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ABSTRACT

This report presents an evaluation of the 1984-85 Hartford (Connecticut) Project Concern program, an education intervention for children from Title I schools. The report focuses on two areas: (1) monitoring the cognitive and affective impact of Project Concern over the current school year; and (2) examining the extent to which the reading and mathematics achievement gains of various groups of Project Concern students at Grades 3, 4, and 5 were sustained over time. The report provides detailed information regarding the evaluation design, procedures, and findings for these two areas. The different focuses of the report include student achievement (viewed absolutely, in relation to a national norm, and as sustained over time) and student attitudes toward school and learning. Progress is reported in most of these areas, and overall the study supported the claim that Project Concern students have generally maintained and enhanced their achievement performances over time. Thirty-three tables and 18 figures supplement the text. (KH)

FINAL EVALUATION REPORT

1984-85 HARTFORD

PROJECT CONCERN PROGRAM

Conducted by

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Presented to the

Hartford Public Schools

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CHAPTER I

INTRODUCTION AND EVALUATION DESIGN

Introduction

The Hartford Project Concern Program began in September of 1966 as an experiment in educational intervention for children from Title I schools concentrated in the north end of Hartford.[1] Receiving support from many areas (State of Connecticut Department of Education, The Hartford Board of Education, The Hartford Court of Common Council, The Greater Hartford Chamber of Commerce, The Urban League, Community Renewal Team, The NAACP, The Alliance of Ministers, The PTA, The Archdiocese of Hartford, parents, Boards of Education from the five original participating communities, administrators, teachers, members of the legislature, and religious leaders other than the Alliance of Ministers or the Archdiocese of Hartford), the project developed seven objectives in the original application to the Federal Government for funds under Title IV of the Civil Rights Act of 1964.

These objectives were as follows:

1. To develop a structure between a city and its suburbs that will desegregate schools.

2. To discover the attitudes of children, parents, educators, and the community when city children are bussed to the suburbs.

3. To learn what happens to the educational achievement of both city and suburban children when city children go to suburban schools.

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[1] Information relating to the history and current enrollment status of Project Concern was obtained from project materials.

4. To find out what social activities city children can participate in when they go to school in the suburbs.

5. To encourage Connecticut towns to think about desegregation of schools in regional terms.

6. To train school administrators, teachers, and aides for integrated schools.

7. To find out what communities can do to make bussing effective.

From 1966 to 1979, participation of suburban communities increased from five communities (265 children attending 35 schools) to thirteen communities with 1,058 students attending 75 schools. In addition, during the 1979-80 school year 81 students attended six non-public schools in four communities and 289 students attended five inner-city schools in the south end of Hartford. Beginning with the 1980-81 school year, the Project Concern program was reduced. The non-public school component was eliminated and additional students were not allowed to enter the suburban school aspect of the program. In March 1983, Hartford Public School and suburban school personnel met and agreed to restore the enrollment in the suburban school component of Project Concern to 821 students for the 1983-84 and subsequent school years.

Over the years there have been several inquiries regarding the effectiveness of Project Concern. More specifically, school boards, educators, and citizens in participating communities have been asking whether Project Concern is successful from an educational standpoint. The difficulty in answering this question lies in defining the term "successful." Some accept the ability of students of differing races to interact effectively as evidence of the success of Project Concern. Others seek measures of cognitive and affective test growth as evidence of program success.

Two indepth inquiries into the impact of Project Concern for the suburban, non-public and inner-city components were initiated during the 1975-1976

and 1976-1977 school years when the Capitol Region Education Council received grants from the Connecticut State Department of Education to evaluate the program. Further information regarding the rationale and results of these two evaluations can be found in the documents entitled 1975-1976 Hartford Project Concern Evaluation Report (Iwanicki, 1976) and An Evaluation of the 1976-1977 Hartford Project Concern Program (Iwanicki and Gable, 1977). Further, during the 1977-1978 and 1978-1979 project years an evaluation of the cognitive and affective growth of students in the suburban component was conducted (see An Evaluation of the 1977-1978 Hartford Project Concern Program, Iwanicki and Gable, 1978, and Final Evaluation Report 1978-1979 Hartford project Concern Program, Iwanicki and Gable, 1979). More extensive evaluations of Project Concern were conducted during the 1979-1980, 1980-1981, 1981-1982, 1982-1983, and 1983-1984 school years (see Final Evaluation Report 1979-1980 Hartford Project Concern Program, Iwanicki and Gable, 1980; Final Evaluation Report 1980-1981 Hartford Project Concern Program, Iwanicki and Gable, 1981; Final Evaluation Report 1981-1982 Hartford project Concern Program, Iwanicki and Gable, 1982; Final Evaluation Report 1982-1983 Hartford Project Concern Program, Iwanicki and Gable, 1983; Final Evaluation Report 1983-1984 Hartford Project Concern Program, Iwanicki and Gable, 1984). Individuals interested in a summary of the findings of prior evaluations may wish to consult The Hartford Project Concern Program: A Synthesis of the Evaluation Findings from 1976-1980 (Iwanicki and Gable, 1981).

The 1984-1985 Project Concern Evaluation

The evaluation of the 1984-1985 Project Concern program focused on the following two areas:

Monitoring the cognitive and affective impact of Project Concern over the current school year.

Examining the extent to which the reading and mathematics achievement gains of various groups of Project Concern students at grades 3, 4, and 5 were sustained over time.

Subsequent chapters of this report provide detailed information regarding the evaluation design, procedures, and findings for these two areas.

CHAPTER II

MONITORING THE COGNITIVE AND AFFECTIVE IMPACT OF PROJECT CONCERN

Background and Evaluation Design

For at least the last five years the funding proposal for the Project Concern Program has contained the following performance objectives:

1. Pupils will show month for month gains on an average by grade in Language Development.
2. Pupils will show month for month gains on an average by grade in Math.
3. Pupils will show a positive self-concept and attitude toward school at the end of a year's participation.

Up through the 1978-1979 school year, evaluations of the cognitive outcomes stated in the program objectives utilized individually administered achievement tests (i.e., the Woodcock Reading Mastery Tests and the Key Math Diagnostic Arithmetic Test). These tests were administered to a random sample of students at grades 1-8 on a pre- to post test basis. Then, the results were analyzed and reported as they relate to the program objectives.

Some disadvantages to this approach were evident. First, there were some problems in implementing a pre- to post test design on a yearly basis. By the time new participants were selected, transfers were made, project files were updated, and the logistics of sampling as well as pretesting were worked out, students were not pretested until late November or early December. Given that post testing must be conducted in May, there were only five to six months between the times of pre- and post testing. This is a relatively short period of time for examining pre- post test growth.

Secondly, although the results provided evidence of student growth, such growth could not be compared to the growth of comparable students in Hartford since the same tests were not used with the general population of students in the Hartford Public Schools. Also, some Project Concern students were becoming exceedingly test wise on the Woodcock and KeyMath. Alternative forms of these tests were used on a pre- to post test basis for five years. Since the same level was used at grades 1-8, students at the upper grade levels were very familiar with the content of the text exercises. A final disadvantage of the approach used in past evaluations was that some members of the education community and the public questioned the credibility of results based on a random sample.

To alleviate these problems, it was decided that the 1979-1980 and subsequent evaluations of Project Concern would monitor the cognitive performance of all Project Concern students at grades 2-8 on a year-to-year basis using the same group administered achievement tests that are being used in the Hartford Public Schools. During the 1981-1982 school year it was decided that Project Concern participants at grades 9 and 10 would also be tested. Appropriate levels and forms of the Metropolitan Achievement Tests in reading, language, and mathematics would be administered to all project participants in the spring according to the testing schedule used in the Hartford Public Schools. Results from these instruments would be analyzed on a pre- to post test basis (i.e., spring of one year to spring of the next year) and reported as they relate to the objectives of Project Concern.

Along with the Metropolitan Achievement Tests, Project Concern students would also be administered a brief ten-item Student Survey. This Student Survey, developed for use in past evaluations of Project Concern, would be used to monitor Project Concern participants' attitude toward school and self-concept on a continuing basis.

Consistent with this policy for monitoring the cognitive performance of Project Concern students, all participants at grades 2-10 were administered the appropriate level and form of the 1978 version of the Metropolitan Achievement Tests in the spring of 1984. At the same time, these students were administered the Student Survey. The Metropolitan Achievement Tests were administered to all students participating in the Suburban Public and Inner-City school components of the program. Participating suburban school districts accepted responsibility for testing all Project Concern students in ther community using the test materials provided by the Hartford Public Schools.

It is important to note that during the 1979-1980 school year, the Metropolitan Achievement Tests were administered to suburban participants by Hartford Test Specialists. This approach was not used during the 1980-1981, 1981-1982, 1982-1983, or 1983-1984 school years due to the problem encountered by Hartford Test Specialists. Given the time needed to administer the Metropolitan Achievement Tests, it was difficult to administer these tests to students in suburban schools without disrupting their educational program somewhat. In some cases students at the upper grade levels resented being taken away from their normal school activities to be tested, especially by "strangers." Students participating in the Inner-City component of the program were administered the Metropolitan Achievement Tests by their classroom teacher as part of the Hartford Public Schools spring testing program. Project Concern participants were tested according to the following schedule:

Grades	5-8	March 4-15
Grades	2-4 and 9-10	April 1-12

Students were tested in the areas of reading, language, and mathematics using the forms and levels of the Metropolitan Achievement Tests noted below:

Grade	MATs Level	Form
2	Primary 2	KS
3-4	Elementary	KS
5-6	Intermediate	KS
7-9	Advanced 1	KS
10	Advanced 2	KS

At grades 2-4 students were tested using machine scorable booklets, while at grades 5-10 separate machine scorable answer sheets were used. All tests were scored and results reported using the computer facilities of the Hartford Public Schools. It is important to note that only Project Concern Suburban participants were tested at grades 9 and 10. The Inner-City component of the Project Concern program does not operate beyond grades 8. In summary, subsequent analyses of Metropolitan Achievement Tests growth will focus on grades 3-10 for students in the Suburban component of Project Concern and on grades 3-8 for students in the Inner-City program. The number of Project Concern students for whom spring 1985 results were provided is summarized below by grade level and program component.

Grade	Suburban	Inner-City
2	32	8
3	49	7
4	53	20
5	61	20
6	57	25
7	90	11

Grade	Suburban	Inner-City
8	75	15
9	65	
10	81	

Assessing the Achievement Growth of Project Concern Participants

As noted in the prior section, the basic approach being utilized to assess the achievement growth of Project Concern participants is to compare the Metropolitan Achievement Test (MAT) results from the spring of one year to those for the spring of the next school year. Thus, in this year's evaluation of Project Concern, the MAT results obtained for spring 1984 and spring 1985 were compared. In using this approach, spring to spring MAT results must be collated by student. Some students who were tested in the spring of 1985 were not tested in the spring of 1984, either because they were absent or because they were not enrolled in Project Concern at that time. The number and percent of students tested in the spring of 1985 for whom spring 1984 MAT results were available is summarized below by grade level and program component.

Grade	Suburban		Inner-City	
	N	%	N	%
3	28	57	1	14
4	32	60	7	35
5	46	75	17	85
6	49	86	16	64
7	66	73	9	82
8	68	91	15	100
9	52	80		
10	75	93		

The percent of Suburban Project Concern students tested in spring 1985 for whom spring 1984 test scores were available increased at all grade levels in comparison to the 1983-1984 evaluation. This increase is an indicator of the increased stability of Project Concern enrollments resulting from the Hartford Board of Education's renewed commitment to maintaining this program at an enrollment level of approximately 800 students.

In comparing spring 1984 and spring 1985 test results, it is important to note that different test schedules were used during these two administrations of the MATs. In examining the MAT achievement growth, the testing times and growth periods noted below should be kept in mind.

Grade	Spring 1984 MAT Testing Time	Spring 1985 MAT Testing Time	Growth Period
3	2.7	3.7	10 months
4	3.7	4.7	10 months
5	4.7	5.6	9 months
6	5.6	6.6	10 months
7	6.6	7.6	10 months
8	7.6	8.6	10 months
9	8.6	9.7	11 months
10	9.7	10.7	10 months

Procedures for Assessing Achievement Growth

To assess the amount of achievement growth exhibited by Project Concern participants, mean standard scores were calculated by grade level in the areas of reading, language, and mathematics for the spring of 1984 and spring 1985 results. Using appropriate spring norm tables for the 1978 edition of the MATs, spring 1984 and spring 1985 scaled score means were then converted into mean percentile ranks and mean normal curve equivalent scores. The difference

between the spring 1984 and spring 1985 mean normal curve equivalent scores in the basic skill areas was used as a measure of mean growth. The results of these analyses are summarized by grade level and program component in Tables 1-2. Grade 3 results were not reported for the Inner-City component at grade 3, since pre- post test results were available for only one student.

In reviewing these tables, it is important to note that scaled scores provide a measure of student achievement in equal interval units. These scaled scores can be compared across forms and levels of the Metropolitan Achievement Tests within a particular skill area. For example, in the area of Reading for the spring 1985 testing, it is evident that sixth grade Suburban school students exhibited a higher level of performance (750) than fourth grade Suburban school students (679). It is important to note that scaled scores cannot be compared across skill areas. For example at grade 4, one cannot conclude that the spring 1985 Reading performance of students in the Suburban school component (679) is superior to their Mathematics performance (595).

Tables 1 and 2 also contain percentile (%ile) scores. Percentile scores can be explained best using an example. A percentile score of 50 in Mathematics for grade 10 Suburban participants in spring 1985 indicates that on the average, their performance was better than or equal to 50% of the students in the norming population taking the test in the spring at grade 10. Percentiles are not expressed in equal interval units. The difference between scores at the 80th and 90th percentiles is not the same as the difference between scores at the 50th and 60th percentiles. Percentiles can be standardized (i.e., converted to equal interval units) by converting them to normal curve equivalents (NCE). Normal curve equivalents are also reported in Tables 1-2.

Table 1

Summary by Grade Level of Mean Metropolitan Achievement Test
Spring 1984 (Pre-) and Spring 1985 (Post) Results
for Project Concern Students

Suburban Component

N	[1]Type of Score	Reading			Language			Mathem	
		Pre-	Post	Growth	Pre-	Post	Growth	Pre-	Post
28	SS	630	638	8	525	570	45**	515	537
	%ile	55	38	-17	55	47	-8	54	36
	NCE	52.6	43.6	-9.0	52.6	48.4	-4.2	52.1	42.
32	SS	652	679	27**	570	642	72**	558	595
	%ile	46	42	-4	47	52	5	46	37
	NCE	47.9	45.8	-2.1	48.4	51.1	2.7	47.9	43.
46	SS	674	710	36**	647	678	31**	617	655
	%ile	40	46	6	54	49	-5	48	46
	NCE	44.7	47.9	3.2	52.1	49.5	-2.6	48.9	47.
49	SS	713	750	37**	687	738	51**	656	710
	%ile	48	57	9	52	60	8	46	56
	NCE	48.9	53.7	4.8	51.1	55.3	4.2	47.9	53.
66	SS	729	745	16*	721	744	23*	702	720
	%ile	46	46	0	55	52	-3	52	41
	NCE	47.9	47.9	0	52.6	51.1	-1.5	51.1	45.
68	SS	746	778	32*	753	776	23**	731	762
	%ile	46	51	5	55	54	-1.0	48	50
	NCE	47.9	50.5	2.6	52.6	52.1	-0.5	48.9	50.
52	SS	768	801	33*	788	811	23**	773	806
	%ile	46	54	8	58	60	2.0	56	65
	NCE	47.9	52.1	4.2	54.2	55.3	1.1	53.2	58.
60	SS	790	798	8	789	793	4	789	789
	%ile	49	42	-7	52	47	-5.0	56	50
	NCE	49.5	45.8	-3.7	51.1	48.4	-2.7	53.2	50.

SS=Scaled Score; %ile=Percentile Rank; NCE=Normal Curve Equivalent

Table 2

Summary by Grade Level of Mean Metropolitan Achievement Test
Spring 1984 (pre-) and Spring 1985 (Post) Results
for Project Concern Students

Inner-City Component

N	Type of Score	Reading			Language			Mathemat	
		Pre-	Post	Growth	Pre-	Post	Growth	Pre-	Post
7	SS	656	663	7	551	682	31	595	600
	%ile	48	34	-14	72	64	-8	63	39
	NCE	48.9	41.3	-7.6	62.3	57.5	-4.8	57.0	44.1
17	SS	693	713	20*	662	661	-1	620	680
	%ile	49	48	-1	59	42	-17	49	57
	NCE	49.5	48.9	-0.6	54.8	45.8	-9.0	49.5	53.7
16	SS	708	740	32**	698	730	32	684	732
	%ile	44	52	8	57	57	0	58	64
	NCE	46.8	51.1	4.3	53.7	53.7	0	54.2	57.5
9	SS	717	710	7	709	705	-4	703	711
	%ile	40	27	-13	51	38	-13	53	36
	NCE	44.7	37.1	-7.6	50.5	43.6	-6.9	51.6	42.5
15	SS	742	768	26*	719	749	30**	723	765
	%ile	44	46	2	43	43	0	42	52
	NCE	46.8	47.9	1.1	46.3	46.3	0	45.8	51.1

SS=Scaled Score; %ile=Percentile Rank; NCE=Normal Curve Equivalent

An NCE of 50 is indicative of average performance for students at that grade level in the skill areas tested. For example, Suburban Concern pupils at grade 8 exhibited average performance on their post test in Mathematics as evidenced by an NCE of 50. To the extent that the NCE departs from 50, students exhibited above or below average performance in the skill area tested.

Title I evaluation guidelines require that growth in the basic skill areas should be determined by examining the pre- and post test change in the mean normal curve equivalent performance of the students being served. This approach was utilized in assessing the achievement growth of Project Concern participants. In reviewing Tables 1-2, the following points should be kept in mind:

a) A positive NCE gain indicates students have improved their relative standing regarding the national norm group.

b) A zero NCE gain indicates the relative standing of students has not changed regarding the national norm group.

c) A negative NCE gain indicates students have fallen behind in relative standing regarding the national norm group.

Findings Regarding the Cognitive Impact of Project Concern

A basic question which arises in reviewing Tables 1-2 is what do these results tell us about the basic skill growth of Project Concern participants? Achievement growth can be examined on an absolute and on a relative basis. In assessing absolute growth, one is asking the question--how much basic skill growth have Project Concern students exhibited? A measure of absolute growth is provided by comparing spring 1984 to spring 1985 standard score means for each of the skill areas tested. These results are presented by grade level in Tables 1-2. To determine whether the spring to spring basic skill growth exhibited was statistically significant, correlated t-tests for the differences

between means were conducted. Skill areas where Project Concern participants exhibited statistically significant absolute growth are summarized in Table 3. With the exception of grade 10, Suburban Project Concern participants at each grade level exhibited statistically significant achievement growth in most of the skill areas tested. For Inner-City Project Concern, similar results were evident with the exception of grades 4 and 7.

In assessing relative growth, one is asking the question - as a result of the achievement progress exhibited in the areas tested, has the relative standing of the students changed regarding the national norm group? Percentile ranks and normal curve equivalents provide a measure of the relative standing of a group in relation to the national norm. As noted earlier, normal curve equivalents are preferable to percentiles because NCEs are expressed in equal interval units. The relative basic skill growth of Project Concern participants was determined by comparing the spring 1984 and spring 1985 mean NCE performance for each of the skill areas tested. These results are summarized in Table 4. In assessing the relative achievement growth of Project Concern participants based on the results presented in Table 4, the following conclusions can be drawn:

> Inner-City Project Concern participants tended to exhibit relative basic skill growth in those areas at each grade level where statistically significant absolute growth was evident. This indicates that the statistically significant basic skill progress exhibited by these students was generally reflected in an improvement in their standing relative to the national norm group.
>
> Inner-City Project Concern participants exhibited an overall relative NCE gain in Mathematics (+0.5) and losses in Reading (-0.7) and Language (-3.9).
>
> Inner-City Project Concern participants maintained or exhibited NCE gains in all three basic skill areas at grades 6 and 8, while students at grades 4 and 7 exhibited NCE losses in these areas. Pre- post NCE achievement test results for students at grades 5 were mixed.

TABLE 3

Absolute Pre- to Post Metropolitan Achievement Test Growth of Project Concern Participants By Skill Area[1]

Suburban Component

Grade	Reading	Language	Mathematics
3		**	
4	**	**	**
5	**	**	**
6	**	**	**
7	*	*	
8	**	**	**
9	**	**	**
10			

Inner-City Component

Grade	Reading	Language	Mathematics
4			
5	*		**
6	**		**
7			
8	*	**	**

[1]Note: * indicates absolute growth is statistically significant at the .05 level.

** indicates absolute growth is statistically significant at the .01 level.

Table 4

Summary of Mean Normal Curve Equivalent Achievement Growth by Grade Level, Skill Area, and Program Component for Project Concern Participants

No. of Students		Reading		Language		Mathematics	
Suburban	Inner-City	Suburban	Inner-City	Suburban	Inner-City	Suburban	Inner-
28		-9.0		-4.2		-9.6	
32	7	-2.1	-7.6	2.7	-4.8	-4.9	-12.
46	17	3.2	-0.6	-2.6	-9.0	-1.0	4.
49	16	4.8	4.3	4.2	0	5.3	3.
66	9	0	-7.6	-1.5	-6.9	-5.9	-9.
68	15	2.6	1.1	-0.5	0	1.1	5.
52		4.2		1.1		4.9	
60		-3.7		-2.7		-3.2	
401	64	+0.6	-0.7	-0.5	-3.9	-1.2	+0.

Suburban Project Concern participants tended to exhibit relative basic skill growth in reading at each grade level where statistically significant absolute growth was evident. For reading, the statistically significant basic skill growth exhibited by students was usually reflected in an improvement in their standing relative to the national norm group. This was not the case for the skill areas of mathematics and language.

Suburban Project Concern participants exhibited an overall relative NCE gain in Reading (+0.6) and losses in Language (-0.5) and Mathematics (-1.2).

Suburban Project Concern participants exhibited NCE gains in all three basic skill areas at grades 6 and 9, while students at grades 3 and 10 exhibited NCE losses in those three areas. Pre-post NCE achievement test results for students at grades 4, 5, 7, and 8 were mixed.

To obtain further insights regarding the relative basic skill achievement growth of Project Concern participants, NCE Reading and Mathematics results were analyzed by grouping students on the basis of their spring 1984 percentile rank. Four categories were formed as follows:

23rd percentile and below

24th - 36th percentile

37th - 50th percentile

51st percentile and above

Mean NCE reading and mathematics growth is reported for each of these categories by grade level in Tables 5-6. Such data are informative since they provide a measure of relative growth for students of different proficiency levels as determined by their pretest performance. From Tables 5-6 it is evident that a clear relationship does not exist between students' proficiency levels and the amount of Reading and Mathematics growth exhibited. Some trends which emerged are the following:

For Inner-City Project Concern participants, students at or below the 36th percentile at most grade levels tended to exhibit the most NCE growth in Reading and Mathematics.

Table 5

Summary by Grade Level and Percentile Category of
Mean Metropolitan Achievement Test Spring 1984 (Pre-) and
Spring 1985 (Post) NCE Results for Project Concern Students

Suburban Component

Grade	%ile Category	Reading N	Reading Pre-	Reading Post	Reading Growth	Mathematics N	Mathematics Pre-	Mathematics Post	Mathematics Growth
	23 and below	2	31.5	21.8	-9.7	5	25.3	29.1	3.8
	24-36	2	38.3	38.3	0	2	38.3	39.0	0.7
3	37-50	7	45.2	40.7	-4.5	5	45.8	47.9	2.1
	51 and above	17	59.9	47.9	-12.0	16	65.6	45.8	-19.8
	Total	28	52.6	43.6	-9.0	28	52.1	42.5	-9.6
	23 and below	1	25.3	33.0	7.7	4	29.9	30.7	0.8
	24-36	8	40.7	38.3	-2.4	9	40.1	37.7	-2.4
4	37-50	9	46.8	44.7	-2.1	5	48.9	54.2	5.3
	51 and above	14	55.3	51.6	-3.7	13	58.1	46.8	-11.3
	Total	32	47.9	45.8	-2.1	31	47.9	43.0	-4.9
	23 and below	5	23.0	26.3	3.3	10	30.7	38.3	-7.6
	24-36	15	40.1	41.3	1.2	11	38.3	38.3	0
5	37-50	17	45.8	48.9	3.1	7	47.4	42.5	-4.9
	51 and above	9	59.9	65.6	5.7	17	67.7	59.3	-8.4
	Total	46	44.7	47.9	3.2	45	48.9	47.9	-1.0
	23 and below	8	25.3	34.4	9.1	10	26.3	42.5	16.2
	24-36	7	39.0	41.3	2.3	7	38.3	44.7	6.4
6	37-50	11	45.8	50.0	4.2	8	44.1	50.5	6.4
	51 and above	23	59.9	65.6	5.7	24	55.9	61.0	5.1
	Total	49	48.9	53.2	4.3	49	44.7	53.2	8.5
	23 and below	10	28.2	31.5	3.3	7	28.2	18.9	-9.3
	24-36	14	39.0	36.5	-2.5	9	39.0	36.5	-2.5
7	37-50	13	46.3	46.8	0.5	16	44.7	33.0	-11.7
	51 and above	29	60.4	57.5	-2.9	34	62.9	57.5	-5.4
	Total	66	47.9	47.9	0	66	51.1	45.2	-5.9
	23 and below	8	26.3	35.8	9.5	8	21.8	30.7	8.9
	24-36	12	38.3	40.1	1.8	9	37.7	41.9	4.2
8	37-50	18	45.8	48.9	3.1	19	45.8	50.0	4.2
	51 and above	27	59.3	58.7	-0.6	30	59.3	57.0	-2.3
	Total	65	47.9	50.5	2.6	66	48.9	50.0	1.1
	23 and below	13	29.1	39.0	9.9	7	18.9	41.3	22.4
	24-36	9	39.0	46.8	7.8	9	38.3	37.7	-0.6
9	37-50	10	47.4	48.9	1.5	7	45.8	47.9	2.1
	51 and above	20	61.0	63.5	2.5	29	65.6	69.3	3.7
	Total	52	47.9	52.1	4.2	52	52.6	58.1	5.5
	23 and below	17	25.3	30.7	5.4	10	26.3	32.3	6.0
	24-36	10	39.6	41.3	1.7	7	36.5	33.0	-3.5
10	37-50	7	44.7	45.8	1.1	12	46.3	41.3	-5.0
	51 and above	40	60.4	52.1	-8.3	41	64.2	57.5	-6.7
	Total	74	49.5	45.8	-3.7	75	53.2	50.0	-3.2

Table 6

Summary by Grade Level and Percentile Category of
Mean Metropolitan Achievement Test Spring 1984 (Pre-) and
Spring 1985 (Post) NCE Results for Project Concern Students

Inner-City Component

Grade	%ile Category	Reading N	Reading Pre-	Reading Post	Reading Growth	Mathematics N	Mathematics Pre-	Mathematics Post	Mathematics Growth
	23 and below	-	-	-	-	-	-	-	-
	24-36	1	35.1	37.7	2.6	-	-	-	-
4	37-50	2	45.8	39.0	-6.8	1	45.2	58.7	13.5
	51 and above	4	54.2	43.0	-11.2	6	58.7	41.9	-16.8
	Total	7	48.9	41.3	-7.6	7	57.0	44.1	-12.9
	23 and below	4	28.2	29.9	1.7	4	29.9	40.7	10.8
	24-36	3	40.1	44.7	4.6	2	38.3	51.6	13.3
5	37-50	4	45.2	46.8	1.6	3	48.9	45.8	-3.1
	51 and above	6	71.8	62.3	-9.5	8	62.9	62.9	0
	Total	17	49.5	48.9	-0.6	17	49.5	53.7	4.2
	23 and below	2	26.3	33.0	6.7	1	34.4	62.3	27.9
	24-36	3	39.0	47.9	8.9	2	40.1	45.8	5.7
6	37-50	5	45.8	46.8	1.0	5	46.8	42.5	-4.3
	51 and above	6	58.7	60.4	1.7	8	64.2	71.8	7.6
	Total	16	46.8	51.1	4.3	16	54.2	57.5	3.3
	23 and below	1	28.2	15.4	-12.8	-	-	-	-
	24-36	3	38.3	37.1	-1.2	1	39.6	32.3	-7.3
	37-50	4	44.7	35.1	-9.6	3	45.2	33.0	-12.2
	51 and above	1	81.1	67.0	-14.1	5	57.5	50.0	-7.5
	Total	9	44.7	37.1	-7.6	9	51.6	42.5	-9.1
	23 and below	5	25.3	29.1	3.8	5	23.0	33.7	10.7
	24-36	3	35.8	25.3	-10.5	-	-	-	-
8	37-50	1	46.8	56.4	9.6	5	45.2	47.4	2.2
	51 and above	6	67.7	68.5	0.8	5	67.0	69.3	2.3
	Total	15	46.8	47.9	1.1	15	45.8	51.1	5.3

For Suburban Project Concern participants, students at or below the 50th percentile at most grade levels tended to exhibit the most NCE growth in Reading and Mathematics.

In summary, both Suburban and Inner-City Project Concern participants tended to exhibit statistically significant basic skill growth in the areas of Reading, Language, and Mathematics at many grade levels. While such significant absolute growth was reflected in positive relative growth for Inner-City participants in the skill areas of Reading, Language, and Mathematics, this was not the case for Suburban participants in Language and Mathematics. For Inner-City Project Concern Participants, students at or below the 36th percentile tended to exhibit the most relative growth in Reading and Mathematics. Suburban participants at or below the 50th percentile tended to exhibit the most relative growth in Reading and Mathematics.

Monitoring Affective Impact

Several research studies have been shown that affective variables relate to school achievement (see Bloom, Human Characteristics and Student Learning and Purkey, Self-Concept and School Achievement). Consistent with this research, the Student Survey was developed during the 1977-1978 evaluation of Project Concern to examine the affective impact of the program.

The Student Survey contains 10 items which were selected from the Instructional Objectives Exchange nationally normed item pool for assessing the areas of self-concept and attitude toward school. Given the close relationship between how students feel about themselves (self-concept) and their attitudes toward various school situations, the set of 10 items was selected to generally reflect both constructs. The complete sets of self-concept and attitude toward school items could not be employed as separate

measures due to test length considerations. Since the items selected do represent the self-concept and school attitude domains, they can be employed validly to assess students' status.

The Student Survey was administered during the spring of 1985 to Suburban Project Concern students at grades 2-10 and to Inner-City participants at grades 2-8 at the same time as these students were administered the Metropolitan Achievement Tests. Table 7 contains the combined totals, percents and frequencies, for all Project Concern students selecting the "True" responses on the Student Survey. Perusal of the combined totals responses in Table 7 indicates that, overall, the students in Project Concern continue to have positive self-concepts and attitudes toward school. This statement can be supported further by an analysis of the individual items in the survey. Tables 8-9 contain an item by grade level summary of responses to the Student Survey for Suburban and Inner-City participants. The 10 items used in the survey reflected three general areas: feelings about school and school work, attitudes toward classroom participants, and feelings about teachers. The responses to the items tended to be consistent with the data from previous evaluations.

School and School Work. The majority of students feel quite comfortable with their school experience and their school work. For the combined group of respondents, 38% indicated that they often get discouraged in school (item 5), and 53% felt that they were not doing as well in school as they would like to do (item 8). Further, 87% felt that they could get good grades if they wanted to (item 3), 70% felt their school work was fairly easy (item 1), and 81% were proud of their school work (item 7). In addition, only 26% of the Project Concern students felt that they were slow in finishing their school work (item 6). This is a positive finding in that

Table 7

Percent and Frequency of "True" Responses
on the Student Survey for Students Participating in
All Components of the Project Concern Program

N = (625)[a]

Item Stem		Combined Totals	
1.	School work is fairly easy for me.	70%	(432)
2.	My teachers usually like me.	89%	(557)
3.	I can get good grades if I want to.	87%	(543)
4.	I often volunteer to do things in class.	67%	(418)
5.	I often get discouraged in school.	38%	(237)
6.	I am slow in finishing my school work.	26%	(157)
7.	I am proud of my work.	81%	(499)
8.	I am not doing as well in school as I would like to.	53%	(329)
9.	I find it hard to talk in front of class.	42%	(262)
10.	I don't like to be called on in class.	25%	(158)

[a]The sample size per item can vary slightly due to missing data.

Table 8

Percent and Frequency of "True" Responses on the Student Survey
By Grade Level for Students Participating in the Suburban Schools Component of
The Project Concern Program
(N = 540)[a]

Item Stem	Grade Level 2 (N=34)	3 (N=49)	4 (N=41)	5 (N=62)	6 (N=55)	7 (N=92)	8 (N=68)	9 (N=60)	10 (N=76)
l work is fairly easy for	67% (22)	45% (22)	55% (24)	61% (33)	82% (45)	63% (58)	74% (49)	76% (45)	83% (63)
achers usually like me.	91% (31)	86% (42)	89% (39)	86% (53)	91% (50)	89% (80)	94% (64)	100% (60)	95% (72)
get good grades if I to.	68% (23)	57% (28)	82% (36)	79% (49)	93% (51)	95% (87)	97% (66)	97% (58)	100% (76)
en volunteer to do things in .	82% (28)	78% (38)	77% (33)	74% (46)	67% (37)	68% (62)	65% (44)	52% (31)	45% (34)
en get discouraged in school.	41% (14)	51% (25)	37% (16)	41% (25)	35% (19)	34% (31)	33% (22)	32% (19)	42% (31)
slow in finishing my school	41% (14)	29% (14)	33% (14)	23% (14)	24% (13)	23% (21)	21% (14)	24% (14)	23% (17)
proud of my school work.	85% (29)	86% (42)	86% (38)	89% (55)	91% (50)	80% (73)	78% (52)	73% (44)	67% (49)
not doing as well in school would like to do.	38% (13)	31% (15)	35% (15)	57% (35)	53% (29)	58% (53)	61% (41)	70% (42)	65% (49)
d it hard to talk in front e class.	35% (12)	39% (19)	52% (23)	57% (35)	46% (25)	46% (42)	27% (18)	53% (31)	33% (25)
't like to be called on in .	28% (9)	27% (13)	18% (8)	23% (14)	29% (16)	25% (23)	19% (13)	32% (19)	28% (21)

e size per item can vary slightly due to missing data.

[illegible] (< .05)

Table 9

Percent and Frequency of "True" Responses on the Student Survey
By Grade Level for Students Participating in the Inner-City Schools Component by
The Project Concern Program
(N = 85)[a]

	2 (N=9)	3[b]	4 (N=8)	5 (N=22)	6 (N=19)	7 (N=10)	8 (N=1
School work is farily easy for me.	100% (9)		63% (5)	91% (20)	90% (17)	60% (6)	56% (9)
My teachers usually like me.	78% (7)		50% (4)	64% (14)	95% (18)	80% (18)	88% (14)
I can get good grades if I want to.	67% (6)		75% (6)	86% (19)	100% (19)	70% (7)	75% (12)
I often volunteer to do things in class.	100% (9)		88% (7)	75% (15)	90% (17)	60% (6)	63% (10)
I often get discouraged in school.	56% (5)		38% (3)	59% (13)	21% (4)	30% (3)	38% (6)
I am slow in finishing my school work.	22% (2)		25% (2)	32% (7)	21% (4)	50% (5)	13% (2)
I am proud of my school work.	89% (8)		75% (6)	86% (18)	95% (18)	50% (5)	73% (11)
I am not doing as well in school as I would like to do.	44% (4)		50% (4)	46% (10)	33% (6)	60% (6)	44% (7)
I find it hard to talk in front of the class.	56% (5)		75% (6)	27% (6)	32% (6)	50% (5)	25% (4)
I don't like to be called on in class.	33% (3)		50% (4)	32% (7)	11% (2)	20% (2)	25% (4)

[a] Sample size per item can vary slightly due to missing data.

Project Concern students tend to compare themselves positively to their classroom counterparts in this area of work completion. In comparing the responses of Suburban and Inner-City participants, Inner-City students tended to perceive their work as being easier (item 1) and were more satisfied with their work (item 8) than were Suburban students.

Class Participation. The area of class participation is important as the Project Concern students should feel comfortable in their classroom setting. It appears that this is the case since 69% of the combined group indicated they often volunteer to do things in class (item 4). Further, 42% felt that they found it hard to talk in front of the class (item 9) and only 25% indicated that they didn't like to be called on in class (item 10). These figures appear typical of school children in general.

Teachers. The students' perception that their teachers like them is essential for the development of healthy self-images and school attitudes. For the combined group of Project Concern students, 89% indicated that their teachers usually like them (item 2). The two groups agreed in their perception of this item. In comparing responses of Suburban and Inner-City participants, a higher percentage of Suburban students (91%) felt their teachers usually liked them than did Inner-City participants (78%).

With respect to differences in self-concept and school attitudes across grade levels, some significant differences similar to previous years' data for Suburban participants were evident as follows:

> As grade level increased, more students tended to feel that school work was fairly easy for them (item 1).
>
> As grade level increased, more students felt they could get good grades if they wanted to (item 3).
>
> As grade level increased, fewer students indicated they often volunteer to do things in class (item 4).

As grade level increased, fewer students were proud of their school work (item 7).

As grade level increased, more students felt they were not doing as well in school as they would like to do.

For Inner-City participants, the responses differed significantly across grade levels for only item 1. As grade level increased, fewer students tended to feel that school work was fairly easy for them.

In summary, it can be concluded that the self-concept and school attitudes of the Suburban and Inner-City Project Concern students in the areas of school and school work, classroom participation, and teachers are quite positive. The affective orientation of students participating in the 1984-1985 Project Concern Program is fairly consistent with the results of past evaluations of Project Concern when the Student Survey was used.

CHAPTER III

MONITORING THE SUSTAINED COGNITIVE EFFECTS OF PROJECT CONCERN PARTICIPATION

Background

In Chapter II we described the absolute and relative achievement growth of the Project Concern students. It is also important to analyze whether the achievement gains made by Project Concern students are sustained over time.

The 1983-84 Final Report presented the results of a sustained effects study which followed the Spring 1981 grade 3-5 Project Concern students through the Spring of 1984 when they were in grades 6-8. In this Chapter we will present the results of monitoring the trends in achievement for this same group through the 1984-1985 year. Complete sets of data were analyzed for 1981 grade 3-5 students who were in grades 7-9 at the Spring 1985 test time. We will also report the results of a new sustained effects study which will monitor the reading and math achievement levels of the 1983 grade 3-5 students through the Spring 1985 test time. Finally, we will present the results of an analysis of the sustained achievement effects for a matched group of Project Concern and Hartford students who were in grades 3-5 during the 1980-1981 year and continued either in Project Concern or the Hartford schools through the 1984-1985 (grades 7-9) year.

Evaluation Questions

The evaluation questions to be addressed in the three studies are as follows:

Study I

> How are students performing who were in grades 3-5 during the 1980-1981 year and continued in the program through the 1984-1985 year (grades 7-9)?

Study II

> How are students performing who were in grades 3-5 during the 1982-1983 year and continued in the program through the 1984-1985 year (grades 5-7)?

Study III

> How does the achievement of Suburban Project Concern students, who were in grades 3-5 during the 1980-1981 year and continued in the program through the 1984-1985 year (grades 7-9), compare with a comparable group of Hartford students not participating in the program?

Regulations

The evaluation activities are consistent with the federal law and regulations (ECIA, Chapter 1, Section 200.54) which state the following:

> An LEA that receives Chapter 1 funds shall, at least once every three years, conduct an evaluation of its Chapter 1 project that includes...(b) a determination of whether improved performance is sustained over a period of more than one year.

Further, the evaluation activities are consistent with the policy referenced in the Connecticut Chapter 1 Handbook (May, 1982, p. 42) which states the following:

> LEAs are required by statute to include as part of the evaluation plan a methodology for assessing the long range effects of Chapter 1 programs...

> At least once during the three-year application cycle the LEA must collect additional information needed to determine whether the achievement gains measured over 6 or 12 months are sustained over a longer period of time. A variety of evaluation strategies can be used to fulfill this requirement. Generally, the sustained effects study is based on a testing model which includes a pretest, a posttest, and a follow-up posttest.

Evaluation Design: Study I

The first study actually commenced with the 1981-1982 evaluation when the Spring 1981 data files for grade 3-5 students were created so that the Spring 1982, 1983, 1984 and 1985 data points could be merged into the overall file. These data points will be used to answer the following research question:

> How are students performing who were in grades 3-5 during the 1980-1981 year and continued in the program through the 1984-1985 year (grades 7-9)?

Table 10 presents a summary of the evaluation design used to conduct the sustained effects study. Using the Spring 1981 Metropolitan Achievement Test Reading and Mathematics scores as baseline data, the design allowed the sustained effects of 1981 grade 3-5 students to be monitored through Spring 1985 when these same students were in grades 7-9. Table 10 presents a further breakdown of the test time dimension. Displayed are the test times, function of the testing and files set up for the three Spring 1981 grade levels. Note that only students with test scores for all five test periods were included in the study. The necessity of having five data points for each student results in sample size attrition each year the study has been extended. For example, Table 11 lists the total number of students with test scores from the Spring 1981 files with complete data points for the Spring 1984 and 1985 sustained effects studies. Note that the 1985 numbers

Table 10

Sustained Effects Evaluation Design: Study I
Reading and Mathematics

Evaluation Component	Target Information
A. Program Evaluation Year (baseline)	1981
B. Subject Areas	Reading, Mathematics
C. Grade Levels (1981)	3,4,5
D. Schools	Suburban and Inner-City Project Concern
E. Test	Metropolitan Achievement Test (1978 edition)
F. Time Period	Spring 1981, Spring 1982, Spring 1983, Spring 1984, Spring 1985

Time of Testing	Function of Testing	Data Files by Grade Levels		
		File 1	File 2	File 3
Spring 1981	Pretest	3	4	5
Spring 1982	Posttest	4	5	6
Spring 1983	Post-Posttest	5	6	7
Spring 1984	Post-Post-Posttest	6	7	8
Spring 1985	Post-Post-Post-Posttest	7	8	9

Table 11

Number of Complete Data Points for Spring 1981 Baseline and Spring 1984 and Spring 1985 Sustained Effects Studies by Grade Level

Spring 1981 Grade	Spring 1981 Baseline	Spring 1984 Sustained Effects	Spring 1985 Sustained Effects
3	72	58	49
4	84	57	51
5	89	69	45

represent the number of students with five complete data points (i.e., 1981-1985) to be analyzed in this report.

An Assessment of the Spring 1982 to Spring 1985 Sustained Achievement Effects for Project Concern Students: Study I

Tables 12-17 contain the MAT Reading and Mathematics data for the Total Project Concern group as well as the Suburban and Inner-City components. For each grade level the respective standard scores, percentiles, NCE scores, Chapter 1 NCE gains and sustained effects in NCE units are presented. Following each table figures are presented which contain the plots of respective NCE scores.

Prior to discussing the results, a few comments regarding the interpretation of the data for a sustained effects study are in order. Each table lists achievement scores for five points in time: Spring 1981 to Spring 1985. Readers will note that the analysis employs NCE scores which represent relative growth. The scale scores listed in each table represent absolute growth and are used only to generate the corresponding percentile and its associated NCE score. The first two test times (i.e., Spring 1981 and Spring 1982) are used to calculate the Chapter 1 gain which is labeled "Gain" in each table. These gains are calculated on the basis of the associated NCE scores from the 1981 and 1982 data files. The focal points of the table are the three sustained effects (labeled "SE") from the Spring 1982 to Spring 1983, the Spring 1983 to Spring 1984, and Spring 1984 to Spring 1985 test times which are based upon the difference of the respective NCE scores. These SE scores indicate whether the NCE gains made from Spring 1981 to Spring 1982 are sustained over the subsequent pairs of adjacent years. To interpret these scores, we note that SE scores near zero would

Table 12

Summary by Grade Level of Mean MAT Sustained
Effects for Spring 1981 to Spring 1985
for Project Concern Students

Total Group: Reading

Grade (1981)	N		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Sp
3	51	SS	644	683	706	735	
		%ile	42	44	43	49	
		NCE	45.8	46.8	46.3	49.5	
			Gain 1.0	SE -.5	SE 3.2	SE -1.6	
4	49	SS	687	712	747	749	
		%ile	46	46	55	48	
		NCE	47.9	47.9	52.6	48.9	
			Gain 0	SE 4.7	SE -3.7	SE 1.6	
5	42	SS	704	737	750	764	
		%ile	42	50	48	44	
		NCE	45.8	50.0	48.9	46.8	
			Gain 4.2	SE -1.1	SE -2.1	SE 4.8	

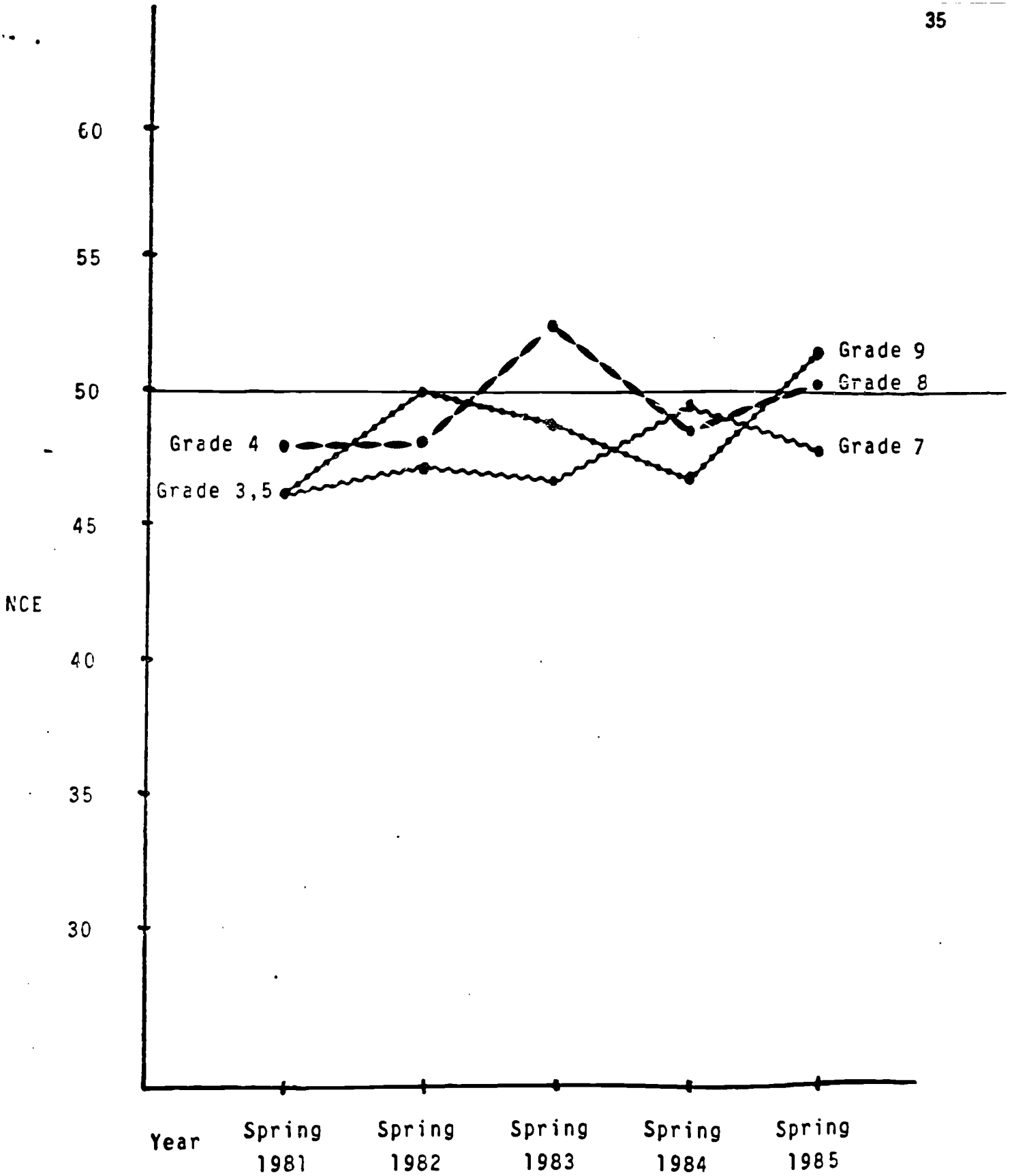

Figure 1. MAT mean NCE reading scores by Spring 1981 grade level: Total Group: Reading

Table 13

Summary by Grade Level of Mean MAT Sustained
Effects for Spring 1981 to Spring 1985
for Project Concern Students

Suburban Component: Reading

Grade (1981)	N		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Sp 1
3	43	SS	649	684	710	737	
		%ile	44	44	45	50	
		NCE	46.8	46.8	47.4	50.0	
			Gain 0	SE .6	SE 2.6	SE -1.1	
4	39	SS	688	712	745	747	
		%ile	46	46	54	48	
		NCE	47.9	47.9	52.1	48.9	
			Gain 0	SE 4.2	SE -3.2	SE 1.1	
5	45	SS	704	737	750	764	
		%ile	42	50	48	44	
		NCE	45.8	50.0	48.9	46.8	
			Gain 4.2	SE -1.1	SE -2.1	SE 4.8	

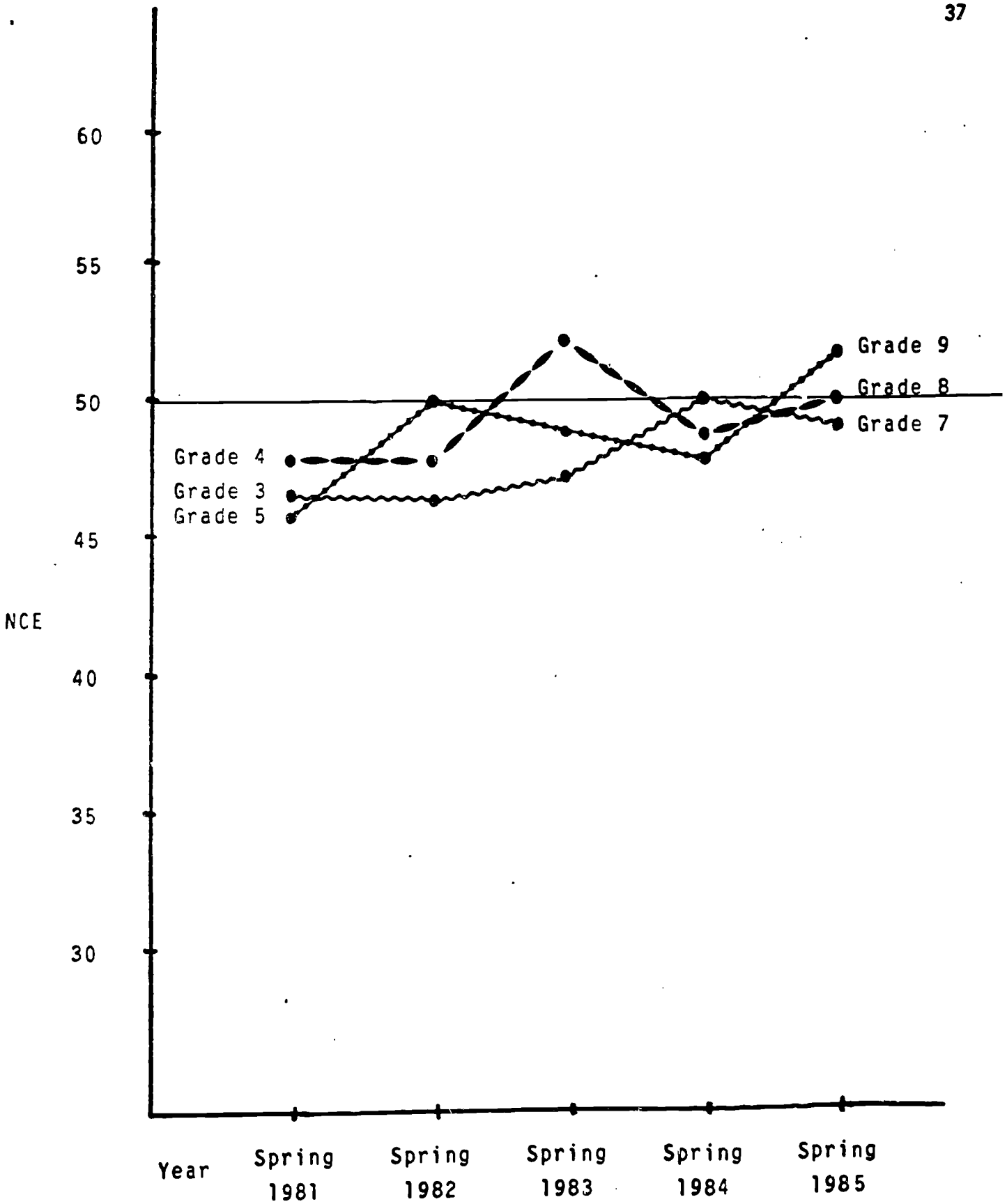

Figure 2. MAT mean NCE reading scores by Spring 1981 grade level: Suburban component: Reading

Table 14

Summary by Grade Level of Mean MAT Sustained Effects for Spring 1981 to Spring 1985 for Project Concern Students

Inner-City Component: Reading

Grade[a] (1981)	N		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Spr 19
3	6	SS	608	670	675	717	
		%ile	24	38	26	40	
		NCE	35.1	43.6	36.5	44.7	
			Gain 8.5	SE -7.1	SE 8.2	SE -5.1	
4	12	SS	682	715	753	755	
		%ile	44	48	58	50	
		NCE	46.8	48.9	54.2	50.0	
			Gain 2.1	SE 5.3	SE -4.2	SE 2.1	

[a]Grade 5 (1981) students deleted since there were no grade 9 (1985) Inner-City Project Concern students.

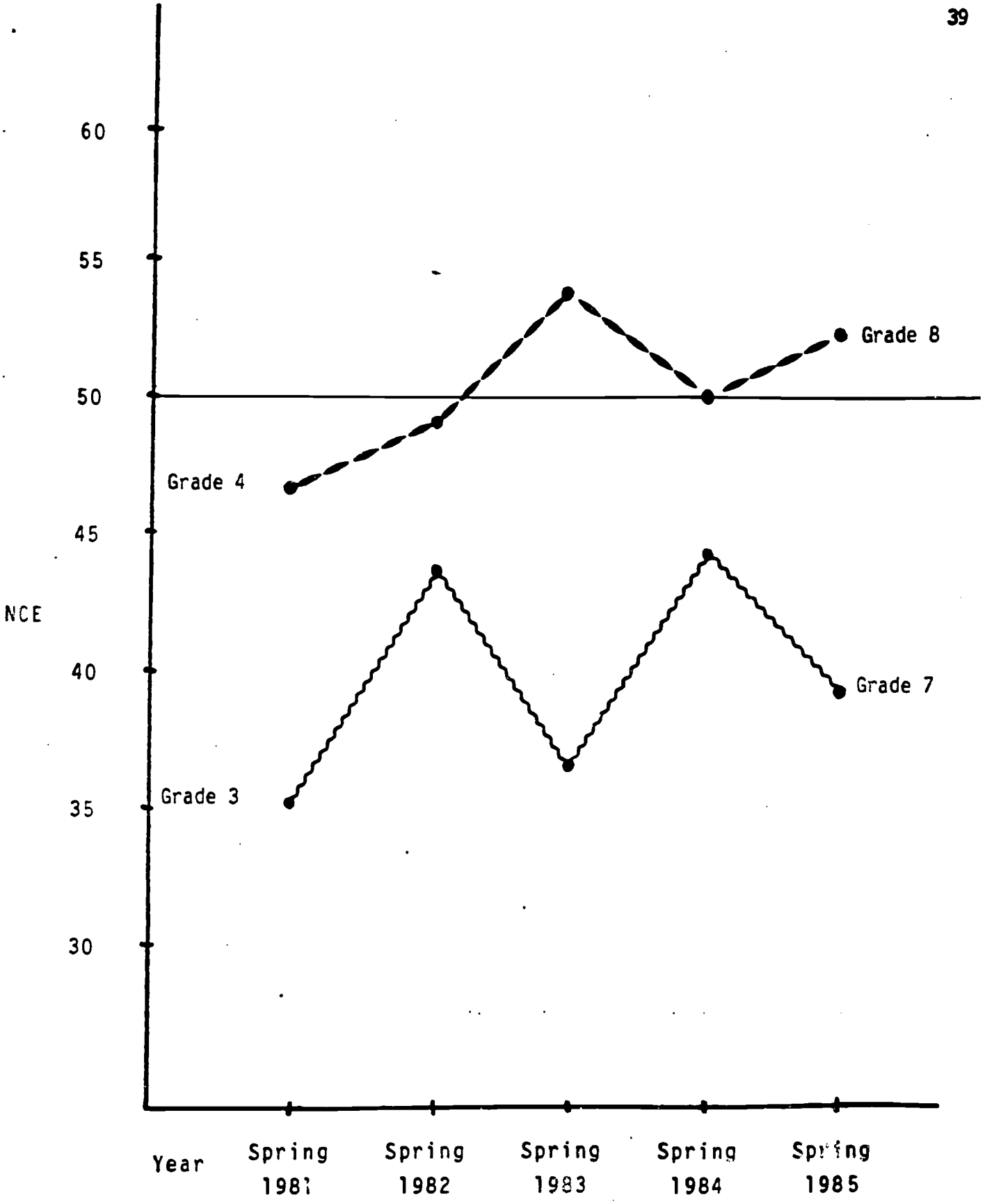

Figure 3. MAT mean NCE reading scores by Spring 1981 grade level: Inner-City component: Reading

Table 15

Summary by Grade Level of Mean MAT Sustained Effects for Spring 1981 to Spring 1985 for Project Concern Students

Total Group: Math

Grade (1981)	N		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Spri 198
3	51	SS	554	613	685	694	71
		%ile	44	46	47	49	3
		NCE	46.8	47.9	48.4	49.5	4
			Gain 1.1	SE .5	SE 1.1	SE -7.0	
4	49	SS	612	665	698	736	76
		%ile	45	50	51	50	5
		NCE	47.4	50.0	50.5	50.0	5
			Gain 2.6	SE .5	SE -.5	SE .5	
5	42	SS	671	712	740	775	80
		%ile	53	56	53	56	6
		NCE	51.6	53.2	51.6	53.2	5
			Gain 1.6	SE -1.6	SE 1.6	SE 4.3	

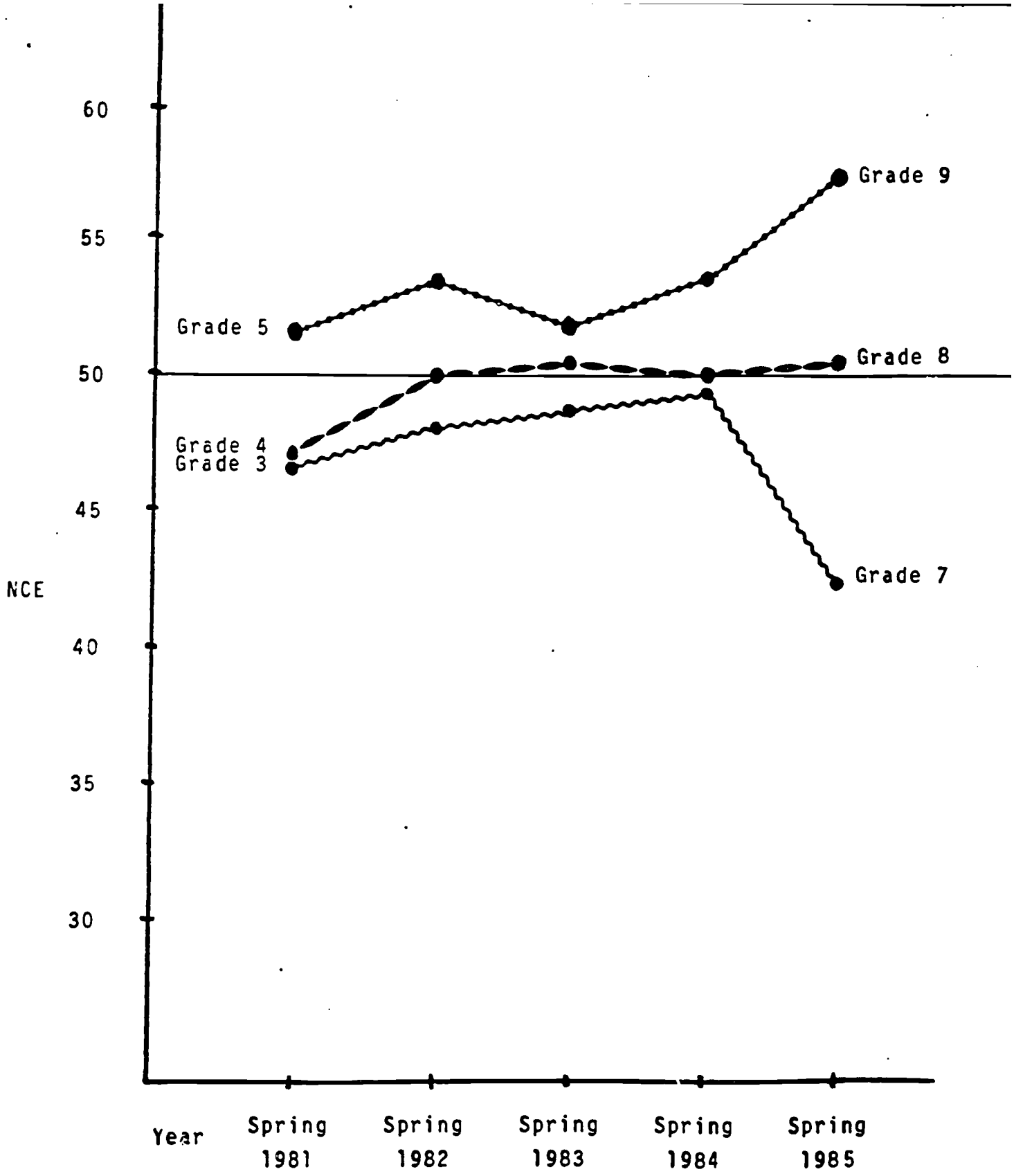

Figure 4. MAT mean NCE math scores by Spring 1981 grade level: Total group: Math

Table 16

Summary by Grade Level of Mean MAT Sustained Effects for Spring 1981 to Spring 1985 for Project Concern Students

Suburban Component: Math

Grade (1981)	N		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Sp
3	45	SS	555	610	658	693	
		%ile	44	44	47	49	
		NCE	46.8	46.8	48.4	49.5	
			Gain 0	SE 1.6	SE 1.1	SE -8.2	
4	37	SS	616	657	689	735	
		%ile	47	46	47	50	
		NCE	48.4	47.9	48.4	50.0	
			Gain -.5	SE .5	SE 1.6	SE -.5	
5	42	SS	671	712	740	775	
		%ile	53	56	53	56	
		NCE	51.6	53.2	51.6	53.2	
			Gain 1.6	SE -1.6	SE 1.6	SE 4.3	

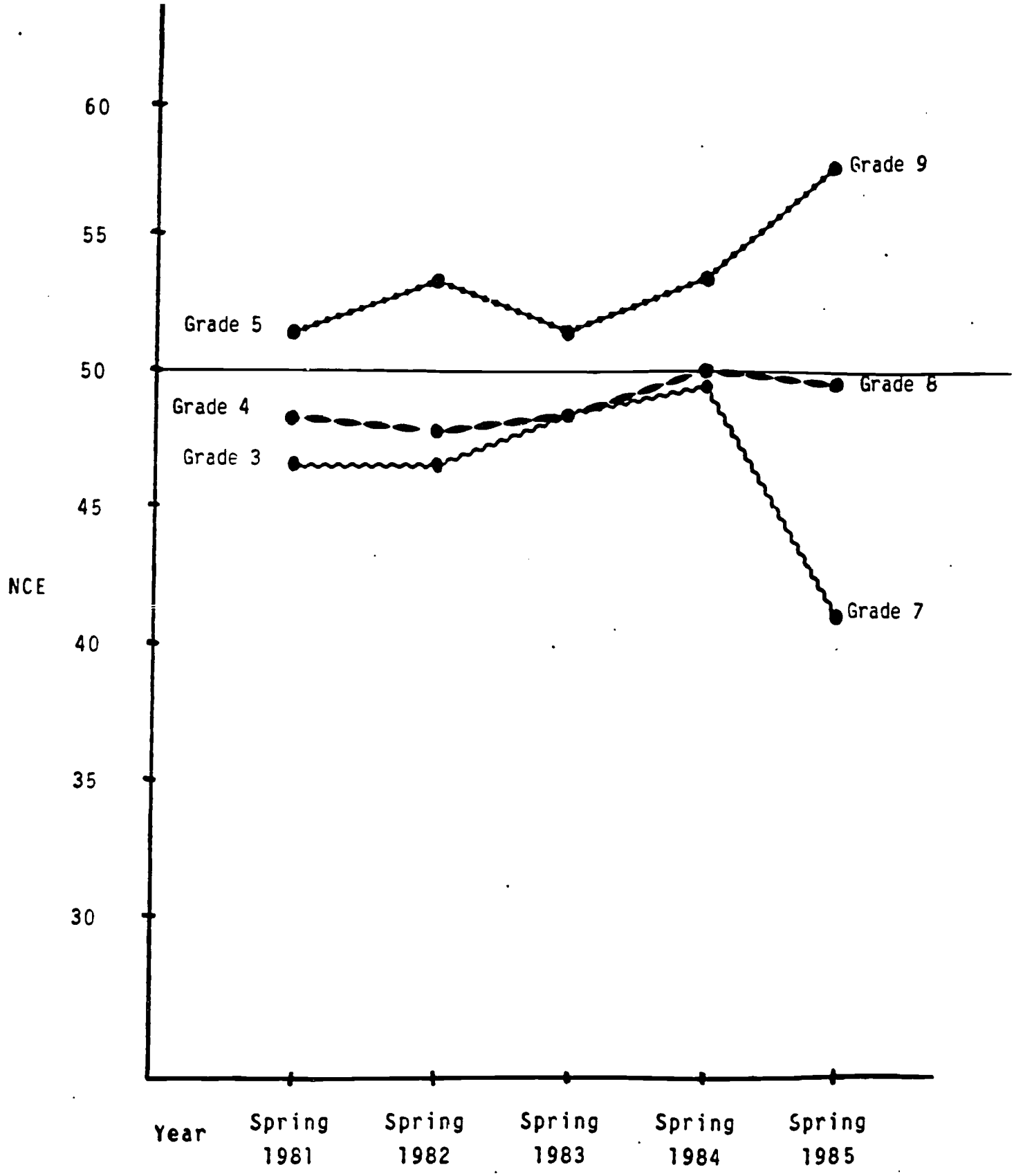

Figure 5. MAT mean NCE math scores by Spring 1981 grade level: Suburban component: Math

Table 17

Summary by Grade Level of Mean MAT Sustained
Effects for Spring 1981 to Spring 1985
for Project Concern Students

Inner-City Component: Math

Grade[a] (1981)	N		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Spring 1985
3	6	SS	541	635	662	702	730
		%ile	38	56	49	52	48
		NCE	43.6	53.2	49.5	51.1	48.9
			Gain 9.6	SE -3.7	SE 1.6	SE -2.2	
4	12	SS	600	690	727	741	777
		%ile	39	61	62	54	57
		NCE	44.1	55.9	56.4	52.1	53.7
			Gain 11.8	SE .5	SE -4.3	SE 1.6	

[a]Grade 5 (1981) students deleted since there were no grade 9 (1985)
Inner-City Project Concern students.

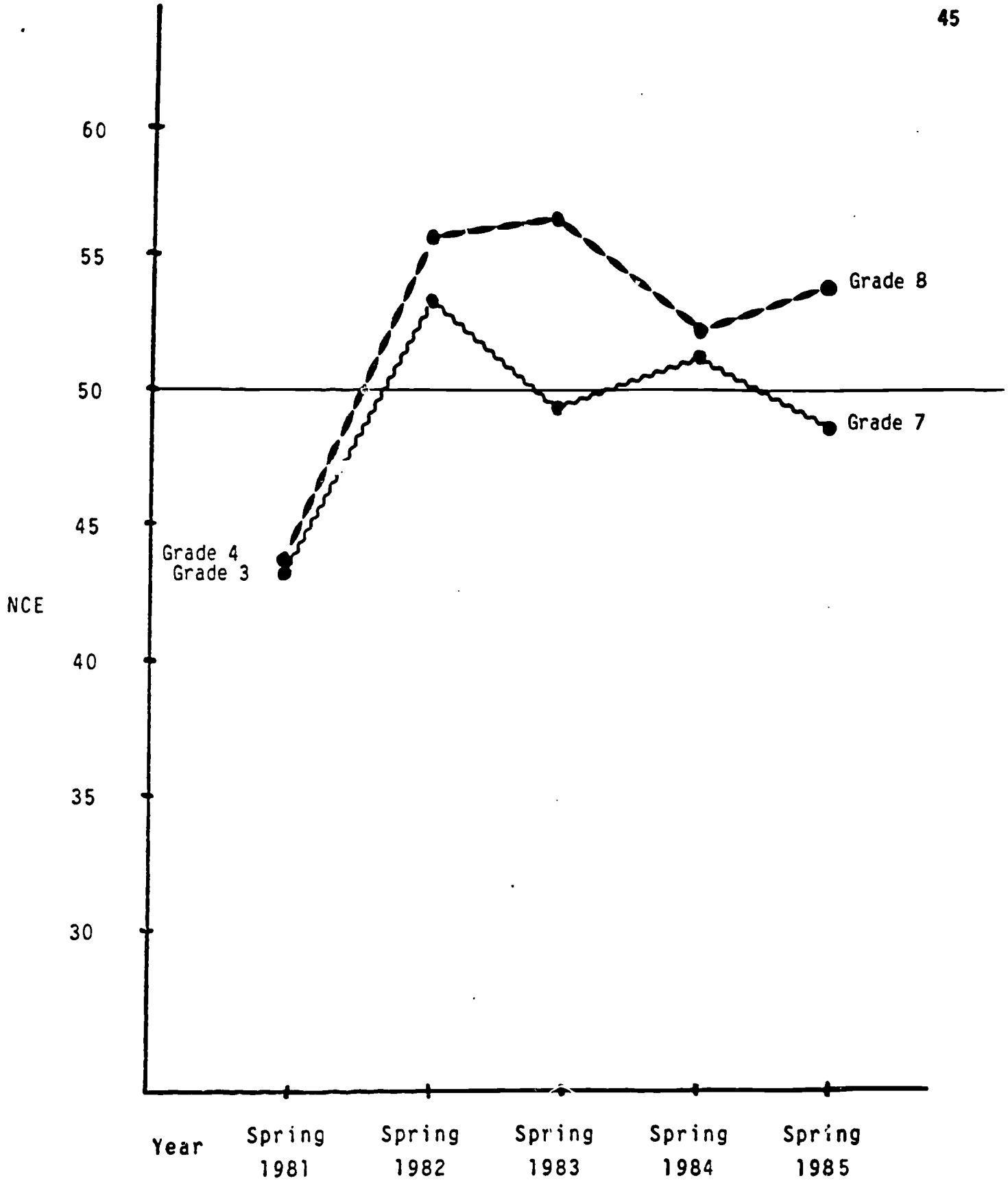

Figure 6. MAT mean NCE math scores by Spring 1981 grade level: Inner-City component: Math

indicate the prior gains were maintained, positive scores would indicate continued growth.

Returning to Tables 12-17, we can now examine the sustained effects of the 1981-1982 achievement gains. For example, Table 12 presents the Reading data for the Total Project Concern group. The first section of the table lists the data for the students who were in grade 3 in the Spring of 1981. From Spring 1981 (grade 3) to Spring 1982 (grade 4) their overall Chapter 1 gain was 1.0 NCE units. Note that since a gain of zero (0) units would indicate no relative growth with respect to the norm group, a gain of 1.0 units is a positive finding. For these same students, the relative 1981-1982 gains were not sustained over the 1982-1983 school year (SE = -.5), increased over the 1983-1984 year (SE = 3.2), and decreased over the 1984-1985 year, but did register a higher Spring 1985 relative achievement level (NCE = 47.9) than for the Spring 1981 data (NCE = 45.8). At the grade 4 level the lack of a gain between Spring 1981 and Spring 1982 was followed by an increase in the sustained effect over the 1982-1983 year (SE = 4.7), a decrease over the 1983-1984 year (SE = -3.7), and a increase over the 1984-1985 year (SE = 1.6). We note also that the Spring 1985 relative achievement level (NCE = 50.6) is higher than the Spring 1981 level (NCE = 47.9). Finally, the grade 5 relative gain of 4.2 NCE units was followed by declines during the 1982-1983 (SE = -1.1) and 1983-1984 (SE = -2.1) years, and an increase over the 1984-1985 school year (SE = 4.8). The Spring 1985 relative achievement level is higher than the Spring 1981 level.

Figure 1 presents a plot of the NCE Reading scores for the Total Project Concern group to illustrate the 1981-1982 gains and the 1982-1983, 1983-1984 sustained NCE achievement levels. Note that the horizontal line in Figure 1 at a NCE of 50 represents relative performance which is "at grade level".

Comparing the Spring 1981 and Spring 1985 achievement levels indicates that at the Spring 1981 test time grades 3, 4 and 5 were slightly below grade level; by Spring 1985 grade 3 (now grade 7) was still below but closer to grade level and grades 4 (now grade 8) and grade 5 (now grade 9) were at or slightly above grade level.

Readers are encouraged to review the Reading achievement data for the Suburban and Inner-City students presented in Tables 13-4 and Figures 2-3. The Total Group, Suburban and Inner-City Mathematics achievement data are represented in Tables 15-17 and Figures 4-6.

Interpretation

The interpretation of the data presented in Tables 12-17 can be facilitated by focusing on two areas: the Spring 1982 to Spring 1985 overall sustained effects and the comparison of Spring 1981 and Spring 1985 achievement levels to "grade level" performance.

Overall 1982-1985 Sustained Effect Level. Table 18 presents a summary of the overall sustained effects levels for the Total Project Concern group as well as the Suburban and Inner-City components. To facilitate understanding of the entries in this table, we will focus on the overall sustained effect of 1.1 NCE units listed for the 1981 grade 3 students for the Total Group in Reading. Referring back to Table 12, we note that these grade 3 students registered a gain of 1.0 NCE units from Spring 1981 to Spring 1982. The sustained effect analysis evaluated if this level of gain was maintained from Spring 1982 to Spring 1985. Whereas Table 12 presented the sustained effects of adjacent years, Table 18 presents the comparison of the Spring 1982 and Spring 1985 achievement levels. The three year sustained effect is

Table 18

Overall Spring 1982 to Spring 1985 Sustained Achievement Effects for Total, Suburban and Inner-City Project Concern Groups by Spring 1981 Grade Level

Grade 1981	Grade 1985	Total Group Reading	Total Group Math	Suburban Reading	Suburban Math	Inner-City Reading	Inner-City Math
3	7	1.1	-5.4	2.1	-5.5	-4.0	-4.3
4	8	2.6	.5	2.1	1.6	3.2	2.2
5	9	1.6	4.3	1.6	4.3	a	a

[a]Grade 5 (1981) students deleted since there were no grade 9 (1985) Inner-City Project Concern students.

calculated as the sum of the three separate effects (i.e., see Table 12, grade 3: -.5 + 3.2 - 1.6 = 1.1) or the difference between the Spring 1985 NCE level and the Spring 1982 NCE level (i.e., 47.9 - 46.8 = 1.1).

By focusing on these overall sustained effects presented in Table 18, we can now summarize the data in Tables 12-17 on the basis of comparisons relative to a norm group using NCE scores as follows:

Total Group

Reading. Grades 3, 4 and 5 (1981) increased their 1981-1982 gains in Reading performance.

Math. Grade 3 (1981) exhibited an overall decline in Math performance as of grade 7 (1985); grade 4 (1981) and grade 5 (1981) exhibited overall increases in their 1981-1982 Math performance gains through grade 8 (1985) and grade 9 (1985) respectively.

Suburban

Reading. Grades 3, 4 and 5 (1981) increased their 1981-1982 gains in Reading performance.

Math. Grade 3 (1981) exhibited an overall decline in Math performance as of grade 7 (1985); grade 4 (1981) and grade 5 (1981) exhibited overall increases in their 1981-1982 Math performance gains through grade 8 (1985) and grade 9 (1985) respectively.

Inner-City

Reading and Math. Grade 3 (1981) students exhibited an overall decline in Reading and Math performance as of grade 7 (1985); grade 4 (1981) students exhibited overall increases in their 1981-1982 Reading and Math performance gains as of grade 8 (1985).

In summary, these findings suggest that for the Total Project Concern group 1981-1982 Reading achievement gains were sustained and increased for the 1982-1985 period for the three grade levels studied. This was also the case in Math for the 1981 grade 4 and 5 students, but not for the 1981 grade 3 students. Since we know that sustained effects at the 0.0 (i.e., no change) level indicate that achievement has been maintained at a level

relative to growth of the norm group, the NCE growth indices in Table 18 are positive indications of student growth above the performance of the national norm group. The overall declines in the area of Math for 1981 grade 3 students in the Suburban and Inner-City groups should be discussed by project staff.

To facilitate this discussion, we note that the decline in Math performance was most recently evident for the grade 3 (1981) Suburban students (see Table 16) during grade 7 (i.e., Spring 1984 to Spring 1985); the most recent declines in both Reading and Math performance for the grade 3 (1981) Inner-City students were also during grade 7 (see Tables 16 and 17). This trend for a decline in performance during the grade 7 middle school transition may be expected by some and possibly easily explained. We merely point out that Table 18 depicts the possible trend for the overall three year 1982-1984 sustained effects data.

Further inspection of the adjacent year sustained effects indices in Tables 12-17 suggests that declines in both Reading and Math performance were consistently present for the Spring grade 7 data (see the SE indices in boxes). These grade 7 declines were noted in comparison to the prior Spring grade 6 data which consistently depicted increases in relative achievement performance levels during grade 6 (see Tables 12-17). The only exception was found in Table 16 for the grade 4 (1981) Spring 1983 to Spring 1984 data.

To illustrate this point, we will review the data in Table 12. The three grade 7 sustained effect indices relevant for 1981 grades 3, 4 and 5 are located respectively under Spring 1984 - Spring 1985 (grade 3, -1.6), Spring 1983 - Spring 1984 (grade 4, -3.7), and Spring 1982 - Spring 1983 (grade 5, -1.1). Readers will note that the three respective sustained effects NCE indices all suggest a decline during grade 7 following an

increase during grade 6. Readers can locate these same trends in Tables 13-17 (see SE indices in boxes). These findings could have implications for curricula, instruction and testing areas. Ordinarily we would suggest that Hartford staff may wish to discuss the match among the stated curriculum: what is taught, and how well the MAT assesses what is taught at the grade 7 level (i.e., the issues of instructional and curricular validity). In this situation several different school systems are involved so it is difficult to analyze the curricular and testing implications of these findings. It may be that the nature of the MAT norm group contributes to this trend in the data. Some educators have stated that the Hartford students mature at an earlier age than the general population represented in the norm group. This earlier maturity may often result in emphasis on social relationships during the grade 7 middle school experiences. Comparisons of the Hartford students with a national norm group could result in an apparent decline in grade 7 and possibly grade 8 relative achievement levels. During grade 9 the comparison with the national norm group would most likely result in positive sustained achievement effects indices. Readers can examine the Spring 1981 grade 5 data in Tables 12, 13, 15 and 16 where this was indeed the case for the Spring 1985 grade 9 students. The Spring 1984 to Spring 1985 sustained effect (SE) indices in the lower right side of these tables (underlined with a bold line) are all positive values indicating achievement growth above the level exhibited by the overall norm group.

Grade level performance. Grade level performance comparisons also assist in interpreting the sustained effects data presented in Tables 12-17. Recalling that performance at the 50th %ile or above indicates "grade level or above" relative achievement performance, the Total Group, Suburban, and

Inner-City Spring 1981 and Spring 1985 data were examined. Table 19 presents a summary of the findings. A plus sign (+) indicates that the relative achievement level was at or above grade level at the time of testing; a minus (-) sign signifies below grade level performance.

Inspection of the data for the Total Group, Suburban and Inner-City components indicates that, for these cohort groups studied over the four year period, achievement has been improving on an overall basis. For the Total Project Concern group comparisons for three grade levels and two content areas (i.e., six comparisons) suggest that three of the comparisons (i.e., Reading, 1981 grades 4 and 5; Math, 1981 grade 4) were associated with below grade level Spring 1981 performance and above grade level Spring 1985 performance. For no comparisons were the Total, Suburban or Inner-City groups associated with a trend from above (Spring 1981) to below (Spring 1985) grade level performance. These overall trends are depicted in Figures 1-6 where points above a NCE of 50 (i.e., the 50th %ile) indicate above grade level performance.

Summary

This section has presented the results of a sustained achievement effects study for Spring 1981 grades 3-5 students who were in Project Concern as of Spring 1985 (grades 7-9). Overall, the findings support the claim that Project Concern students have generally maintained and enhanced their achievement performance over time. The exception to this general trend was found for all three cohort groups during grade 7.

Table 19

Grade Level Achievement Performance Status
for Spring 1981 and Spring 1985 Cohorts
by Project Concern Group and Grade

Group	MAT Area	1981 Grade	Achievement Relative to Grade Level[a] Spring 1981	Spring 1985
Total	Reading	3	-[b]	-
		4	-	+
		5	-	+
	Math	3	-	-
		4	-	+
		5	+	+
Suburban	Reading	3	-	-
		4	-	+
		5	-	+
	Math	3	-	-
		4	-	-
		5	+	+
Inner-City	Reading	3	-	-
		4	-	+
	Math	3	-	-
		4	-	+

[a]Grade level performance represents a NCE of 50 or the 50th percentile.

[b](-) = Below grade level
(+) = At or above grade level

[c]Grade 5 (1981) data not presented since there were no grade 5 (1985) Inner-City Project Concern students.

Evaluation Design: Study II

The second sustained achievement effects study addressed the following research question:

> How are students performing who were in grades 3-5 during the 1982-1983 year and continued in the program through the 1984-1985 year (grades 5-7)?

Table 20 presents a summary of the evaluation design used to conduct the second sustained effects study in the areas of Reading and Mathematics. Using the Spring Metropolitan Achievement Test Reading and Mathematics scores as baseline data, the design allowed the Spring 1983 - Spring 1984 gains to be examined for sustained achievement effects from Spring 1984 to Spring 1985. Table 20 also presents a breakdown of the test time dimension. Displayed are the test times, function of the testing and files set up for the three grade levels. Note that only students with test scores for all three test periods were included in the study.

An Assessment of the Spring 1984 to Spring 1985 Sustained Achievement Effects for Project Concern Students: Study II

Tables 21-26 present the MAT Reading and Mathematics data for the Total Project Concern group as well as students in the Suburban and Inner-City components. Figures 7-12 present plots of the achievement data. Readers are referred to the section of Study I presented earlier in this chapter for a description of the table entries and the interpretation strategy for gains and sustained effect indices.

On the basis of the data presented in Tables 21-26 and Figures 7-12 the following summary of achievement levels relative to a norm group is presented:

Table 20

Sustained Effects Evaluation Design: Study II
Reading and Mathematics

Evaluation Component	Target Information
A. Program Evaluation Year (baseline)	1983
B. Subject Areas	Reading, Mathematics
C. Grade Levels (1983)	3,4,5
D. Schools	Suburban and Inner-City Project Concern
E. Test	Metropolitan Achievement Test (1978 edition)
F. Time Period	Spring 1983, Spring 1984, Spring 1985

Time of Testing	Function of Testing	Data Files by Grade Levels		
		File 1	File 2	File 3
Spring 1983	Pretest	3	4	5
Spring 1984	Posttest	4	5	6
Spring 1985	Post-Posttest	5	6	7

Table 21

Summary by Grade Level of Mean MAT Sustained Effects for Spring 1983, Spring 1984 and Spring 1985 for Project Concern Students

Total Groups: Reading

Grade (1983)	N		Spring 1983	Spring 1984	Spring 1985
3	36	SS	643	675	699
		%ile	41	40	39
		NCE	45.2	44.7	44.1
			Gain -0.5	SE -0.6	
4	48	SS	697	720	754
		%ile	51	52	58
		NCE	50.5	51.1	54.2
			Gain 0.6	SE 3.1	
5	62	SS	704	733	740
		%ile	42	48	43
		NCE	45.8	48.9	46.3
			Gain 3.1	SE -2.6	

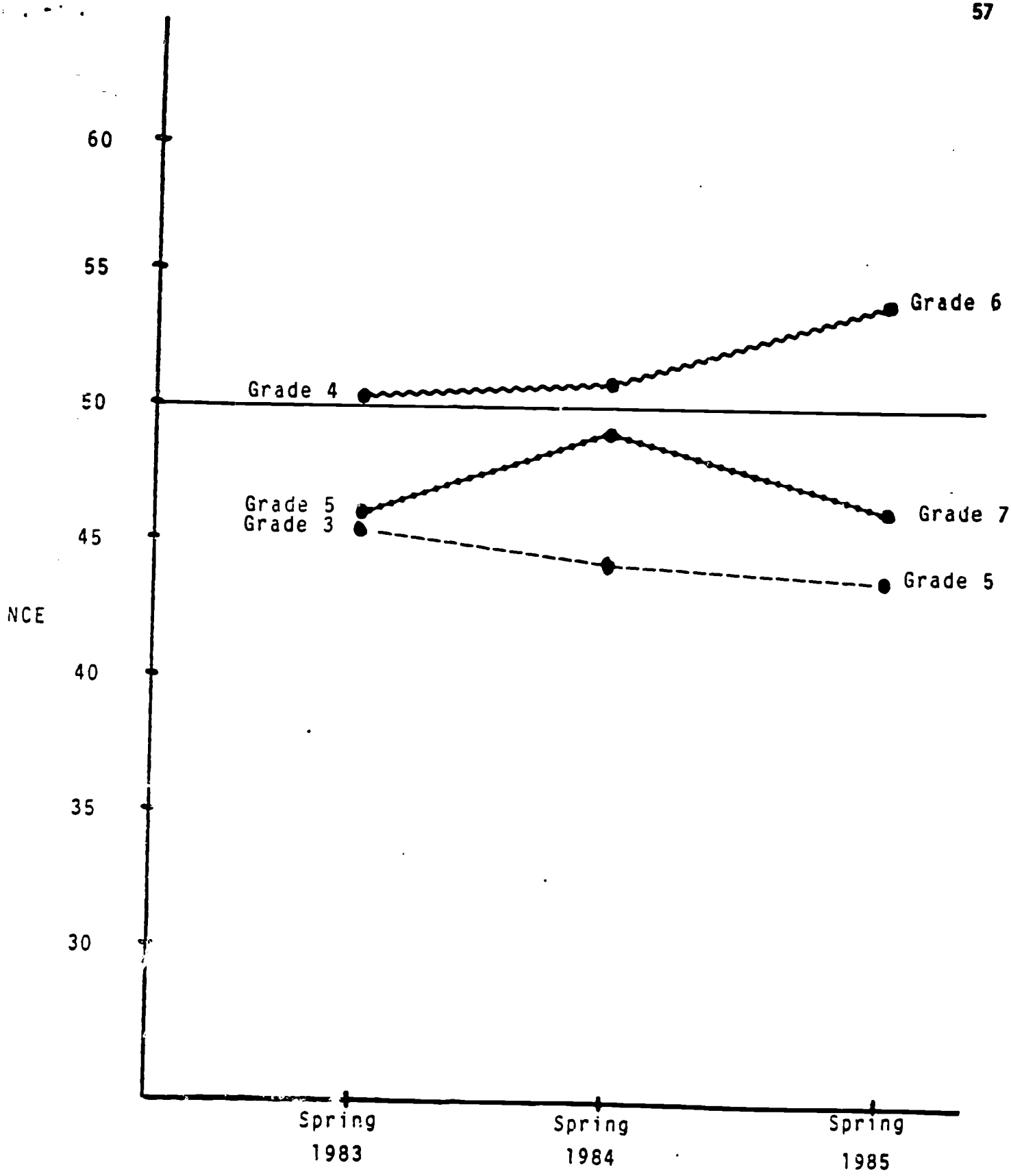

Figure 7. MAT mean NCE reading scores by Spring 1983 grade level: Total group : Reading

Table 22

Summary by Grade Level of Mean NCE Sustained Effects for Spring 1983, Spring 1984 and Spring 1985 for Project Concern Students

Suburban Component: Reading

Grade (1983)	N		Spring 1983	Spring 1984	Spring 1985
3	28	SS	636	664	694
		%ile	38	34	36
		NCE	43.6	41.3	42.5
			Gain -2.3	SE 1.2	
4	32	SS	705	726	761
		%ile	55	54	62
		NCE	52.6	52.1	56.4
			Gain -0.5	SE 4.3	
5	93	SS	708	736	744
		%ile	44	50	45
		NCE	46.8	50.0	47.4
			Gain 3.2	SE -2.6	

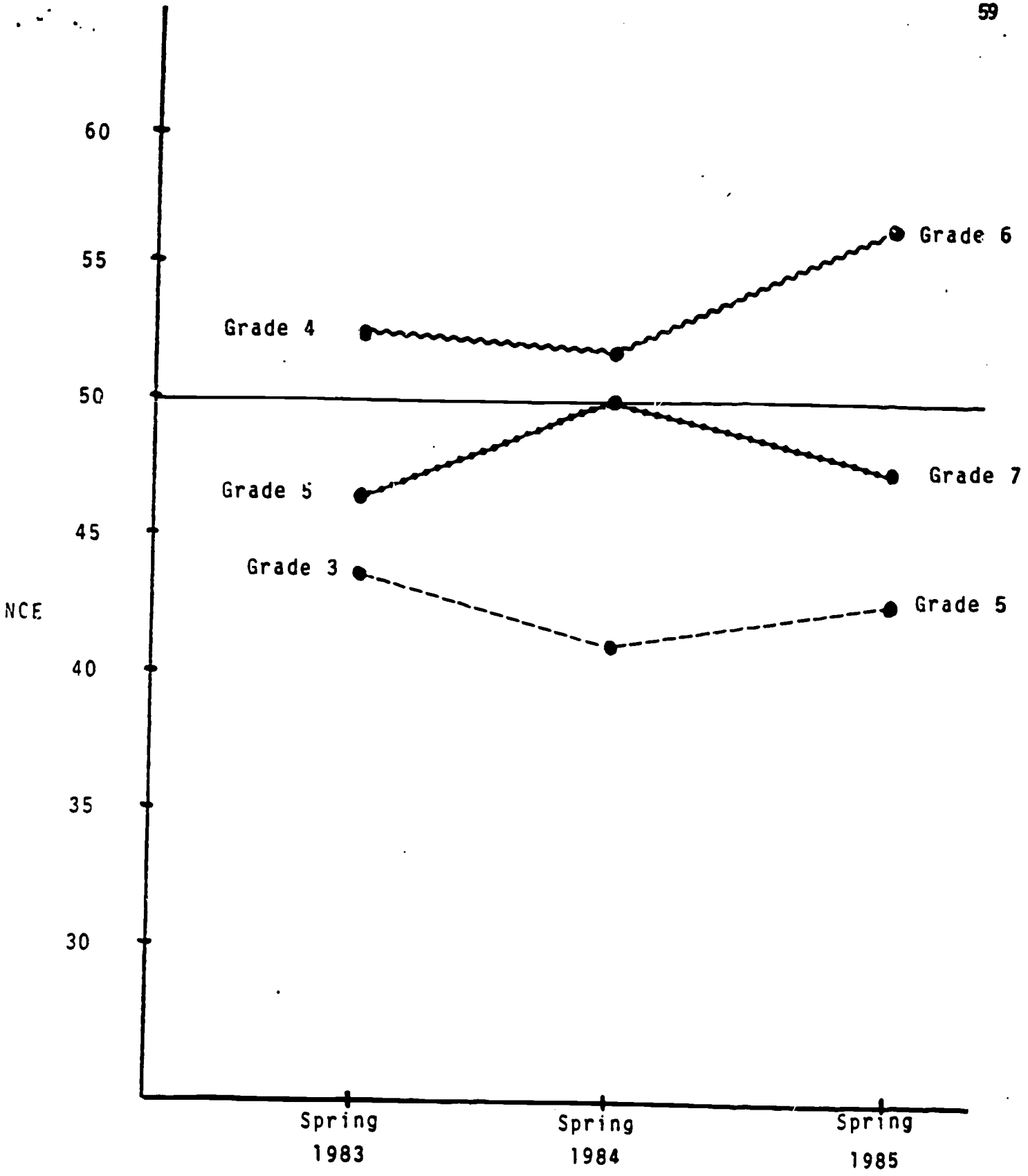

Figure 8. MAT mean NCE reading scores by Spring 1983 grade level: Suburban component : Reading

Table 23

Summary by Grade Level of Mean MAT Sustained Effects for Spring 1983, Spring 1984 and Spring 1985 for Project Concern Students

Inner-City Component: Reading

Grade (1983)	N		Spring 1983	Spring 1984	Spring 1985
3	8	SS	669	713	716
		%ile	56	59	49
		NCE	53.2	54.8	49.5
			Gain 1.6	SE -5.3	
4	16	SS	680	708	740
		%ile	43	44	52
		NCE	46.3	46.8	51.1
			Gain 0.5	SE 4.3	
5	9	SS	681	717	710
		%ile	30	40	27
		NCE	39.0	44.7	37.1
			Gain 5.7	SE -7.6	

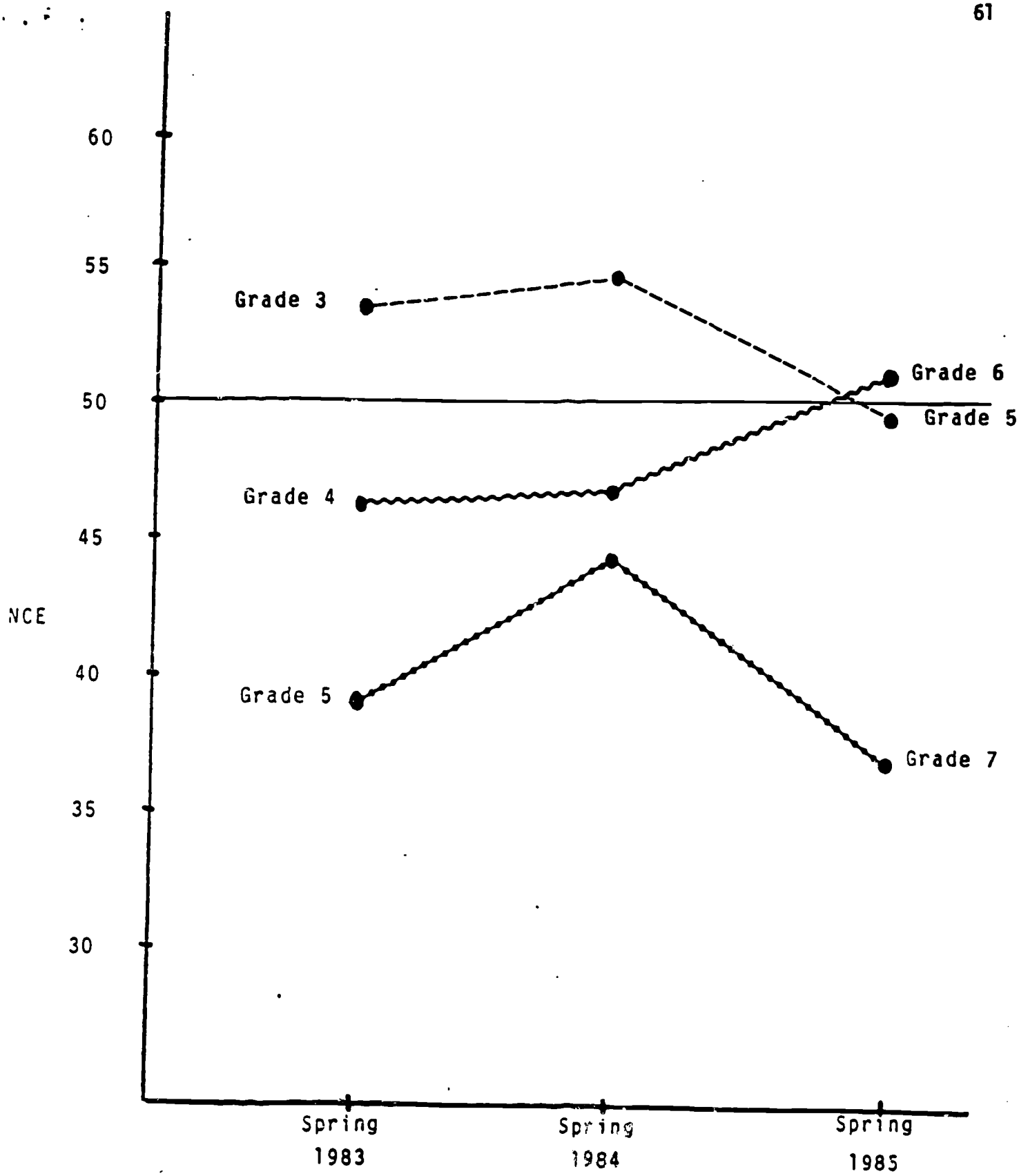

Figure 9. MAT mean NCE reading scores by Spring 1983 grade level: Inner-city component: Reading

Table 24

Summary by Grade Level of Mean MAT Sustained Effects for Spring 1983, Spring 1984 and Spring 1985 for Project Concern Students

Total Group: Math

Grade (1983)	N		Spring 1983	Spring 1984	Spring 1985
3	36	SS	541	608	649
		%ile	37	43	42
		NCE	43.0	46.3	45.8
			Gain 3.3	SE -0.5	
4	48	SS	620	676	725
		%ile	49	55	62
		NCE	49.5	52.6	56.4
			Gain 3.1	SE 3.8	
5	62	SS	658	701	712
		%ile	47	52	36
		NCE	48.4	51.1	42.5
			Gain 2.7	SE -8.6	

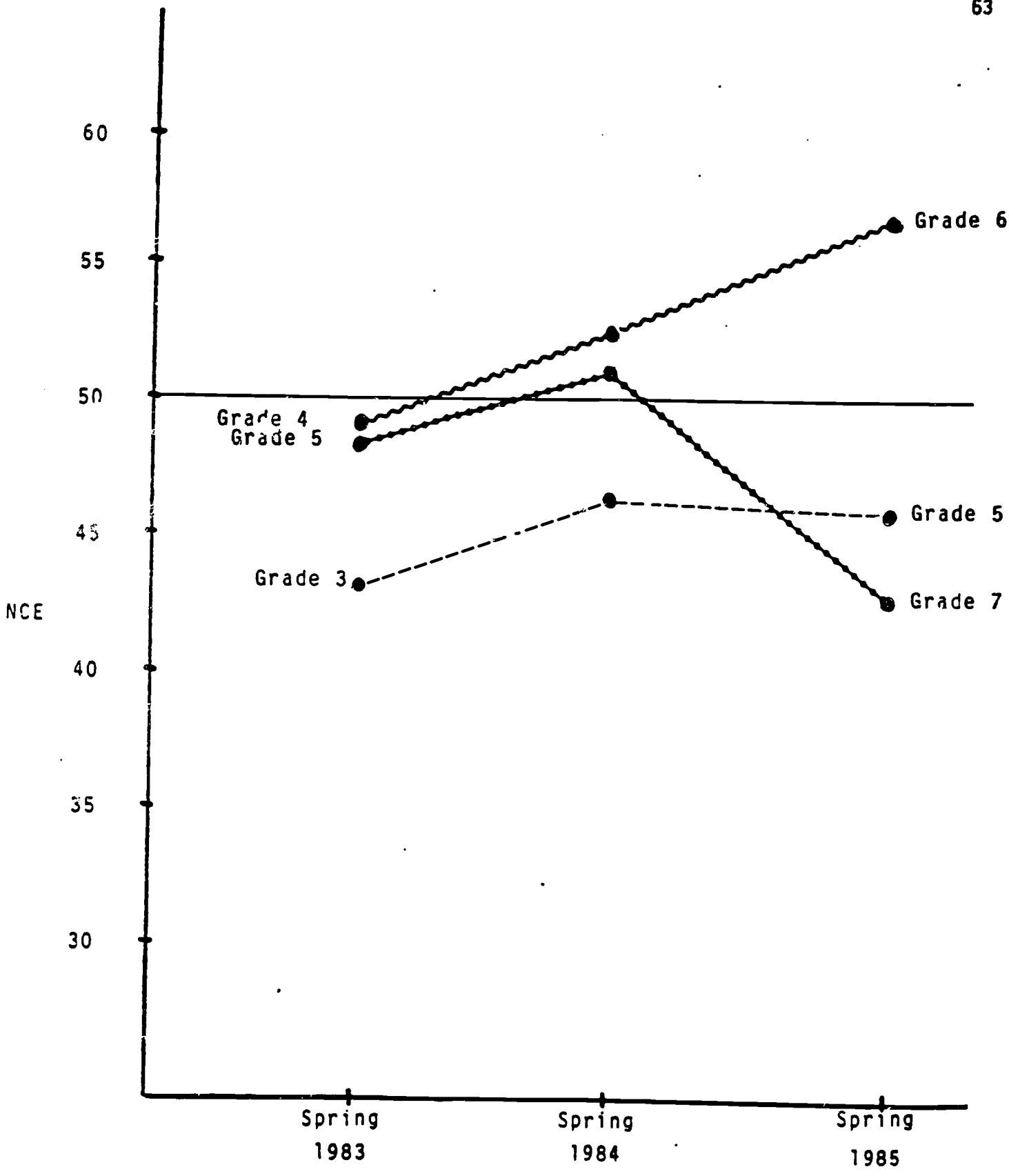

Figure 10. MAT mean NCE math scores by Spring 1983 grade level: Total group: Math

Table 25

Summary by Grade Level of Mean MAT Sustained Effects for Spring 1983, Spring 1984 and Spring 1985 for Project Concern Students

Suburban Component: Math

Grade (1983)	N		Spring 1983	Spring 1984	Spring 1985
3	28	SS	527	599	638
		%ile	32	39	37
		NCE	40.1	44.1	43.0
			Gain 4.0	SE -1.1	
4	32	SS	615	671	721
		%ile	46	53	60
		NCE	47.9	51.6	55.3
			Gain 3.7	SE 3.7	
5	53	SS	658	701	712
		%ile	47	52	36
		NCE	48.4	51.1	42.5
			Gain 2.7	SE -8.6	

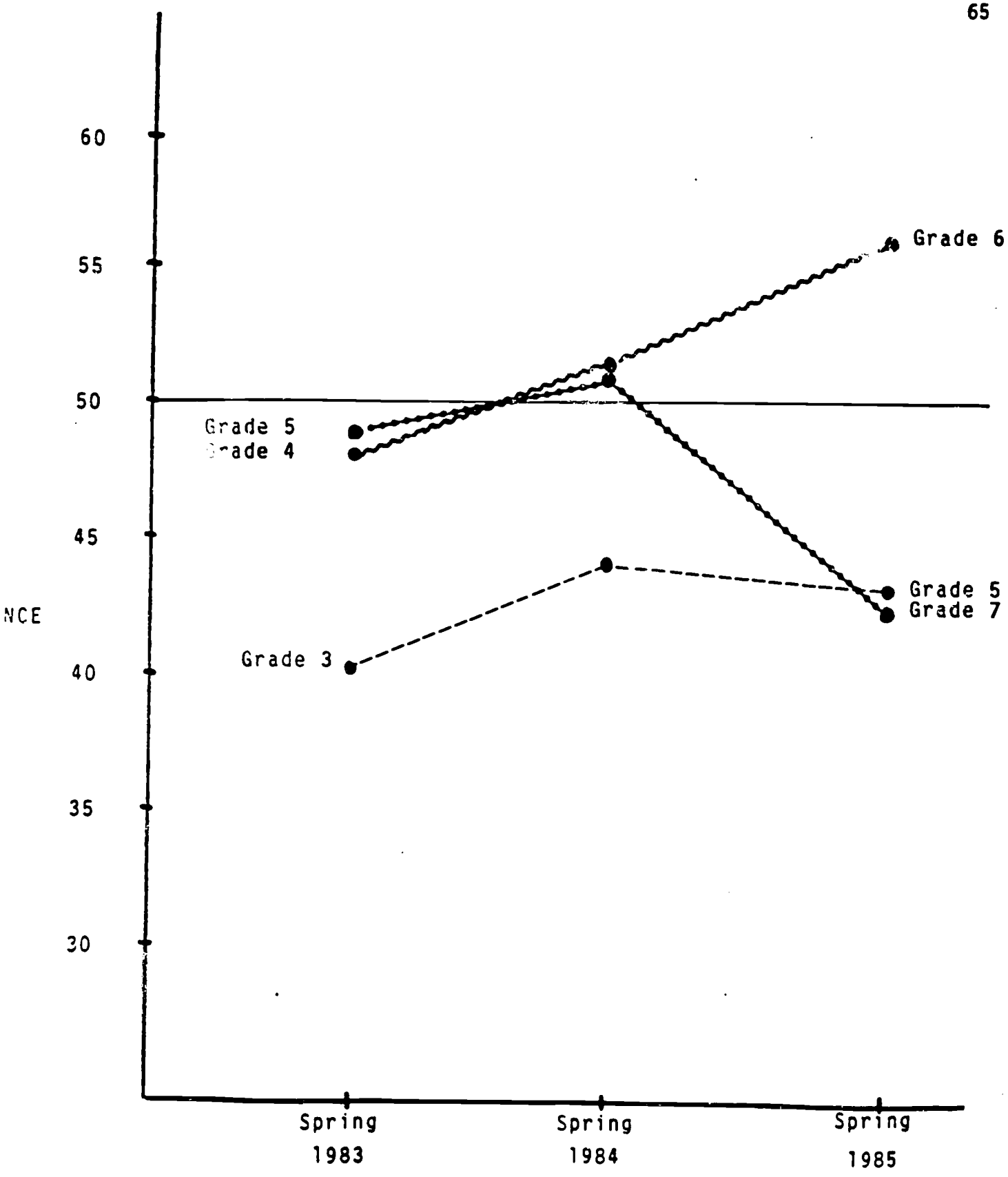

Figure 11. MAT mean NCE math scores by Spring 1983 grade level: Suburban component: Math

Table 26

Summary by Grade Level of Mean MAT Sustained Effects for Spring 1983, Spring 1984 and Spring 1985 for Project Concern Students

Inner-City Component: Math

Grade (1983)	N		Spring 1983	Spring 1984	Spring 1985
3	8	SS	588	637	691
		%ile	60	58	6i
		NCE	55.3	54.2	55.9
			Gain -1.1	SE 1.7	
4	16	SS	630	684	732
		%ile	54	58	64
		NCE	52.1	54.2	57.5
			Gain 2.1	SE 3.3	
5	9	SS	657	703	711
		%ile	46	53	36
		NCE	47.9	51.6	42.5
			Gain 3.7	SE -9.1	

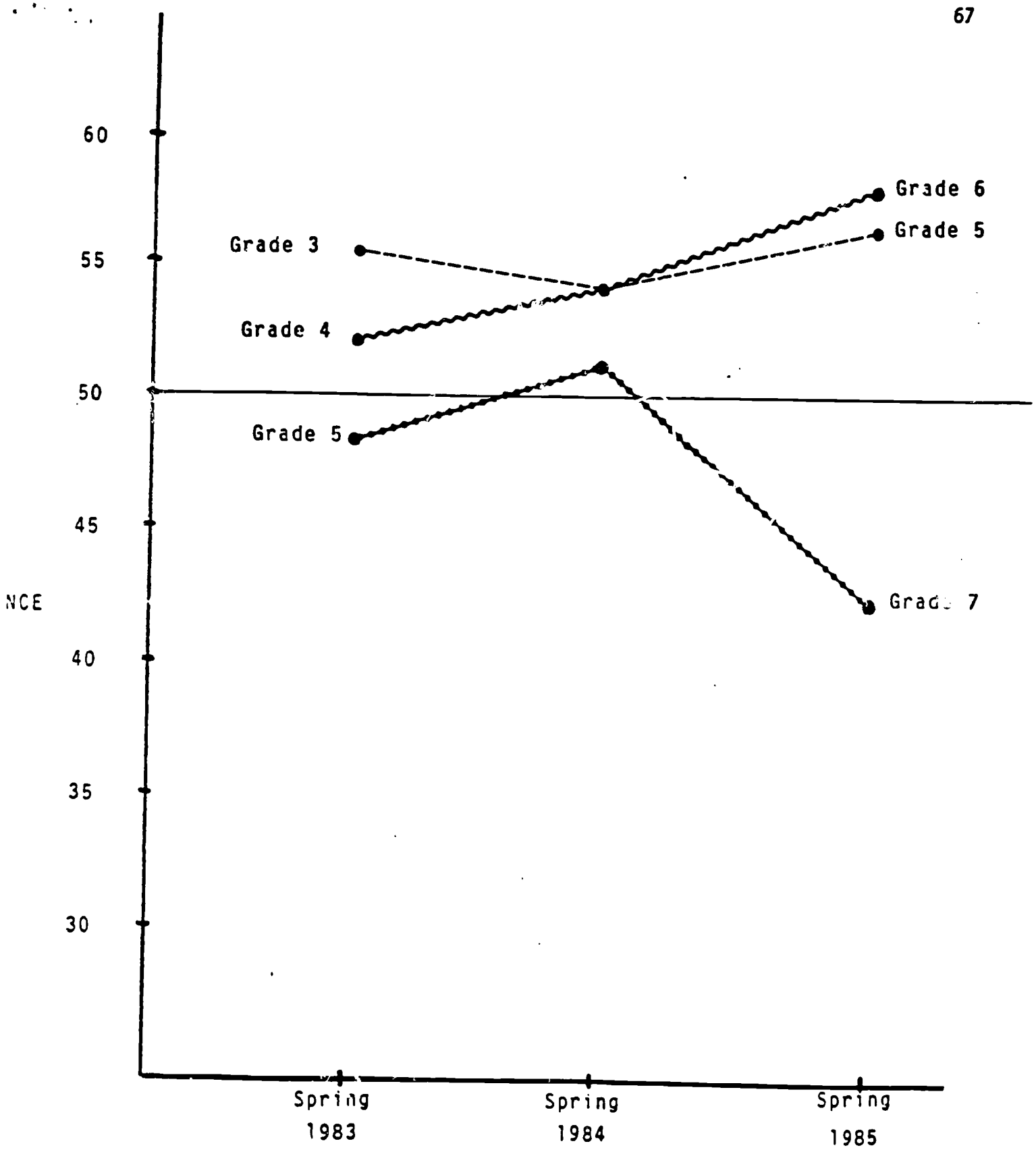

Figure 12. MAT mean NCE math scores by Spring 1983 grade level: Inner-City component: Math

Total Group

Reading and Math. Grade 4 students increased their 1983-1984 gain during the 1984-1985 year; grades 3 and 5 students exhibited decreases in their 1984-1985 achievement levels when compared to their 1983-1984 levels.

Suburban

Reading. Grades 3 and 4 students increased their 1984-1985 achievement levels after exhibiting a decrease during the 1983-1984 period. Grade 5 students failed to maintain their 1983-1984 gains during the 1984-1985 year.

Math. Grade 4 students increased their 1983-1984 gains during the 1984-1985 year. Grades 3 and 5 students failed to maintain their 1983-1984 gains during the 1984-1985 year.

Inner-City

Reading. Grade 4 students increased their 1983-1984 gains during the 1984-1985 year; grades 3 and 5 students failed to maintain their 1983-1984 gains during the 1984-1985 year.

Math. Grades 3 and 4 students exhibited gains during 1984-1985 as compared to their 1983-1984 achievement levels; grade 5 students failed to maintain their 1983-1984 gains during the 1984-1985 year.

Interpretation

The sustained effects data presented in the previous section represents a one year (Spring 1984 to Spring 1985) period. When compared to the four year period of data presented in Study I, these sustained effects results are considered to be for a relatively short period of time. It was found that over the one year (Spring 1984 to Spring 1985) period several of the Spring 1983 to Spring 1984 gains were not maintained. It will be necessary to follow these same students over a longer time period before any meaningful trends in achievement can be noted with confidence.

Sustained Effect Level. On an exploratory basis, though, we do note that for the Total Project Concern and Suburban groups the Spring 1985 achievement levels were higher than the Spring 1983 levels for four of six comparisons (Reading, grades 4-5; Math, grades 3-4). For the Inner-City students Spring 1985 achievement levels were higher than Spring 1983 levels for three of six comparisons (Reading, grade 4; Math, grades 3-4).

Grade Level Performance. Grade level performance status (i.e., above or below the 50th %ile) for the Spring 1983 data and the Spring 1985 data was also examined (see Tables 21-26). For most comparisons the grade 3, 4 and 5 (1983) students maintained their achievement level status with respect to grade level performance. For example, the Total Project Concern grade 3 students were below grade level or the 50th %ile (41st %ile) for Spring 1983 Reading and still below the 50th %ile (39th %ile) in grade 5 at the Spring 1985 test time (see Table 21). The positive exception to this situation was found for the Total Group, Suburban, and Inner-City students for the Spring 1983 grade 4 Math data, where the Spring 1983 below grade level performance was found to be above grade level by Spring 1985 in grade 6.

Summary

This section presented the results of a sustained effects study for Spring 1983 grades 3-5 students who were in Project Concern as of Spring 1985 (grades 5-7). Noting that the one year period used to initiate the study represented the beginning of an ongoing sustained effects evaluation design, it was found that in several cases the Spring 1983 to Spring 1984 gains were not maintained. It was found, though, that in several cases the Spring 1985 achievement levels were higher than the Spring 1983 levels, but that students tended to maintain their grade level performance status.

This cohort group of 1983 grades 3-5 students will have to be followed for a longer period of time so that valid trends can be identified in longitudinal achievement performance levels.

An Assessment of the Spring 1982 to Spring 1985 Sustained Achievement Effects for Suburban Project Concern and Hartford Non-Participants: Study III

At the request of the Hartford Board of Education, a sustained achievement effects study was carried out to address the following question:

> How does the achievement of Suburban Project Concern students, who were in grades 3-5 during the 1980-1981 year and continued in the program through the 1984-1985 year (grades 7-9), compare with a comparable group of Hartford students not participating in the program?

Evaluation Design

The evaluation design employed to answer this question is similar to the traditional sustained achievement effects design employed in Studies I and II reported in the previous section. The unique future of Study III will be the emphasis on the statistical significance of the differences in the achievement levels of Project Concern and Hartford comparison students at each of the 1981 to 1985 test times.

Table 27 contains the sustained effects design which specifies that the MAT Reading and Math levels of the Suburban Project Concern and Hartford Non-Participants would be followed for 1980-1981 grades 3-5 students in the program through the 1984-1985 (grades 7-9) year. Included in the table are the testing times, function of the tests and the data files created by grade level.

Table 27

Sustained Effects Evaluation Design: Suburban vs. Hartford Non-Participants Reading and Mathematics

Evaluation Component	Target Information
A. Program Evaluation Year (baseline)	1981
B. Subject Areas	Reading, Mathematics
C. Grade Levels (1981)	3,4,5
D. Schools	Suburban Project Concern, Hartford Non-Participating Students
E. Test	Metropolitan Achievement Test (1978 edition)
F. Time Period	Spring 1981, Spring 1982, Spring 1983, Spring 1984, Spring 1985

Time of Testing	Function of Testing	Data Files by Grade Levels		
		File 1	File 2	File 3
Spring 1981	Pretest	3	4	5
Spring 1982	Posttest	4	5	6
Spring 1983	Post-Posttest	5	6	7
Spring 1984	Post-Post-Posttest	6	7	8
Spring 1985	Post-Post-Post-Posttest	7	8	9

Selecting the Hartford Comparison Group

The validity of the sustained effects study rests heavily on the proper selection of a "matched" group of Hartford students who were similar to the Suburban Project Concern students on relevant variables, but did not participate in the program. The methodology for creating the comparison group was as follows. Rosters were created which contained the names and 1980-1981 MAT Reading and Math scores for all Suburban Project Concern students who were in grades 3-5 during the 1980-1981 school year. The Project Concern administrators then filled in each student's ethnic group, sex, year and grade they entered the program, and the name of the Hartford sending school.[1] The Hartford Public Schools Evaluation, Research and Testing office screened the 1980-1981 achievement rosters for each of the sending schools to locate names of students with the same sex, ethnic group, and achievement scores. To facilitate the achievement score matches, error bands of ±2 standard errors of measurement were placed around each Project Concern student's Reading and Math scores. The error bands were to create 95% confidence intervals around the Project Concern students' scores so that the Hartford Non-Participant comparison group would not differ significantly from the Project Concern students in their 1980-1981 achievement levels.

In searching the sending school 1980-1981 files for matches, it became apparent that there would be no matches for some of the Project Concern students. Therefore, a third group was created for analysis in the sustained effects study: the Project Concern Non-Match group. Table 28 lists the number of Project Concern students in grades 3-5 during the 1980-1981 year

[1] The following Hartford sending schools were involved: Barnard Brown, Barbour, Clark, Fisher, Hooker, Jones, King, Mark Twain, Rawson, Waverly, Wish and Vine.

Table 28

Number of Students in the Matched Pro[illegible]oncern, Hartford Non-Participant, and Project Conc[illegible]tch Groups

1980-1981 Grade	Number in Project Concern[a]	Number of Matched Students		Number of Non-Matched Project Concern Students	Percent of Matches
		Project Concern	Hartford Non-Participants		
3	43	26	26	17	60.5%
4	39	18	18	21	46.2%
5	45	27	27	18	60.0%
Total	127	71	71	56	56.9%

[a]Represents the number of students with complete data files from 1980-1981 to 1984-1985.

with complete sets of achievement scores through the current 1984-1985 year. Of these 127 students, 71 or 55.9% were found to have matches in the Hartford sending schools based upon the achievement level, sex and ethnic group criteria. A total of 56 Project Concern students could not be matched and were included in the Project Concern Non-Match group. Table 29 presents a breakdown of the ethnic group and sex of the three groups studied.

The attribute of the Project Concern Non-Match group which precluded matching them with Hartford Non-Participants was a tendency for higher Reading or Math achievement levels than the Hartford Non-Participants and the Project Concern "matched" students. While this apparent trend for higher achievement levels precluded matching several of the individual Project Concern and Hartford students, we will present data later which documents that the differences were rarely significant from a statistical perspective. For the 1980-1981 data the Project Concern Non-Match group had significantly ($p < .05$) higher achievement levels than the Hartford comparison group for grade 3 in Math; no differences existed for grade 3 in Reading or grades 4 and 5 in Reading and Math. Further, the Project Concern Non-Match had higher achievement than the Suburban Project Concern "matched" group for grade 4 in Reading; no differences were found for grade 4 in Math or grades 3 and 5 in Reading and Math. The essential point here is that the differences in achievement levels precluded matching some individual students, but the differences between the respective groups were not often significant on a statistical basis.

In explaining the reason for existence of the Project Concern Non-Match group, we note that the 1980-1981 grade 3 students entered the program from 1977 to 1980, the grade 4 students from 1976 to 1980, and the grade 5 students from 1975 to 1980. These entering years are relevant in light of

Table 29
Ethnic Groups and Sex of Students

	Grade	Matched Students: Project Concern Frequency	Matched Students: Non-Matched Participants Frequency	Non-Matched Project Concern Students Frequency	Total Frequency	Pe
nic Group						
Caucasian	3			1	1	
	4					
	5					
					1	
Hispanic	3			2	2	
	4			1	1	
	5			7	7	1
					10	
Black	3	26	26	14	66	9
	4	18	18	20	56	9
	5	27	27	11	65	9
					187	9
Female	3	17	17	9	43	
	4	15	15	9	39	
	5	16	16	12	44	
					126	
Male	3	9	9	8	26	
	4	3	3	12	18	
	5	11	11	6	28	
					72	

the analysis of Project Concern selection procedures from 1966 to 1980 which were documented in the 1980-1981 evaluation report entitled Final Evaluation Report: 1980-1981 Hartford Project Concern Program (Iwanicki and Gable, 1981). In this report we documented how the random selection procedures originally employed in 1966 changed during the late 1970's to become essentially a volunteer procedure by 1980. It is thus not surprising that a group of Project Concern students existed which could not be matched with the Hartford Non-Participants.

At this point the validity issue must be addressed. Is it feasible to monitor the Matched Project Concern and Hartford Non-Participant groups if the Project Concern group includes only 56.9% of the 1980-1981 grade 3-5 students? The answer to this question is clearly "yes", as long as we separate out the Project Concern Non-Matched students. In this manner we have actually controlled for the differential selection procedures which may have occurred, and will be studying more comparable Project Concern and Hartford Non-Participants. As a point of interest, we will maintain the Project Concern Non-Match group and will follow their achievement across the 5-year period.

Data Analysis

The comparison of the Project Concern and Hartford matched student data consisted of running t-tests for each of the 1981 to 1985 years. To examine the differences among the Project Concern, Hartford, and Project Concern Non-Match groups one-way analyses of variance followed, where necessary, by Scheffe' tests were carried out.

Findings

This section will present the findings regarding the comparison of the achievement levels of the Suburban Project Concern, Hartford, and Project Concern Non-Match groups. After presenting some overall findings, the results will be described separately for the grade 3, 4 and 5 1980-1981 students. The primary focus will be placed upon comparing the Suburban Project Concern and Hartford students. Tables 30-32 present the Spring 1981 to Spring 1985 MAT Reading and Math data for the three groups examined. Included are the MAT standard scores (SS), percentiles (%ile) and normal curve equivalent (NCE) scores. Figures 13-18 present plots of the NCE Reading and Math scores for the 1981-1985 period beginning with the 1980-1981 grade 3, 4 and 5 groups.

Suburban Project Concern and Hartford Comparison Group Spring 1981 Baseline Achievement. The analysis of 1980-1981 "baseline" (i.e., starting point) data indicated that there were no significant differences between the Project Concern and Hartford Matched students in Reading or Math. These results simply confirm that the selection of the Hartford comparison group on the basis 1980-1981 achievement levels was properly conducted. The achievement level of both groups was near the 40th percentile, which is considered to be below grade level (a NCE of 50 or the 50th %ile indicates performance at grade level).

Suburban Project Concern and Hartford Comparison Group Spring 1982 to Spring 1985 Achievement. After confirming that the Suburban Project Concern and Hartford comparison students did not differ in their Spring 1981 Reading and Math levels, the analysis could turn to the Spring 1982 to Spring 1985 longitudinal data. As presented in Tables 30-32 and depicted in Figures 13-18, the major finding of this study was as follows:

Table 30

Spring 1981 to Spring 1985 MAT Scores for Project Concern and Hartford Matched Students and Project Concern Non-Matched Students Grade 3 (1980-1981)

Group		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Spr 19
Project Concern (N=26)	SS	636	672	695	731	7
	%ile	38	38	37	47	
	NCE	44	44	43	48	
Hartford (N=26)	SS	636	664	689	724	7
	%ile	38	35	33	43	
	NCE	44	42	41	46	
PC Non-Match (N=17)	SS	659	695	725	744	7
	%ile	50	50	54	53	
	NCE	50	50	52	52	
Project Concern	SS	534	594	642	676	7
	%ile	35	36	39	42	
	NCE	42	42	44	46	
Hartford	SS	528	592	638	692	7
	%ile	33	35	37	48	
	NCE	41	42	43	49	
PC Non-Match	SS	580	628	673	713	7
	%ile	57	53	54	57	
	NCE	54	52	52	54	

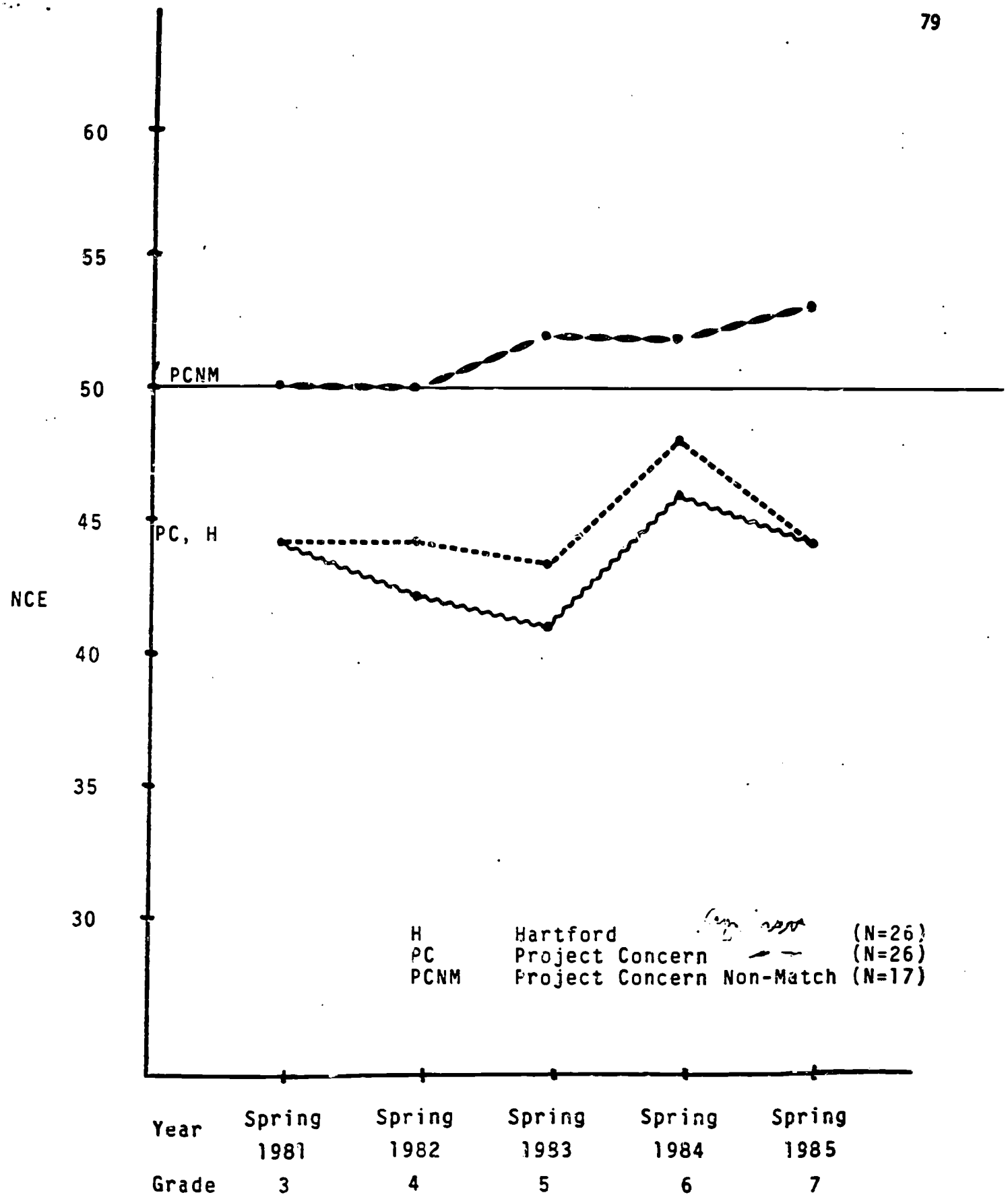

Figure 13. Spring 1981 to Spring 1985 MAT scores for suburban Project Concern and Hartford matched groups and the suburban Project Concern non-matched group: Reading.

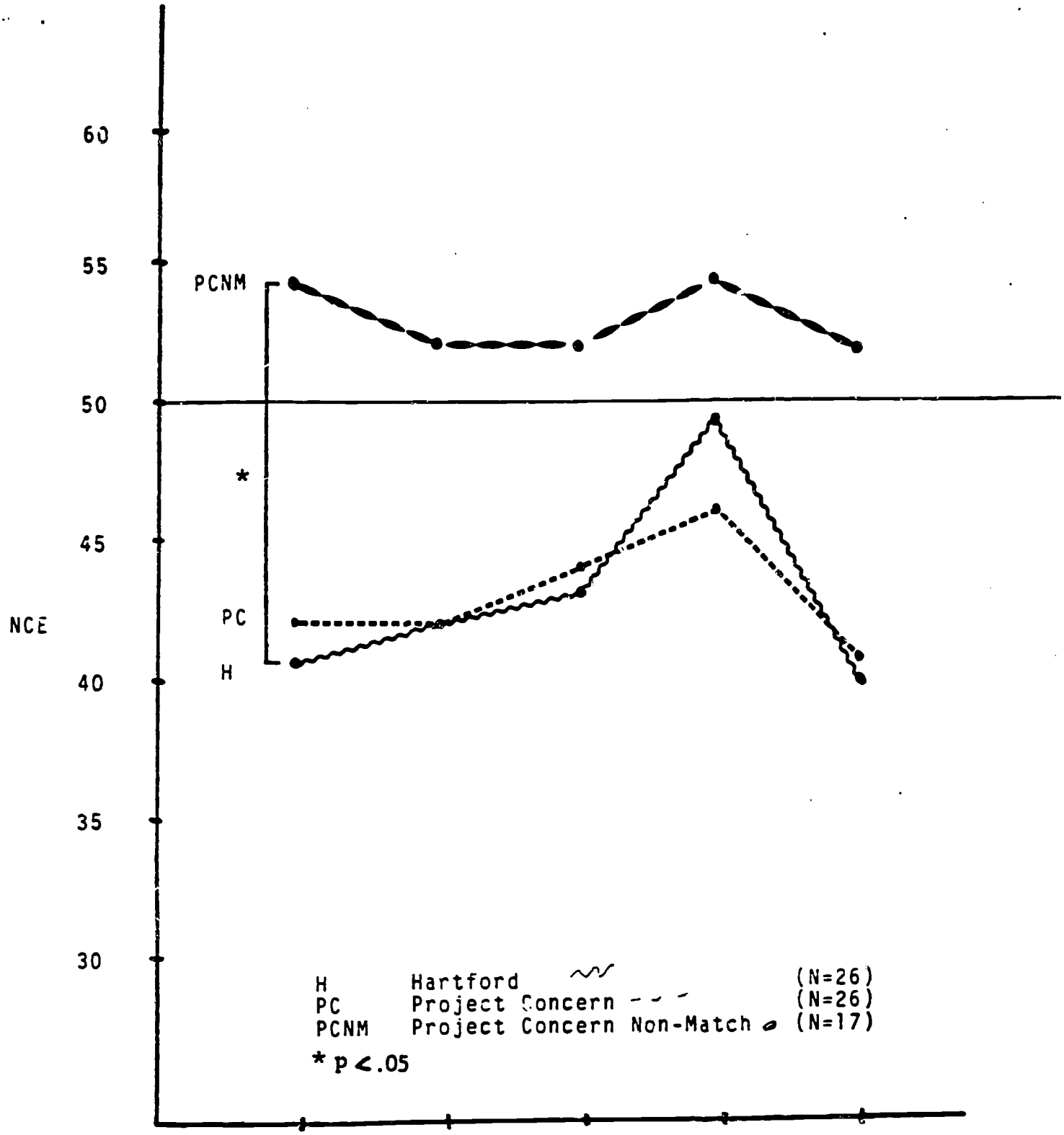

Figure 14. Spring 1981 to Spring 1985 MAT scores for suburban Project Concern and Hartford matched groups and the suburban Project Concern non-matched group: Math.

Table 31

Spring 1981 to Spring 1985 MAT Scores for Project Concern and Hartford Matched Students and Project Concern Non-Matched Students Grade 4 (1980-1981)

Group		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Spr 19
Project Concern (N=18)	SS	671	702	737	742	7
	%ile	38	41	50	44	
	NCE	44	45	50	47	
Hartford (N=18)	SS	675	709	738	734	7
	%ile	40	45	50	40	
	NCE	45	47	50	45	
PC Non-Match (N=21)	SS	704	726	757	750	7
	%ile	55	55	60	48	
	NCE	53	53	55	49	
Project Concern	SS	608	637	680	729	7
	%ile	43	37	43	47	
	NCE	46	43	46	48	
Hartford	SS	604	654	711	740	7
	%ile	41	45	56	53	
	NCE	45	47	53	52	
PC Non-Match	SS	626	674	708	739	7
	%ile	52	54	55	52	
	NCE	51	52	53	51	

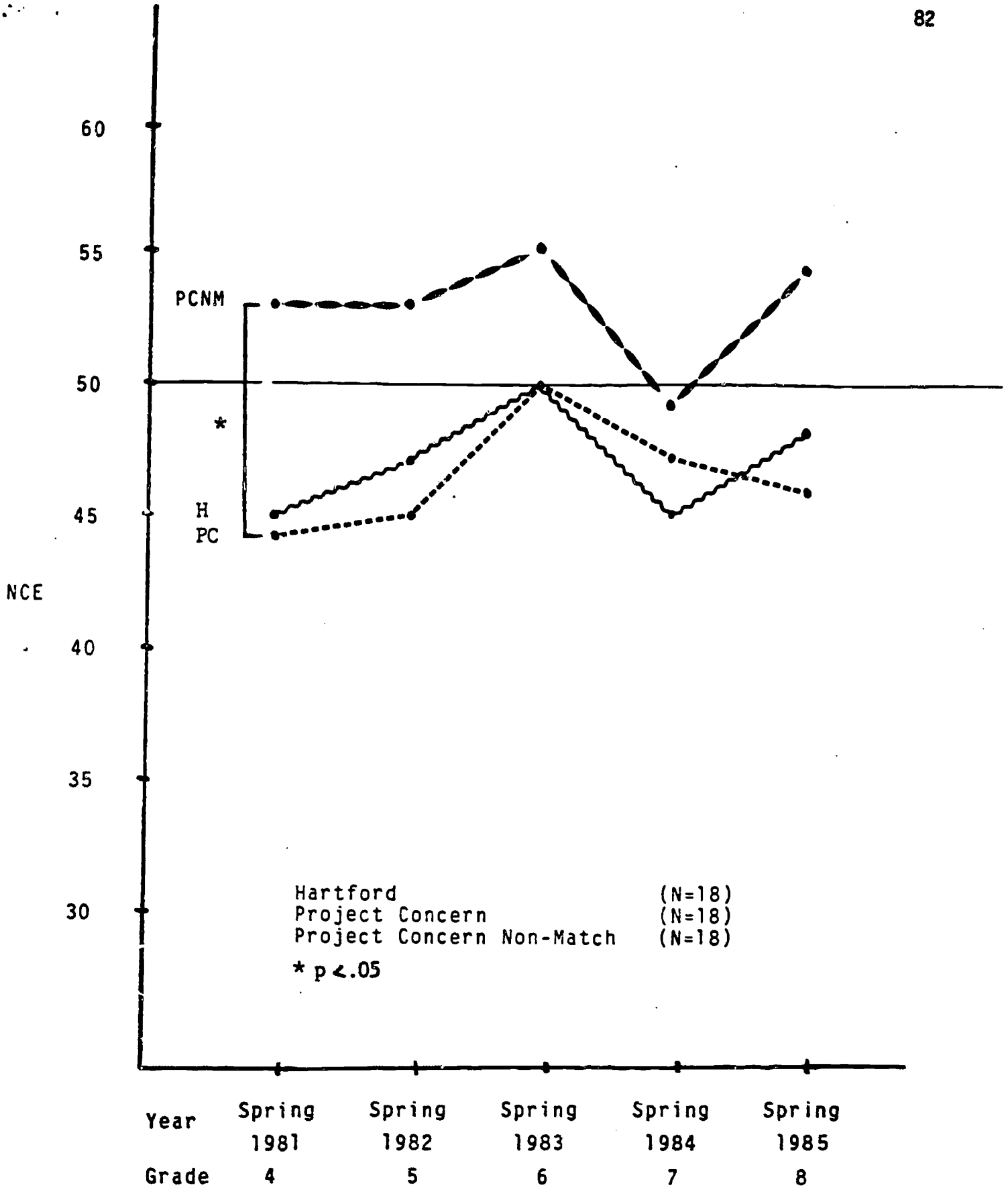

Figure 15. Spring 1981 to Spring 1985 MAT scores for suburban Project Concern and Hartford matched groups and the suburban Project Concern non-matched groups: Reading.

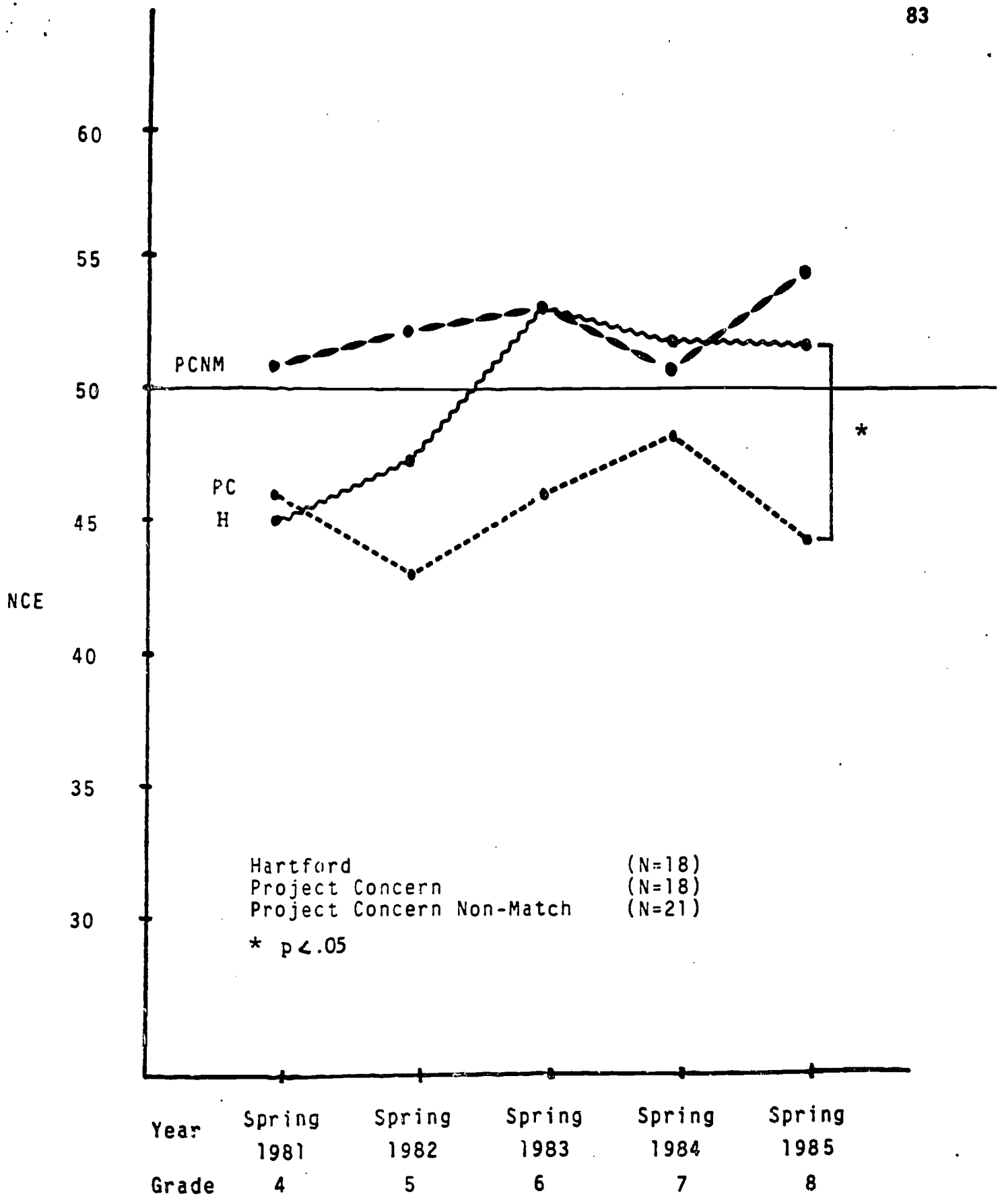

Figure 16. Spring 1981 to Spring 1985 MAT scores for suburban Project Concern and Hartford matched groups and the suburban Project Concern non-matched group: Math.

Table 32

Spring 1981 to Spring 1985 MAT Scores for Project Concern
and Hartford Matched Students and Project Concern Non-Matched Students
Grade 5 (1980-1981)

Group		Spring 1981	Spring 1982	Spring 1983	Spring 1984	Spr 19
Project Concern (N=27)	SS	698	730	741	759	79
	%ile	39	46	43	41	5
	NCE	44	48	46	45	5
Hartford (N=27)	SS	697	723	736	761	79
	%ile	38	43	41	42	5
	NCE	44	46	45	46	5
PC Non-Match (N=18)	SS	706	751	764	776	80
	%ile	43	57	55	50	5
	NCE	46	54	53	50	5
Project Concern	SS	662	707	738	777	80
	%ile	49	54	52	57	6
	NCE	49	52	51	54	5
Hartford	SS	658	712	745	787	81
	%ile	47	56	55	61	7
	NCE	48	53	53	56	6
PC Non-Match	SS	678	718	748	769	80
	%ile	56	59	57	53	6
	NCE	53	55	54	52	5

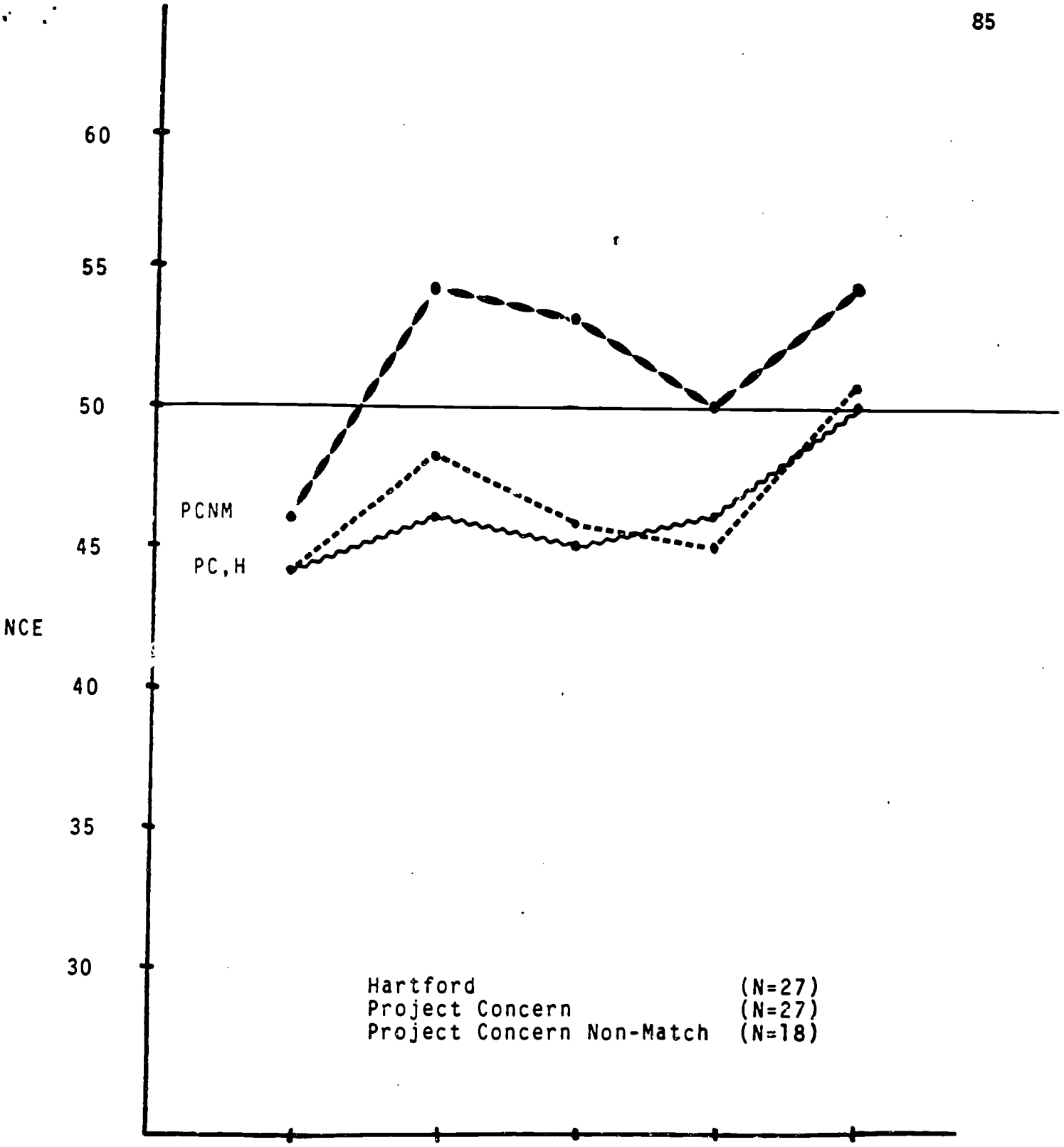

Figure 17. Spring 1981 to Spring 1985 MAT scores for suburban Project Concern and Hartford matched groups and the suburban Project Concern non-matched group: Reading.

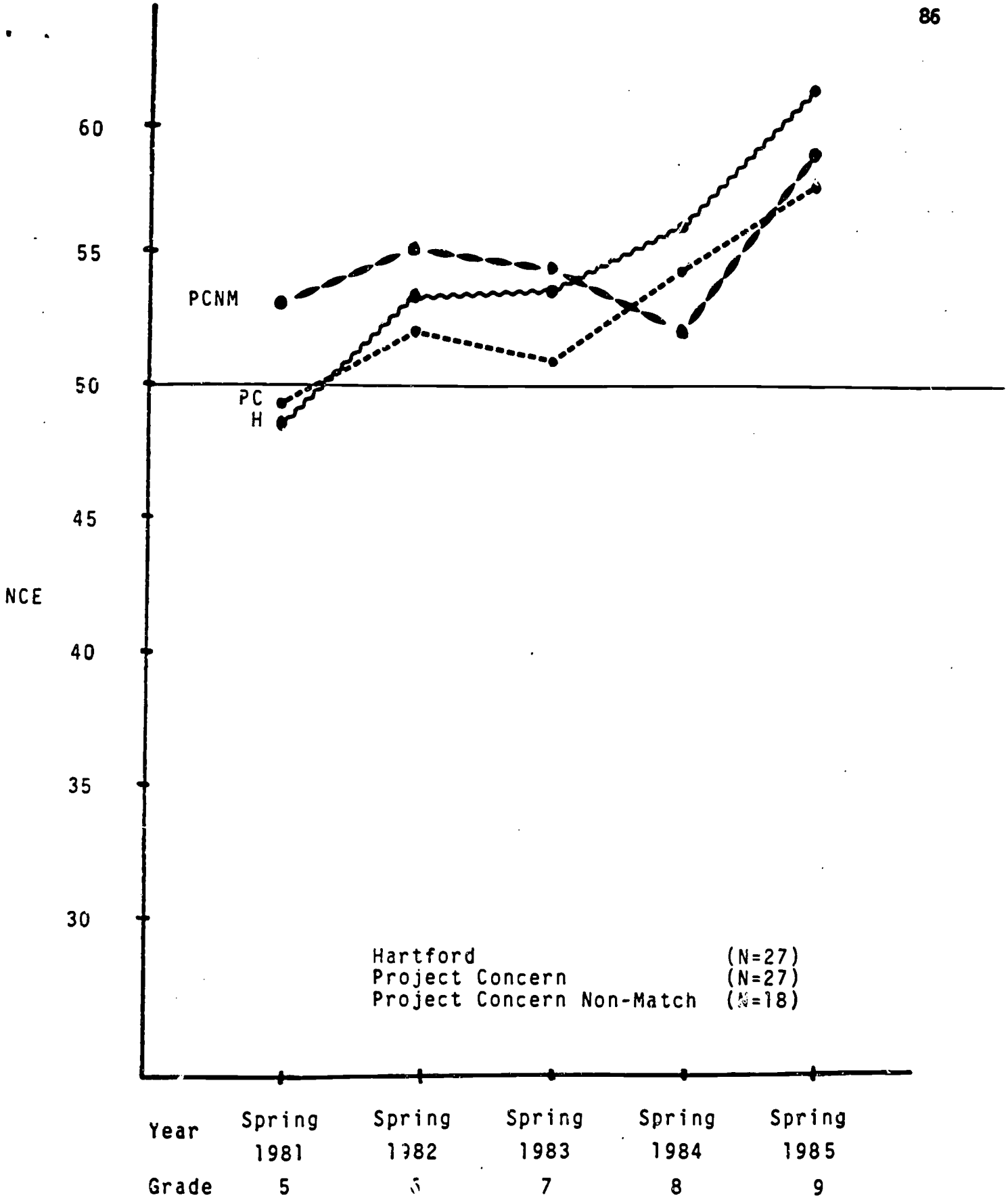

Figure 18. Spring 1981 to Spring 1985 MAT scores for suburban Project Concern and Hartford matched groups and the suburban Project Concern non-matched group: Math.

Overall

After matching students on the basis of sex, ethnic group, Hartford sending school, and Spring 1981 Reading and Math achievement levels, no significant differences were found between the Suburban Project Concern and Hartford comparison students from Spring 1982 to Spring 1984 in Reading and Math and through Spring 1985 in Reading. Hartford 1981 grade 4 students achieved significantly ($p < .05$) higher levels than Suburban Project Concern students in 1985 grade 8 Math scores.

The findings for the 1981 grade levels were as follows:

1981 Grades 3-5

The grade 3 1981 matched Suburban Project Concern and Hartford groups remained below grade level (i.e., below a NCE of 50 or 50th %ile) in Reading and Math from grade 4 (1982) to grade 7 (1985). The highest performance level for both groups was exhibited during grade 6 (1984) with a decline evident during grade 7 (1985) (Table 30, Figures 13-14). Both groups sustained their 1981 achievement levels in Reading and Math.

The grade 4 1981 matched Suburban Project Concern and Hartford comparison groups were below grade level in grades 5 (1982), 7 (1984) and 8 (1985) and at grade level in grade 6 (1983) in Reading. The Hartford comparison students exhibited above grade level performance in Math beginning Spring 1983 (end of grade 6) and exhibited significantly higher Math achievement ($p < .05$) than the Suburban Project Concern students during grade 8 (1985) (Table 31, Figures 15-16). Both groups sustained their 1981 achievement levels in Reading and Math.

The grade 5 1981 matched Suburban Project Concern and Hartford comparison groups both remained below grade level from grade 6 (1982) to grade 8 (1984) and exhibited grade level performance in Reading in grade 9 (1985). In Mathematics both groups exhibited above grade level performance from grade 6 (1982) to grade 9 (1985); continual improvement was found for both groups for grade 8 (1984) and grade 9 (1985) (Table 32, Figures 17-18). Both groups sustained their 1981 achievement levels in Reading and Math.

In summary, this section has presented empirical evidence which indicates that, overall, the matched Suburban Project Concern and Hartford comparison groups tended to sus .in their 1981 achievement levels from 1982 to 1985. With one exception there were no differences between Suburban Project Concern and Hartford students in Spring 1982 to Spring 1985 Reading and Math achievement levels after matching the groups on sex, ethnic group, Hartford sending school, and Spring 1981 achievement levels. In the one case where differences existed, Hartford students exhibited significantly higher levels of Math achievement than Suburban Project Concern students. These comparisons represent the primary analyses for the research question stated earlier in this chapter. We will now turn to the secondary issue of examining the achievement levels of the Suburban Project Concern students who had no matches in the Hartford sending schools - the Project Concern Non-Match group.

Project Concern Non-Match versus the Suburban Project Concern and Hartford Matched Groups. Tables 30-32 present the achievement data for the Project Concern Non-Match group. These data are depicted in Figures 13-18. While the Spring 1981 Reading and Math achievement levels of the Non-Match group visually appear higher than the Project Concern and Hartford Matched groups, with two exceptions, no significant differences were found among the three groups for the Spring 1981 data. The two exceptions were as follows: the Non-Match group exhibited significantly higher Spring 1981 achievement than the Hartford group for grade 3 Math (see Figure 13) and significantly higher Spring 1981 achievement than the Project Concern group for grade 4 Reading (see Figure 15). For the Spring 1982 to Spring 1985 data readers should note that no significant differences were found between the Project Concern Non-Match and either the Suburban Project Concern or the Hartford groups. Overall, the Project Concern Non-Match group sustained its 1981 achievement level from 1982 through 1985.

In summary, these findings are important for our consideration. They indicate that the group of Suburban Project Concern students who had no matches in their Hartford sending school (based upon sex, ethnic group and achievement) were above grade level in Spring 1981 Reading and Math achievement, tended to remain in most cases above grade level from Spring 1982 to Spring 1985, but did not significantly outperform the Project Concern or Hartford Matched students during the 1982 to 1985 years.

Overall Sustained Achievement Effects. In the previous sections we have presented data which indicates that, overall, the 1981 achievement levels were sustained for the Suburban Project Concern, Hartford Non-Participants and Project Concern Non-Match groups. We noted that the primary objective of Study III was to examine the differences in achievement levels between and among the respective groups for the 1981 to 1985 test times. Now that we have accomplished this objective we will offer some exploratory observations regarding the achievement trends depicted in Figures 13-18. Profiles of student achievement levels such as those presented in Figures 13-18 can appear to depict a rise or fall in achievement from year to year. Explaining these changes in the slope of the figure is often difficult and sometimes impossible. The change could reflect a subtle change in a test form or, perhaps more often, changes in curricular or instructional emphasis. When only one school system is involved, it is often possible to analyze the match between the curriculum and the test content. As we noted earlier in Study I, the fact that several school districts are included in these data makes the situation harder to explain.

From a purely exploratory approach we examined Figures 13-18 for any obvious visual changes in achievement levels from 1981 to 1985. School personnel may wish to discuss these observations further to ascertain if any

meaningful explanations are possible. Table 33 presents a summary of the most noticeable changes in the figures using the "squint your eyes and look at the figure" approach. For the 1981 grade 3 group (Figures 13-14) increases during grade 6 and decreases during grade 7 were observed in Reading and Math. For the 1981 grade 4 group (Figures 15-16) increases were observed during grade 6 in Reading and Math; decreases were observed during grade 7 in Reading. Finally, for the 1981 grade 5 group increases were observed during grade 9 in Reading and Math. Again, we note that these changes in the slope of the achievement level over time may not be meaningful, but could be worthy of some discussion by staff from curriculum and instruction perspectives.

Table 33
Summary of Possible Changes In
Achievement Trends by 1980-1981 Grade Level

1980-1981 Grade	Grade With Increase	Area	Grade With Decrease	Area
3	6	Reading,Math	7	Reading,Math
4	6	Reading,Math	7	Reading
5	9	Reading,Math		

CHAPTER IV

SUMMARY

The evaluation of the 1984-85 Project Concern program focused on the following two areas:

1. Monitoring the cognitive and affective impact of Project Concern over the current school year.
2. Examining the extent to which the reading and mathematics achievement gains of various groups of Project Concern students at grades 3, 4, and 5 were sustained over time.

The purpose of this summary is to collate for the reader some of the major findings of this evaluation. It is important to note that perceptions of the Project Concern program should not be formed on the basis of this summary alone. All findings must be interpreted in light of the evaluation design utilized, a more complete discussion of the results presented, and the limitations placed on the findings obtained.

Monitoring the Cognitive and Affective Impact of Project Concern

The impact of Project Concern on the cognitive achievement of program participants was assessed by comparing the Metropolitan Achievement Test results from spring 1984 to those obtained during spring 1985. Achievement growth on an absolute basis addressed the question - how much basic skill growth have Project Concern students exhibited? A summary by grade level of skill areas where Suburban and Inner-City Project Concern participants exhibited statistically significant absolute growth is presented below. While statistically significant absolute growth was exhibited by Suburban Project Concern students at most grade levels for the three skill areas, this was not the case for Inner-City participants. The lack of statistically signficant achievement growth for Inner-City participants, especially at grades 4 and 7 can be explained by the very small sample sizes at these grade levels. (Gr. 4, N=7; Gr. 7, N=9). With such small sample sizes, it is difficult for a group of students to exhibit a statistically significant achievement growth.

Suburban Component[1]

Grade	Reading	Language	Mathematics
3		**	
4	**	**	**
5	**	**	**
6	**	**	**
7	*	*	
8	**	**	**
9	**	**	**
10			

Inner-City Component

Grade	Reading	Language	Mathematics
4			
5	*		**
6	**		**
7			
8	*	**	**

In reviewing the results of the 1983-84 Evaluation of Project Concern, Superintendents in participating communities noted that it would be helpful to provide information regarding the absolute growth of Project Concern students using grade equivalent scores. This information is provided on Page 94 for the Suburban and Inner-City Components of the Project Concern Program.

In reviewing these results, it is important to note that the grade level indicated is for Spring 1985. For example, at grade 3, 28 Suburban Project Concern students were tested in the Spring 1984 when they were in grade two, and then they were tested again Spring 1985. Their mean or average pretest language performance in Spring 1984 was 2.8 and their average post test performance in Spring 1984 was 3.5. Thus they exhibited a growth in language of 7 months between pre- and post testing.

[1]Note: * indicates absolute growth is statistically significant at the .05 level.

** indicates absolute growth is statistically significant at the .01 level.

Suburban Component

Grade	N	Reading			Language			Mathematics		
		Pre-	Post	Gain	Pre-	Post	Gain	Pre-	Post	Gain
3	28	2.8	2.9	.1	2.8	3.5	.7	2.9	3.2	.3
4	32	3.1	4.0	.9	3.5	5.0	1.5	3.6	4.3	.7
5	46	3.8	5.4	1.6	5.1	5.8	.7	4.8	5.6	.8
6	49	5.6	7.6	1.0	6.0	7.8	1.8	5.6	7.0	1.4
7	66	6.4	7.3	.9	7.1	8.0	.9	6.7	7.3	.6
8	68	7.3	9.1	1.8	8.4	9.5	1.1	7.7	9.0	1.3
9	52	8.6	10.3	1.7	10.2	11.8	1.6	9.7	12.3	2.6
10	60	9.7	10.1	.4	10.3	10.5	.2	10.8	10.8	-

Inner-City Component

Grade	N	Reading			Language			Mathematics		
		Pre-	Post	Gain	Pre-	Post	Gain	Pre-	Post	Gain
4	7	3.3	3.5	.2	5.2	5.9	.7	4.3	4.4	.1
5	17	4.5	5.6	1.1	5.4	5.4	0	4.8	6.2	1.4
6	16	5.3	7.0	1.7	6.4	7.5	1.1	6.3	7.7	1.4
7	9	5.8	5.4	-.4	6.7	6.6	-.1	6.8	7.0	.2
8	15	7.1	8.6	1.5	7.1	8.3	1.2	7.4	9.2	1.8

When reviewing the grade equivalent score information provided, it is important to keep in mind the definition of a grade equivalent score. A grade equivalent score of 2.8 in reading for Suburban participants indicates that the performance of Project Concern participants was the same as the average performance of students nationally at the second grade in the eighth month of school who participated in the standardization of the Metropolitan Achievement Tests. One cannot conclude that students have mastered all skills necessary to read graded text at the 2.8 level. This point is particularly important to keep in mind when reviewing the math growth of Suburban Project Concern participants at grade 9. The average performance of these students when they were in the eighth grade during Spring 1984 was 9.7. In Spring 1985 the average language performance of these same students was 12.3, indicating an average growth of 2 years and 6 months. The Spring 1985 score of 12.3 does not indicate that these students have mastered math skills up to the 12th grade, but rather that they received the same score on this test as the average 12th grader. In fact, the level of the Metropolitan Achievement Tests used with these students was not developed to assess math skills at the 12th grade.

From the information provided, it is evident that both Suburban and Inner-City Project Concern students exhibited considerable basic skill progress as indicated by their grade equivalent score growth at most grade levels in reading, language, and mathematics. The amount of progress varied by skill area and by grade level. When reviewing the grade equivalent score results, it is beneficial to examine progress at a particular grade level across the three skill areas of reading, language, and mathematics. This approach provides a more informative assessment of Project Concern participants' basic skill growth. Suburban and Inner-City Project Concern participants exhibited appreciable grade-equivalent score gains at most grade levels where statistically significant achievement growth was exhibited.

In addition to examining the absolute basic skill achievement growth of Project Concern participants, relative achievement growth was also examined.

In assessing relative growth, one is asking the question - as a result of the achievement progress exhibited in the areas tested, has the relative standing of the students changed regarding the national norm group? The following findings resulted from this assessment:

Inner-City Project Concern participants tended to exhibit relative basic skill growth in those areas at each grade level where statistically significant absolute growth was evident. This indicates that the statistically significant basic skill progress exhibited by these students was generally reflected in an imporvement in their standing relative to the national norm group.

Inner-City Project Concern participants exhibited an overall relative NCE gain in Mathematics (+0.5) and losses in Reading (-0.7) and Language (-3.9).

Inner-City Project Concern participants maintained or exhibited NCE gains in all three basic skill areas at grades 6 and 8, while students at grades 4 and 7 exhibited NCE losses in these areas. Pre- post NCE achievement test results for students at grades 5 were mixed.

Suburban Project Concern participants tended to exhibit relative basic skill growth in reading at each grade level where statistically significant absolute growth was evident. For reading, the statistically significant basic skill growth exhibited by students was usually reflected in an improvement in their standing relative to the national norm group. This was not the case for the skill areas of mathematics and language.

Suburban Project Concern participants exhibited an overall relative NCE gain in Reading (+0.6) and losses in Language (-0.5) and Mathematics (-1.2).

Suburban Project Concern participants exhibited NCE gains in all those basic skill areas at grades 6 and 9, while students at grades 3 and 10 exhibited NCE losses in those three areas. Pre post NCE achievement test results for students at grades 4, 5, 7, and 8 were mixed.

Further insights into the relative basic skill growth of participants was obtained by grouping students on the basis of their spring 1984 percentile ranks. The following trends were found:

> For Inner-City Project Concern participants, students at or below the 36th percentile at most grade levels tended to exhibit the most NCE growth in Reading and Mathematics.
>
> For Suburban Project Concern participants, students at or below the 50th percentile at most grade levels tended to exhibit the most NCE growth in Reading and Mathematics.

Another way of looking at the relative growth of Project Concern participants is to use overall percentile ranks. By calculating the mean or average pre- and post Metropolitan Achievement Test scores of all Project Concern Participants for the skill areas of reading, language, and mathematics, insights can be gained regarding the question - How did Project Concern students as a group progress in their basic skill development? This percentile score information is provided below.

	Percentile Ranks			
Skill Areas	Suburban		Inner-City	
	Pre	Post	Pre	Post
Reading	47	48	45	44
Language	54	53	55	48
Math	51	49	52	53

From the information presented, it is evident that Suburban Project Concern students scored at the 47th percentile on the pretest in Reading during the Spring 1984. By scoring at the 47th percentile, this means that the average Suburban Project Concern Program participant's performance in reading was better than or equal to 47% of the students in the national norming sample for the Metropolitan Achievement Tests. It is also useful to note that the 50th percentile is equivalent to grade level performance. Keeping these points in mind, it is evident that on the average, both Suburban

and Inner-City Project Concern participants scored below grade level on the pre- and post test in reading, but they were at or above grade level on the pretest in mathematics and language. On the post test, Suburban participants remained above grade level in language, but drop below grade level in Math. Inner-City participants dropped below grade level on the post test in language, but remained above grade level in Math. Suburban Project Concern participants exhibited a slight decrease in percentile rank from pre- to post testing in all skill areas except reading. Inner-City exhibit a percentile decrease in all skill areas except for math.

To examine the affective area, the Student Survey was administered during the spring of 1985 to participants in the Suburban and Inner-City components of Project Concern at grades 2-10. With respect to differences in self-concept and school attitudes across grade levels, some significant differences similar to previous years' data for Suburban participants were evident as follows:

> As grade level increased, more students tended to feel that school work was fairly easy for them (item 1).
>
> As grade level increased, more students felt they could get good grades if they wanted to (item 3).
>
> As grade level increased, fewer students indicated they often volunteer to do things in class (item 4).
>
> As grade level increased, fewer students were proud of their school work (item 7).
>
> As grade level increased, more students felt they were not doing as well in school as they would like to do.

For Inner-City participants, the responses differed significantly across grade levels for only item 1. As grade level increased, fewer students tended to feel that school work was fairly easy for them.

In summary, it can be concluded that the self-concept and school attitudes of the Suburban and Inner-City Project Concern students in the areas of school and school work, classroom participation, and teachers are quite positive. The affective orientation of students participating in the 1984-1985 Project Concern Program is fairly consistent with the results of past evaluations of Project Concern when the Student Survey was used.

Examining the Sustained Cognitive Effects of Project Concern Participation

These sustained cognitive effects studies were conducted as part of the 1984-85 Hartford Project Concern Program Evaluation. The evaluation question addressed in each study as well as a summary of the major findings are presented in the subsequent sections of this chapter.

Study I

How are students performing who were in grades 3-5 during the 1980-1981 year and continued in the program through the 1984-1985 year (grades 7-9)?

In conducting this sustained cognitive effects study, the spring 1982 to spring 1983, spring 1983 to spring 1984, and spring 1984 to spring 1985 sustained Reading and Mathematics achievement gains for Project Concern participants were examined in relation to gains made from spring 1981 to spring 1982. This study focused on students who were enrolled at grades 3-5 during the spring of 1981. On the basis of norm group comparisons using NCE scores, the following findings were forwarded for the Suburban and Inner-City students.

Total Group

Reading. Grades 3, 4 and 5 (1981) increased their 1981-1982 gains in Reading performance.

Math. Grade 3 (1981) exhibited an overall decline in Math performance as of grade 7 (1985); grade 4 (1981) and grade 5 (1981) exhibited overall increases in their 1981-1982 Math performance gains through grade 8 (1985) and grade 9 (1985) respectively.

Suburban

Reading. Grades 3, 4 and 5 (1981) increased their 1981-1982 gains in Reading performance.

Math. Grade 3 (1981) exhibited an overall decline in Math performance as of grade 7 (1985); grade 4 (1981) and grade 5 (1981) exhibited overall increases in their 1981-1982 Math performance gains through grade 8 (1985) and grade 9 (1985) respectively.

Inner-City

Reading and Math. Grade 3 (1981) students exhibited an overall decline in Reading and Math performance as of grade 7 (1985); grade 4 (1981) students exhibited overall increases in their 1981-1982 Reading and Math performance gains as of grade 8 (1985).

Overall, the findings of this study support the claim that Project Concern students have generally maintained and enhanced their achievement performance over time. The exception to this general trend was found for all three cohort groups during grade 7.

Study II

How are students performing who were in grades 3-5 during the 1982-1983 year and continued in the program through the 1984-1985 year (grades (5-7)?

In conducting this sustained cognitive effects study, the spring 1984 to spring 1985 sustained Reading and Mathematics achievement gains for Project Concern participants were examined in relation to gains made from spring 1983 to spring 1984. This study focused on students who were enrolled at grades 3-5 during the spring of 1983. On the basis of norm group comparisons using NCE scores, the following findings were forwarded for the Suburban and Inner-City students.

Total Group

Reading and Math. Grade 4 students increased their 1983-1984 gain during the 1984-1985 year; grades 3 and 5 students exhibited decreases in their 1984-1985 achievement levels when compared to their 1983-1984 levels.

Suburban

Reading. Grades 3 and 4 students increased their 1984-1985 achievement levels after exhibiting a decrease during the 1983-1984 period. Grade 5 students failed to maintain their 1983-1984 gains during the 1984-1985 year.

Math. Grade 4 students increased their 1983-1984 gains during the 1984-1985 year. Grades 3 and 5 students failed to maintain their 1983-1984 gains during the 1984-1985 year.

Inner-City

Reading. Grade 4 students increased their 1983-1984 gains during the 1984-1985 year; grades 3 and 5 students failed to maintain their 1983-1984 gains during the 1984-1985 year.

Math. Grades 3 and 4 students exhibited gains during 1984-1985 as compared to their 1983-1984 achievement levels; grade 5 students failed to maintain their 1983-1984 gains during the 1984-1985 year.

The results of this sustained effects study are based on a one year (Spring 1984 to Spring 1985) period. When compared to the four year period of data presented in Study I, these sustained effects results are considered to be for a relatively short period of time. It was found that over the one year (Spring 1984 to Spring 1985) period several of the Spring 1983 to Spring 1984 gains were not maintained. It will be necessary to follow these same students over a longer time period before any meaningful trends in achievement can be noted with confidence.

Study III

How does the achievement of Suburban Project Concern students, who were in grades 3-5 during the 1980-1981 year and continued in the program through the 1984-1985 year (grades 7-9), compare with a comparable group of Hartford students not participating in the program?

The evaluation design employed to answer this question is similar to the traditional sustained achievement effects design employed in Study I. The unique futures of Study III are the use of a Hartford comparison group and the emphasis on the statistical significance of the differences in the achievement levels of Project Concern and Hartford comparison students at each of the 1981 to 1985 test times. The overall and grade level findings of this study were as follows:

Overall

After matching students on the basis of sex, ethnic group, Hartford sending school, and Spring 1981 Reading and Math achievement levels, no significant differences were found between the Suburban Project Concern and Hartford comparison students from Spring 1982 to Spring 1984 in Reading and Math and through Spring 1985 in Reading. Hartford 1981 grade 4 students achieved significantly ($p < .05$) higher levels than Suburban Project Concern students in 1985 grade 8 Math scores.

1981 Grades 3-5

The grade 3 1981 matched Suburban Project Concern and Hartford groups remained below grade level (i.e., below a NCE of 50 or 50th %ile) in Reading and Math from grade 4 (1982) to grade 7 (1985). The highest performance level for both groups was exhibited during grade 6 (1984) with a decline evident during grade 7 (1985). Both groups sustained their 1981 achievement levels in Reading and Math.

The grade 4 1981 matched Suburban Project Concern and Hartford comparison groups were below grade level in grades 5 (1982), 7 (1984) and 8 (1985) and at grade level in grade 6 (1983) in Reading. The Hartford comparison students exhibited above grade level performance in Math beginning Spring 1983 (end of grade 6) and exhibited significantly higher Math

achievement ($p < .05$) than the Suburban Project Concern students during grade 8 (1985). Both groups sustained their 1981 achievement levels in Reading and Math.

The grade 5 1981 matched Suburban Project Concern and Hartford comparison groups both remained below grade level from grade 6 (1982) to grade 8 (1984) and exhibited grade level performance in Reading in grade 9 (1985). In Mathematics both groups exhibited above grade level performance from grade 6 (1982) to grade 9 (1985); continual improvement was found for both groups for grade 8 (1984) and grade 9 (1985). Both groups sustained their 1981 achievement levels in Reading and Math.

In summary, these findings indicate that, overall, the matched Suburban Project Concern and Hartford comparison groups tended to sustain their 1981 achievement levels from 1982 to 1985. With one exception there were no differences between Suburban Project Concern and Hartford students in Spring 1982 to Spring 1985 Reading and Math achievement levels after matching the groups on sex, ethnic group, Hartford sending school, and Spring 1981 achievement levels. In the one case at grade 8 where differences existed, Hartford students exhibited significantly higher levels of Math achievement than Suburban Project Concern students.