are included. (Contains 11 references.) (LMI)

Higher Standards for Grade Promotion and Graduation: Unintended Effects of Reform

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South Carolina established itself as a leader in the education reform movement when its legislature enacted the Education Improvement Act (EIA) of 1984. This comprehensive package of reforms included a number of initiatives intended to improve student achievement and school success. These initiatives included cash incentive reward programs for schools and teachers based on test score improvement; programs to identify and intervene in "educationally impaired" school districts; categorical funding programs for gifted and talented students and for students in need of compensatory or remedial instruction; the establishment of state and district policies regarding the promotion or retention of students in grade; and the establishment of a high school Exit Examination along with increased requirements for a state high school diploma.

The EIA was enacted after extensive public debate and with the support of business, parents, and the community at large. The law committed the funds from a one cent increase in the sales tax exclusively to education. Along with funding the new program initiatives, the EIA included a number of accountability provisions. All of these initiatives used data from the state testing programs for the selection, placement, or tracking of students, for the identification of teachers, schools, or districts for rewards or intervention, and for program evaluation. The EIA programs were phased in over the years following enactment of the law. For example, the policies governing the retention or promotion of students in grade became effective in the 1986-87 school year, and the Exit Examination and increased graduation requirements took effect in 1989-90.

This paper examines some of the consequences of the EIA reforms on retention rates, the proportions of students overage for their grade, the impact of the programs on different demographic groups, and on student achievement between the 1985-86 and 1989-90 school years. The authors focused on these areas in the belief that the effects of the retention/promotion policies and increased graduation requirements would be manifested by modest improvements in achievement; higher retention rates in all grades, including kindergarten; and unequally distributed increases in the retention rates observed among different demographic groups.

Background Information

The data from the state testing programs are essential for implementation of many of the EIA programs. By legislative mandate, both criterion-referenced and norm-referenced assessments are administered in South Carolina's testing programs. The criterion referenced program includes a school readiness assessment, the *Cognitive Skills Assessment Battery* (CSAB), and state-developed examinations in reading, mathematics, science, and writing. The writing test consists of short compositions produced by students in response to a prompt; these examinations are scored holistically by at least two trained scorers. A multiple choice format is used for the reading, mathematics, and science tests A high school Exit Examination in reading, mathematics, and writing is part of the criterion referenced testing program. Students must meet the performance standards in all three areas as one of the requirements for earning a high school

diploma. The *Comprehensive Test of Basic Skills*, Form U (CTBS) was administered in the state norm referenced testing program in 1985-86 and 1989-90.

All students in Grades 1 through 11 are tested (except for students who are exempted from testing by their Individualized Education Plans). The CSAB is individually administered to students at the beginning of first grade. Students in Grades 1, 2, 3, 6, 8, and 10 take the criterion referenced examinations in reading and mathematics. In addition, students in Grades 6, 8, and 10 take the writing examination, and students in Grades 3, 6, and 8 take the science examination. Students who fail one or more of the subtests in reading, mathematics, or writing on the high school Exit Examination, given for the first time in Grade 10, have the opportunity to retake the subtests they failed in Grades 11 and 12. The CTBS norm referenced tests are administered to students in Grades 4, 5, 7, 9, and 11.

Students who fail to meet the state readiness standard or the state performance standards in reading, mathematics, or writing are eligible for state-funded compensatory or remedial services. Compensatory program participants generate approximately $400 in additional funds for their school districts in each subject area served, and remedial students generate approximately $175 in each area served. Data from the state testing programs are used in pretest - posttest gain score analyses for an annual evaluation of the state-funded compensatory and remedial programs and for identifying schools to be awarded additional funds in an annual school incentive reward program. Schools which have received incentive awards for two of the most recent three years, have exhibited only positive state

testing program gains for three consecutive years, have achieved at least 1.0 Normal Curve Equivalent gains in the state compensatory programs, and have had no recurring accreditation deficiencies are "deregulated", or freed from compliance with most regulations imposed by the State Department of Education.

Scores obtained from the state testing programs are also used as part of the annual decision to promote or retain students in grade. Prior to the enactment of the EIA in 1984, a study of grade retention policies and regulations in South Carolina school districts revealed that 22% of the districts in the state did not have formal policies for making promotion decisions and that the policies which did exist lacked specificity in their requirements (South Carolina Department of Education, 1984). The EIA specified that all districts were to develop policies designating the criteria to be used in making promotion decisions. The law and subsequent regulations also specified that 25% of the decision to promote or retain a student attending Grades 1 through 8 must be made on the basis of the student's meeting or not meeting the criterion scores for performance on the state basic skills tests in reading and mathematics. The remaining 75% of the decision must be based on the assessment of the student by the student's teacher, as prescribed by the local school district board of trustees. Students must meet at least 70% of the criteria to be promoted to the next higher grade level. These requirements took effect in the 1986-87 school year.

The requirements for a state high school diploma were also increased by the EIA. In addition to earning 20 Carnegie units in specified subject

areas, students receiving diplomas must also meet the state performance standards on the high school Exit Examinations in reading, mathematics, and writing. The Exit Examination is a criterion referenced test based on the set of state basic skills objectives established for Grades 1 through 12. The Exit Examination requirement took effect in the 1989-90 school year.

Except for the Exit Examination, the state testing programs were already established when the EIA was enacted. Many of the EIA reform and accountability requirements were superimposed on a criterion referenced testing program which had been focused on assisting teachers with the identification of individual student deficiencies and on instructional program improvement. The state tests became high stakes tests for students, teachers, and schools with the advent of the EIA.

Data Analyses

The data used for the analyses in this paper were obtained from the statewide testing programs, in which census testing of all students in grades 1-11 was conducted. Both cross sectional analyses of data from the 1985-86 and 1989-90 school years and longitudinal analyses of the six years of test data between 1984-85 and 1989-90 were conducted. The longitudinal analyses are based on data from two cohorts of students. One cohort, designated the Class of 1991, was studied from Grade 6 onward. The other cohort, the Class of 1996, was studied from Grade 1 onward. Demographic information (such as age, gender, current retention status, and ethnicity) from the test data and longitudinal databases were used to

provide disaggregate analyses. The data were analyzed using descriptive statistics such as frequency counts, percentages, and measures of central tendency.

Several analyses were based on identifying students who were "over-age" for their grade. An over-age student was defined as one whose date of birth indicated that the student was more than one year older than expected if the student entered first grade at the legally required minimum age. South Carolina specifies that a student whose sixth birthday falls on or before November 1 must attend first grade. Thus, for example, a student attending first grade in the 1989-90 school year whose sixth birthday fell on November 1, 1988, would be considered as over-age for that grade. Students who are over-age for their grade are most likely to have been retained in a grade, although some of these students could have been ill and started school late, or could have transferred to the South Carolina public school system from another system having different requirements for age at school entrance.

The analyses of student achievement in this paper were based on the number and percentage of students meeting the basic skills achievement standards on the state reading and mathematics tests. The state-administered criterion referenced tests have criterion scores set as indicators of student proficiency in the basic skills. Similar criterion scores have been set for the state-administered norm referenced tests.

An indicator of socioeconomic status (SES) reported in some analyses was derived from information in the test data regarding students' eligibility

for the Federally assisted free or reduced price lunch program. Data from students eligible for free or reduced price lunch assistance were designated as having "Low SES", while data from students ineligible for these programs were designated as having "Not Low SES".

Findings

The proportions of students in Grades 1 through 9 who were over-age for their grade increased between 1985-86 and 1989-90 (see Table 1). The percentages of over-age students increased in each grade level through Grade 9 since 1985-86, with the largest increase (8.1 percentage points) occurring in Grade 9 (data for Grades 10 and 11 were not available for all years). Almost one in five (19.1%) first grade students in 1989-90 were over-age for their grade, and almost two in five (39.2%) of the ninth grade students that year were over-age.

The mean age of first graders increased by 0.3 months between 1985-86 and 1989-90; the mean age of ninth graders increased by 0.9 months in the same period. The median ages of both first and ninth graders did not change during this time. However, the standard deviation of the ages of ninth graders increased by 1.4 months, while the standard deviation of first graders' ages increased by only 0.2 months.

Data obtained from the longitudinal analyses of data from the Class of 1996 and the Class of 1991 suggest that most of the over-age students were retained in grade. The longitudinal databases analyzed were created

by computer-matching student test data from the 1984-85 school year to test data from each subsequent year through 1989-90 (South Carolina Department of Education, 1991a). The Class of 1996 longitudinal file is based on the Spring, 1985, Grade 1 data, and the Class of 1991 file is based on the Spring, 1985 Grade 6 test. Data were kept in the longitudinal databases only if they could be matched for an individual student for all six years studied. Complete data were available for 60.6% of the students tested in Grade 1 in 1985, and for 53.9% of the students tested in Grade 6. The patterns of grade levels attended by the students in the Class of 1996 are listed in Table 2, and the grade level patterns for the Class of 1991 are provided in Table 3.

The longitudinal analyses indicate that at least 23.4% of the Class of 1996 repeated a grade in the six year period studied, and at least 13.1% of the Class of 1991 repeated a grade during this time. Grades 1 and 9 had the largest percentages of repeating students. The retention rates for the Class of 1996 are underestimated because data on the students who repeated kindergarten or who attended Grade 1 in both the 1983-84 and 1984-85 school years were not available. Students who repeated more than one grade during the study period were also not identified.

The percentages of over-age and non-overage students who met the state achievement standards in reading and mathematics are listed in Tables 4 (reading) and 5 (mathematics). With the exception of Grade 1, non-overage students had higher levels of achievement on the state basic skills tests than over-age students in both 1985-86 and 1989-90. Over-age and non-overage students have similar levels of achievement in Grade 1, but the

non-overage students have higher levels of achievement in all grades above the first grade. The differences in achievement levels between the over-age and non-overage students generally increase above Grade 1, always favoring the non-overage students. By the ninth grade the proportion of non-overage students meeting the state standard is at least 30 percentage points greater than the proportion of over-age students. The similar performances of the two groups observed in Grade 1 may have occurred in part because many of the over-age students in Grade 1 were repeating the grade. These students were tested twice on the same level of test, while the non-overage students encountered the test for the first time in the year observed.

The data in Tables 4 and 5 also indicate that the percentages of both over-age and non-overage students meeting the state achievement standards increased between 1985-86 and 1989-90. The improvements were somewhat greater for mathematics than for reading.

The last columns in Tables 4 and 5 reveal the gaps in achievement between the over-age and non-overage students. The numbers in this column represent the difference between the percentages of non-overage students and of over-age students meeting the state standards. These differences are graphed in Figure 1 for reading and Figure 2 for mathematics. In both subject areas, the differences in the performances of the two groups were smaller in 1989-90 than in 1985-86, with the greatest improvement in narrowing the performance gap occurring in mathematics in Grades 4 and 5. In most grades, however, the improvement was rather modest, on the order of one or two percentage points.

The 1989-90 data were further analyzed to assess the impact of the increase in the percentages of over-age students since 1985-86. The distribution of the percentages of over-age students in Grades 1 through 11 is illustrated in Figure 3. The percentage of over-age students is greatest in Grade 9 and declines rather rapidly in Grades 10 and 11 (data for Grade 12 are not available). The standard deviations of student ages in Grades 1 through 11 in 1989-90 graphed in Figure 4 are also highest in Grade 9 and decrease rapidly in Grades 10 and 11 to approximately the level observed in Grade 5. The standard deviation of student age in Grade 9 is almost 11 months.

Large differences in the percentages of over-age students among students from different demographic groups were also observed in the 1989-90 data (see Table 6). By the ninth grade, more than 57% of the non-white male students were over-age for the grade level, while less than 25% of the white female students were overage. More than one-fourth of the non-white male students in first grade were over-age. The percentage of over-age students observed in each group generally increased with each grade between Grades 1 and 9, and then decreased in Grades 10 and 11.

The data for Grades 1 and 9 were further analyzed to identify the demographic groups most affected by the increases in the proportions of over-age students observed between 1985-86 and 1989-90.

The data for Grade 1 listed in Table 7 indicate that:

1. there was a significant increase between 1985-86 and 1989-90 in the proportion of over-age students who were not repeating Grade 1;

2. the proportion of over-age students not eligible for the Federal lunch assistance program increased significantly;

3. the proportion of white students in the over-age group increased significantly;

4. there were no significant changes in the proportions of boys and girls among over-age first grade students.

Similar analyses for Grade 9 are presented in Table 8. The data in Table 8 indicate that:

1. there was a significant increase between 1985-86 and 1989-90 in the proportion of over-age students who were non-white;

2. there was a significant increase in the proportion of over-age students who were not repeating Grade 9 in the 1989-90 school year;

3. there were no significant changes in the proportions of male and female over-age students;

4. information on socioeconomic status was not available.

Discussion

Recent reform movements have emphasized the importance of establishing high standards for student success. One of the consequences of this emphasis has been a renewal of concern about the deleterious effects of "social promotion" from one grade level to another and an increased stress on the use of retention in grade to remediate student deficiencies. The increased reliance on retention for remediation has occurred despite the preponderance of research findings which indicate that the practice is associated with decreased student motivation, increased dropout rate, and truncated opportunities for learning (Holmes, 1989; Holmes & Matthews, 1984).

The remediation of student academic deficiencies was a major focus of South Carolina's Education Improvement Act. The law not only established state-funded remedial and compensatory education programs, it also addressed concerns about social promotion by requiring districts to adopt formal promotion policies which included a major component based on the outcomes of the state testing program examinations. The regulations based on the law also required each school district to submit a copy of its promotion policy to the state Department of Education for review and to submit an annual report to the State Board of Education listing the number of students promoted to the next higher grade who had failed to meet the performance standards on the state testing program examinations.

The EIA provided that a student who failed to meet the criteria for promotion to the next higher grade should be retained in the current grade or should be assigned to a remedial program in the summer. The student could be promoted to the next grade if he or she met the criteria for promotion by the end of the remedial program. A review of district promotion policies submitted to the Department of Education indicated that 64% of the districts mentioned remediation as an alternative to retention (South Carolina Department of Education, 1988). However, retention appears to have been more favored than remediation for many students during the period studied: the number of students receiving remediation in state-funded programs peaked in the 1986-87 school year and declined thereafter (South Carolina Department of Education, 1991a), but the data reported in this study suggest that the retention rate increased since 1986.

The 1989-90 data indicate that the percentages of over-age students and the variability of student age declined above Grade 9. This suggests that the over-age students were more likely to drop out or not return to school in the Fall than the non-overage students. Evidence from the longitudinal analysis of data from the Class of 1991 cohort supports this conclusion: while 47.0% of the students who left school before the end of the study had repeated Grade 6, 7, 8, 9, or 10, only 13.1% of the students who remained in school repeated a grade during the study period (South Carolina Department of Education, 1991a).

In Grade 9, the increase between 1985-86 and 1989-90 in the mean student age and in the variability of student age may reflect educators' concerns about anticipated student performance on the Exit Examination,

which is first administered in Grade 10. Since students must pass all three subtests of the Exit Examination as one of the requirements for earning a high school diploma, districts may be increasing the number of students they hold back in ninth grade to give these students additional instruction to prepare them for the test. However, the increase in the proportion of overage students in Grade 9 who are not repeating the grade suggests that larger proportions of students are also being retained in grade before they reach ninth grade.

The data indicate that the impact of grade retention on the demographic groups studied is not uniform. Non-white male students are clearly over-represented among the over-age students. Male students were more likely to be over-age for grade, but there were no significant changes in the relative proportions of over-age males and females in Grades 1 and 9 between 1985-86 and 1989-90. The increase in the proportion of non-white over-age ninth grade students in the years studied suggest that there may have been inequities in the implementation of the promotion policies for that grade.

The increases in the proportions of first grade over-age students who were not repeating the grade suggest that the kindergarten retention rate increased between 1985-86 and 1989-90. The percentages of over-age students who were white and the percentages of students having higher SES status also increased during this period. The delay of school entrance for preschool children has been referred to as "redshirting" (Bredekamp and Shepard, 1989). Preliminary data from a follow-up study by the authors of over-age children in an elementary school suggest that more middle class

white parents in this school are willing to "redshirt" their "immature" children than in the past. The state-wide data in this paper indicate that "redshirting" may be increasing in South Carolina. Brødekamp and Shepard (1989) suggest that "redshirting" preschool children is a symbol of educational enlightenment for today's parents, just as having a child skip a grade was an educational status symbol for earlier generations.

The gap between the achievement of over-age and non-overage students, which increased with each higher grade, indicates that many children retained in grade are unlikely to "catch up" to grade level. Data obtained from the evaluation of the state-funded compensatory and remedial programs in South Carolina indicate that the Normal Curve Equivalent (NCE) achievement gains of program participants who are currently retained in grade are generally lower than those of participants who were promoted (South Carolina Department of Education, 1991a).

On a more positive note, there were improvements in the achievement levels of both over-age and non-overage students during the period studied. The achievement gaps between the two groups of students also narrowed somewhat over time. However, the improvements were rather modest, and the overall achievement levels for the state remained relatively stable over this period (South Carolina Department of Education, 1989; 1990a; 1990b).

Approximately 29.5% of the students in Grades 1 through 9 in 1989-90 were over-age for their grade. At a current per-pupil expenditure of $3944 per student, the 127,000 over-age students in these grades

represent a $500 million cumulative investment in remediation. Retaining students in grade results in increased enrollments for that grade, which creates a need for more classroom space and may increase transportation costs.

Of far greater importance, however, are the potential social costs associated with students who drop out of school, as retained students are more likely to do (Rumberger, 1987). In spite of efforts to reduce the incidence of dropping out, drop out rates and school holding power have remained stable since 1986 (South Carolina Department of Education, 1991b). In South Carolina, dropouts as a percent of enrollment for Grades 9-12 varied between 4.4% in 1986 to 4.2% in 1989 (data for 1990 are not comparable because a different calculation method was used that year). School holding power, calculated as the ratio of the number of high school graduates to ninth grade membership four years earlier, ranged from 66.3% in 1986 to 64.8% in 1990. School holding power remained relatively stable from 1986 through 1989, but dropped in 1990, the year the increased graduation requirements were fully implemented (South Carolina Department of Education, 1991b).

The reforms enacted in 1984 resulted in increased requirements for graduation and for promotion to the next grade. The reform movement also established a high stakes testing environment for students, teachers, and school administrators. The data described in this paper found modest increases in achievement associated with the reforms. The drop out rate and school holding power did not improve, however. Student retention in grade increased, and the increases differentially affected students having

different demographic characteristics. The data lead to the speculation that, although the efforts to improve achievement are having at least modest effects, the higher standards being imposed are having deleterious effects for some groups.

The full extent of the social and financial impact of policies establishing a high stakes testing environment, higher standards for promotion and graduation, and increased reliance on retention in grade for remediation of academic deficiencies is not yet known. While educational reforms are often enthusiastically implemented, their consequences, both intended and unintended, are often not as energetically examined. The description in this paper of the effects on enrollments, costs, and student outcomes of widely embraced reform policies underscores the need for such studies.

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TABLE 1

PERCENTAGES OF STUDENTS OVER-AGE FOR GRADE

1985-86 and 1989-90 SCHOOL YEARS

Grade	School Year	Percent Over-Age	Total Number of Students
1	1986	17.5	51,660
1	1990	19.1	54,764
Change		+1.6	
2	1986	23.6	44,564
2	1990	24.7	50,001
Change		+1.1	
3	1986	23.8	44,299
3	1990	28.0	49,304
Change		+4.2	
4	1986	26.4	42,388
4	1990	28.6	48,634
Change		+2.2	
5	1986	26.4	42,407
5	1990	30.0	47,104
Change		+3.6	
6	1986	27.6	43,398
6	1990	32.7	46,431
Change		+5.1	
7	1986	30.6	46,762
7	1990	32.5	46,744
Change		+1.9	
8	1986	29.5	46,563
8	1990	33.4	43,512
Change		+3.9	
9	1986	31.1	51,151
9	1990	39.2	47,407
Change		+8.1	

TABLE 2

GRADE LEVEL PATTERNS

CLASS OF 1996 COHORT

Grade Level						Students	
1985	1986	1987	1988	1989	1990	Number	Percent
1	2	3	4	5	6	23,142	76.6
1	1	2	3	4	5	3,123	10.3
1	2	2	3	4	5	1,105	3.7
1	2	3	3	4	5	1,259	4.2
1	2	3	4	4	5	917	3.0
1	2	3	4	5	5	664	2.2
					Total	30,210	100.0

TABLE 3

GRADE LEVEL PATTERNS

CLASS OF 1991 COHORT

Grade Level						Students	
1985	1986	1987	1988	1989	1990	Number	Percent
6	7	8	9	10	11	21,126	86.9
6	6	7	8	9	10	414	1.7
6	7	7	8	9	10	495	2.0
6	7	8	8	9	10	381	1.6
6	7	8	9	9	10	973	4.0
6	7	8	9	10	10	621	2.6
6	7	8	9	9	11	304	1.2
					Total	24,317	100.0

TABLE 4

PERCENTAGES OF STUDENTS OVER-AGE FOR GRADE MEETING STANDARDS ON BASIC SKILLS EXAMINATIONS

1985-86 and 1989-90 SCHOOL YEARS

READING

Grade	School Year	Pct. Not Over-age Meeting Standard (A)	Percent Over-age Meeting Standard (B)	Difference in Passing Rates, Not Over-age minus Over-age (A-B)
1	1986	81.9	84.0	- 2.1
1	1990	85.8	87.4	- 1.6
	Change	+3.9	+3.4	
2	1986	85.5	65.8	+19.7
2	1990	89.1	72.1	+17.0
	Change	+3.6	+6.3	
3	1986	90.9	73.0	+17.9
3	1990	93.2	76.4	+16.8
	Change	+2.3	+3.4	
4	1986	88.7	63.8	+24.9
4	1990	91.6	68.3	+23.3
	Change	+2.9	+4.5	
5	1986	82.5	50.9	+31.6
5	1990	86.6	57.5	+29.1
	Change	+4.1	+6.6	
6	1986	80.8	49.8	+31.0
6	1990	85.8	58.0	+27.8
	Change	+5.0	+8.2	
7	1986	78.2	44.6	+33.6
7	1990	84.8	52.8	+32.0
	Change	+6.6	+8.2	
8	1986	80.3	49.4	+30.9
8	1990	87.0	57.2	+29.8
	Change	+6.7	+7.8	
9	1986	77.9	45.6	+32.3
9	1990	85.0	54.4	+30.6
	Change	+7.1	+8.8	

TABLE 5

PERCENTAGES OF STUDENTS OVER-AGE FOR GRADE MEETING STANDARDS ON BASIC SKILLS EXAMINATIONS 1985-86 and 1989-90 SCHOOL YEARS

MATHEMATICS

Grade	School Year	Pct. Not Over-Age Meeting Standard (A)	Percent Over-Age Meeting Standard (B)	Difference in Passing Rates, Not Over-age minus Over-age (A-B)
1	1986	84.1	85.9	- 1.8
1	1990	86.9	89.1	- 2.2
	Change	+2.8	+3.2	
2	1986	88.5	77.4	+11.1
2	1990	92.5	83.9	+8.6
	Change	+4.0	+6.5	
3	1986	84.1	68.8	+15.3
3	1990	88.9	74.0	+14.9
	Change	+4.8	+5.2	
4	1986	89.4	71.3	+18.1
4	1990	93.5	79.8	+13.7
	Change	+4.1	+8.5	
5	1986	86.4	62.7	+23.7
5	1990	92.4	75.6	+16.8
	Change	+6.0	+12.9	
6	1986	74.5	43.8	+30.7
6	1990	80.7	50.9	+29.8
	Change	+6.2	+7.1	
7	1986	75.2	41.7	+33.5
7	1990	84.9	55.1	+29.8
	Change	+9.7	+13.4	
8	1986	69.0	37.5	+31.5
8	1990	82.8	52.0	+30.8
	Change	+13.8	+14.5	
9	1986	73.7	37.6	+36.1
9	1990	84.4	50.8	+33.6
	Change	+10.7	+13.2	

TABLE 6

Percent Distribution of Over Age* Students by Grade
1989-90 School Year

	Non-White Females	Non-White Males	White Females	White Males
Grade 1	19.4	26.7	11.9	19.5
Grade 2	26.0	36.5	15.2	24.3
Grade 3	29.8	42.6	16.9	26.8
Grade 4	30.8	43.8	16.9	27.2
Grade 5	31.7	45.7	18.1	29.2
Grade 6	34.0	49.3	20.3	31.7
Grade 7	33.6	49.4	18.9	33.4
Grade 8	34.5	50.3	20.4	35.0
Grade 9	37.6	57.4	24.9	39.3
Grade 10	31.8	48.7	17.9	31.1
Grade 11	23.9	40.4	14.2	25.7

*Age on November 2, 1989, calculated from Statewide Testing Program answer documents.

TABLE 7

GRADE 1 STUDENTS OVER-AGE FOR GRADE

DEMOGRAPHIC COMPARISONS

1985-86 AND 1989-90

Variable	Value	Frequency Counts For School Year		Statistic
		1985-86	1989-90	
Repeating Grade 1	Yes	6,954	6,362	χ^2 = 590.69,
	No	2,073	4,103	1 df, p<.0001
		1985-86	1989-90	
Ethnicity	White	3,949	4,812	χ^2 = 9.78,
	Non-White	5,078	5,653	1 df, p<.01
		1985-86	1989-90	
Socioeconomic Status	Low	6,327	6,889	χ^2 = 40.30,
	Not Low	2,700	3,576	1 df, p<.001
		1985-86	1989-90	
Gender	Female	3,523	3,989	χ^2 = 1.69,
	Male	5,504	6,476	1df, NS

TABLE 8

GRADE 9 STUDENTS OVER-AGE FOR GRADE

DEMOGRAPHIC COMPARISONS

1985-86 AND 1989-90

Variable	Value	Frequency Counts For School Year		Statistic
		1985-86	1989-90	
Repeating Grade 9	Yes	4,189	4,533	$\chi^2 = 7.93$,
	No	11,732	13,616	1 df, $p<.005$
		1985-86	1989-90	
Ethnicity	White	7,969	9,030	$\chi^2 = 7.71$,
	Non-White	7,953	9,569	1 df, $p<.005$
		1985-86	1989-90	
Gender	Female	5,981	7,021	$\chi^2 = 0.12$,
	Male	9,941	11,578	1df, NS

FIGURE 1

Differences Between Percentages of Non-Overage And Over-Age Students Meeting State Reading Standards, 1985-86 and 1989-90

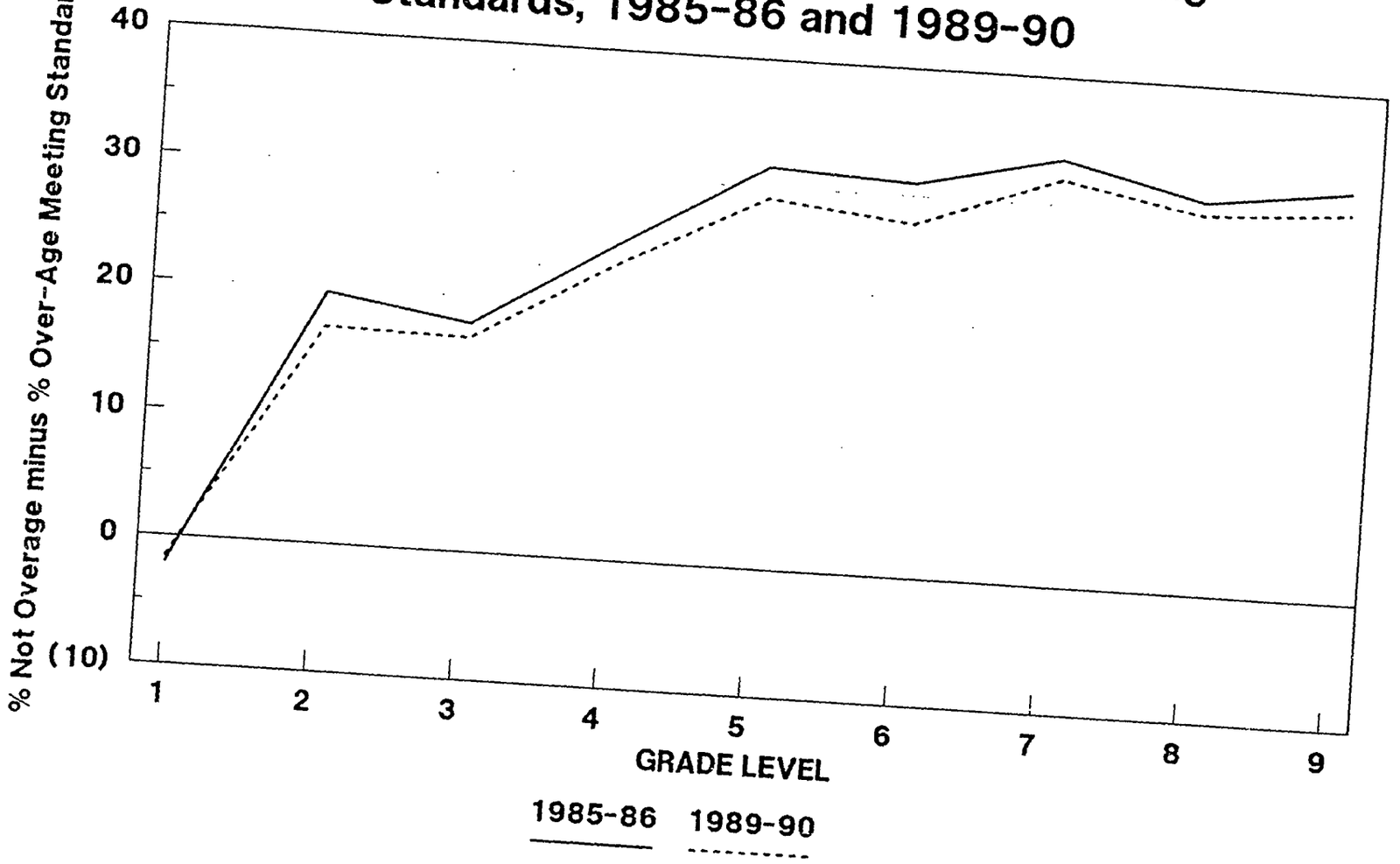

FIGURE 2

Differences Between Percentages of Non-Overage And Over-Age Students Meeting State Mathematics Standards, 1985-86 and 1989-90

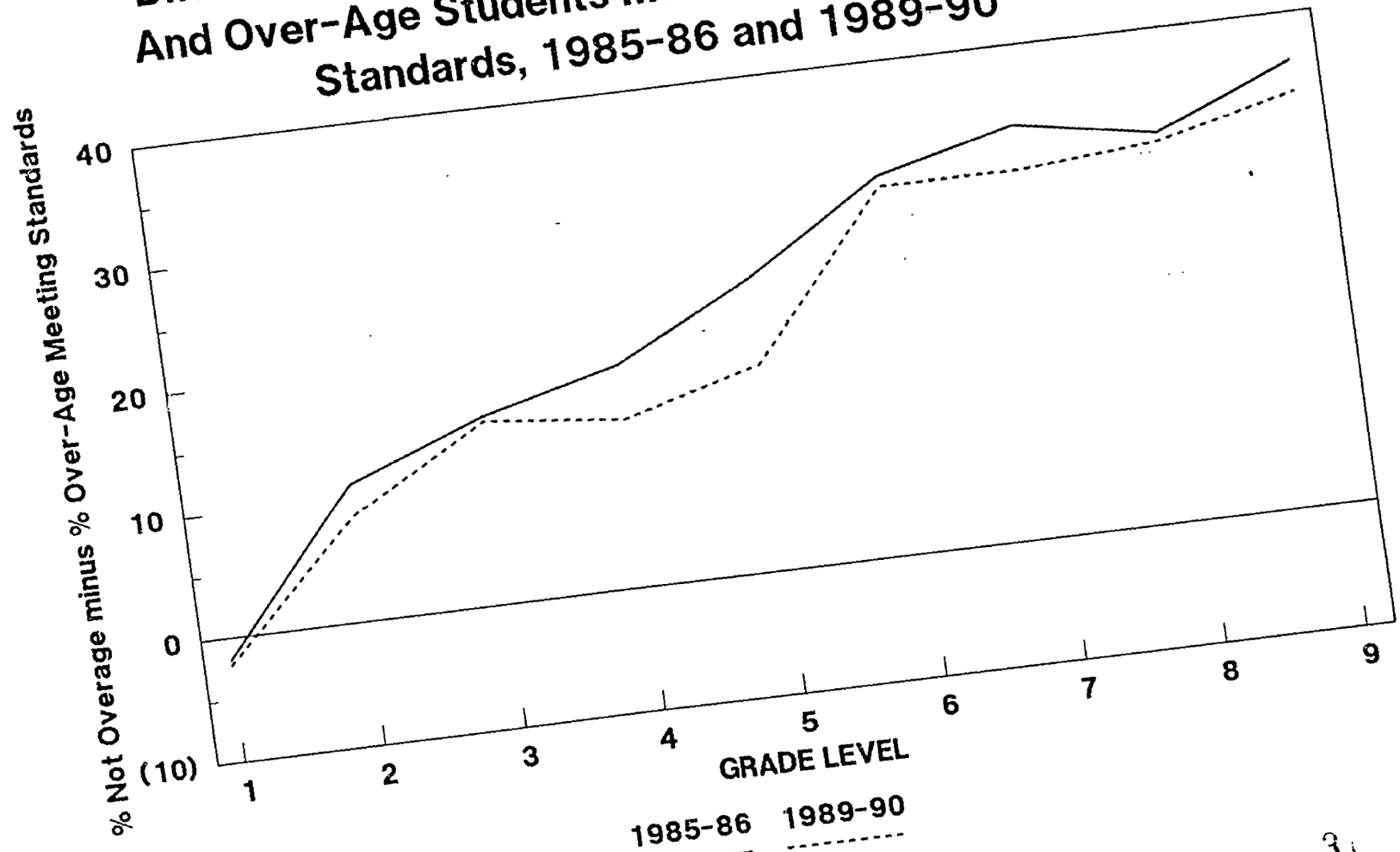

FIGURE 3

Percent Distribution of Over-Age Students By Grade 1989-90 School Year

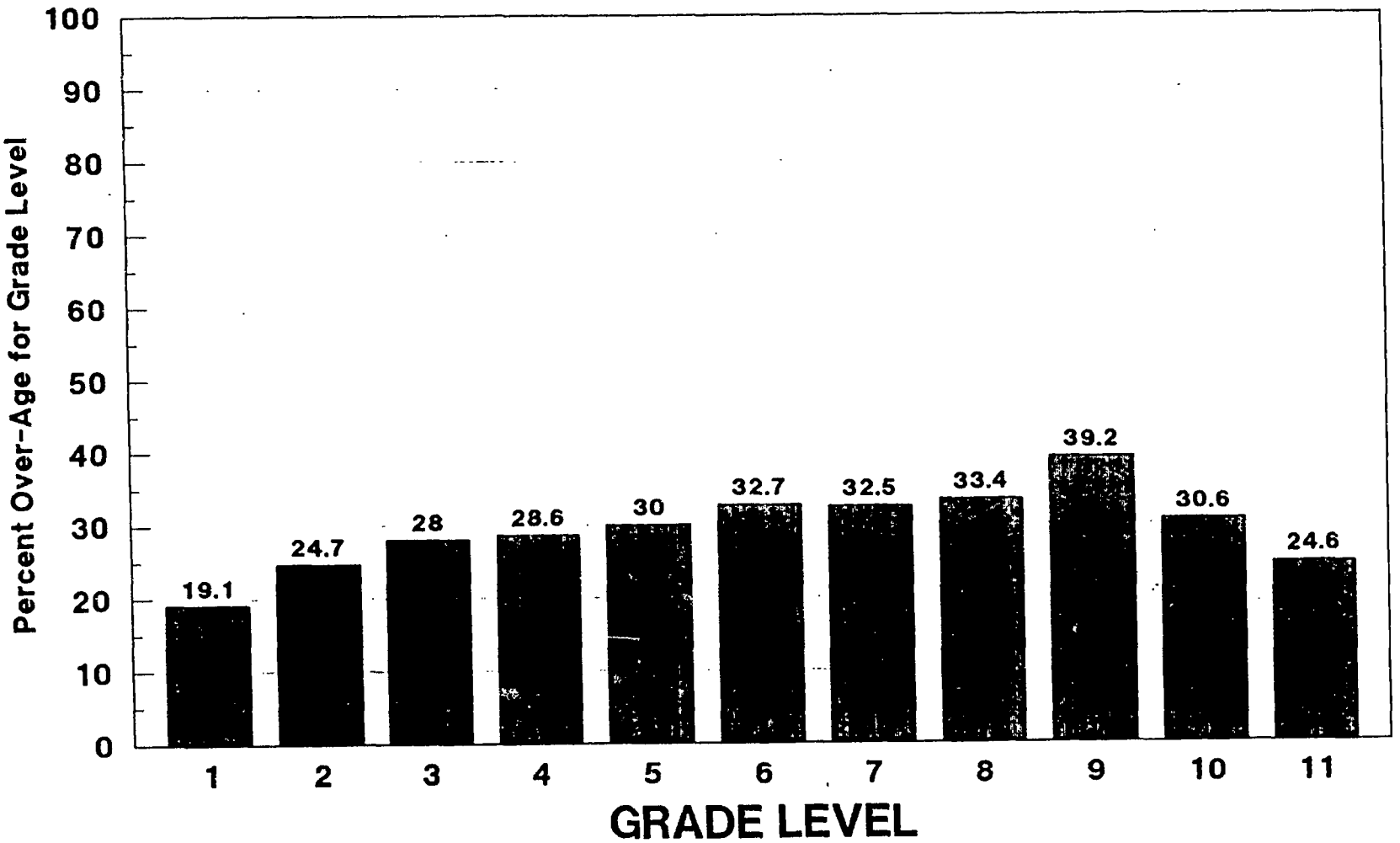

FIGURE 4

Standard Deviations of Ages (In Months) By Grade, 1989-90 School Year