

**6.0 SUMMARY OF FINDINGS AND
CONCLUSIONS PERTAINING
TO NEW YORK PRESCHOOL
SPECIAL EDUCATION
LONGITUDINAL STUDY
GOALS, OBJECTIVES, AND
RELATED QUESTIONS**

6.0 SUMMARY OF FINDINGS AND CONCLUSIONS PERTAINING TO NEW YORK PRESCHOOL SPECIAL EDUCATION LONGITUDINAL STUDY GOALS, OBJECTIVES, AND RELATED QUESTIONS

At the outset of this study, four research goals were established (see **Exhibit 6-1**). This chapter, which summarizes findings reported mostly in **Chapter 5.0**, responds specifically to those goals and draws conclusions from the findings. In subsequent sections, findings and conclusions are offered in response to each goal, respectively.

EXHIBIT 6-1 NEW YORK PRESCHOOL SPECIAL EDUCATION LONGITUDINAL STUDY: KEY GOALS, OBJECTIVES, AND RELATED QUESTIONS

GOAL I. Understand the nature of placement recommendations for students with disabilities in grades K-4 who received preschool special education services.

- **Determine the rate of placement in general education.** To what extent are preschool students with disabilities who received preschool special education programs and services placed in general education classes upon entry into kindergarten or school-age programs?
- **Determine the effect of preschool special education type (integrated vs. separate) on placement in general education.** What are the differences in the rate of placement in general education settings in elementary school between students who received preschool special education in settings with nondisabled peers versus those students who received preschool special education in separate settings?

GOAL II. Understand the scope and intensity of special education service recommendations for students with disabilities who received preschool special education services.

- **Determine the effect of preschool special education type (integrated vs. separate setting) on intensity of services.** To what extent do students with disabilities who received preschool special education programs and services in a setting with nondisabled peers receive a lower intensity of services (i.e., placement from full-day to half-day special class or placement from half-day to resource room or consultant teacher services) upon entry to kindergarten or school-age special education programs compared with students who received preschool special education programs and services in separate settings?

GOAL III. Distinguish differences in the achievement, emotional well-being, and social adjustment of elementary students with disabilities who received preschool special education programs and services in two different types of settings:

1. With nondisabled peers.
2. In separate settings with only disabled peers.

EXHIBIT 6-1 (Continued)
NEW YORK PRESCHOOL SPECIAL EDUCATION LONGITUDINAL STUDY:
KEY GOALS, OBJECTIVES, AND RELATED QUESTIONS

Goal III also involves distinguishing differences in the above-mentioned outcome variables factors for elementary students with disabilities who:

- 1. Received preschool special education programs and services.**
- 2. Did not receive special education programs and services until elementary school.**

- **Determine effect of preschool special education on reading, math, and behavioral assessment scores.** What are the differences in the achievement, emotional well-being, and social adjustment of elementary school students with disabilities on statewide/districtwide standardized measurements of reading and math and behavioral assessments between those students who did and did not receive special education programs and services during their preschool years?

- **Determine effect of preschool special education type (integrated vs. separate) on reading, math, and behavioral assessment scores.** What are the differences in the achievement, emotional well-being, and social adjustment of elementary school students with disabilities on statewide/districtwide standardized measurements of reading and math and behavioral assessments between students who received preschool special education programs and services in a setting with nondisabled peers and those who received preschool special education programs and services in a separate setting?

GOAL IV. Distinguish differences in satisfaction among parents of children who received preschool special education programs and services with nondisabled peers, in separate settings, and students with disabilities who did not receive preschool special education programs and services.

- **Determine effect of preschool special education type (integrated vs. separate) on parent satisfaction.** What are the differences in satisfaction among the parents of children who received preschool special education services with and without their nondisabled peers?

- **Determine the effect of preschool on parent satisfaction.** What are the differences in satisfaction among the parents of children who did and did not receive preschool special education services?

Source: Created by MGT of America, Inc., 2000.

Since the study, originally planned for seven years, was curtailed by one year, data were provided only through the third grade year. Therefore, references above to "K-4" refer to the study's original goals. Also, at the time of this report, achievement and reading data referenced in Goal III were not available, so no related findings are presented.

In the sections that follow, each goal is restated with findings and conclusions.

6.1 Goal I: Findings and Conclusions

GOAL I. Understand the nature of placement recommendations for students with disabilities in grades K-4 who received preschool special education services.

- **Determine the rate of placement in general education.** To what extent are preschool students with disabilities who received preschool special education programs and services placed in general education classes upon entry into kindergarten or school-age programs?
- **Determine the effect of preschool special education type (integrated vs. separate) on placement in general education.** What are the differences in the rate of placement in general education settings in elementary school between students who received preschool special education in settings with nondisabled peers versus those students who received preschool special education in separate settings?

6.1.1 Summary of Classification Patterns by Student Preschool Service Setting (PD-1/4 Category)

To respond to Goal I items, preschool cohort school-age special education placements were reported in **Chapter 5.0** in four categories, from more integrated to less integrated, as reflected by the percentage of time spent outside of the general education classroom setting by students in receipt of special education services: 0 to 20 percent (“Highly Integrated Setting”), 21 to 60 percent (“Moderately Integrated Setting”), 61 to 99 percent (“Minimally Integrated Setting”), and 100 percent (“Separate Setting”). Placement rates within these categories were reported for kindergarten through third grade, according both to preschool students’ PD-1/4 category and to their preschool special education programs and services (PD-7) category; the latter will be discussed in the next section.

Grade-level findings for kindergarten through third grade by PD-1/4 category may be summarized as follows:

- Overall representation of the preschool cohort decreased from 50 to 40 percent in Highly Integrated Settings and increased from 31 to 48 percent in Minimally Integrated Settings, whereas for the comparison cohort (i.e., received no preschool services) representation increased from 43 to 58 percent in Highly Integrated Settings and decreased from 49 to 31 percent in Minimally Integrated Settings.
- As students who remained classified moved through the grades to third grade, there was a large shift of students who had received preschool special education services in more integrated settings or in the home Highly Integrated Settings to Minimally Integrated Settings and for students who had received preschool special education services in a less integrated environment, from Separate Settings to Minimally Integrated Settings.
- From kindergarten through third grade, representation in Separate Settings decreased from 14 to 6 percent.

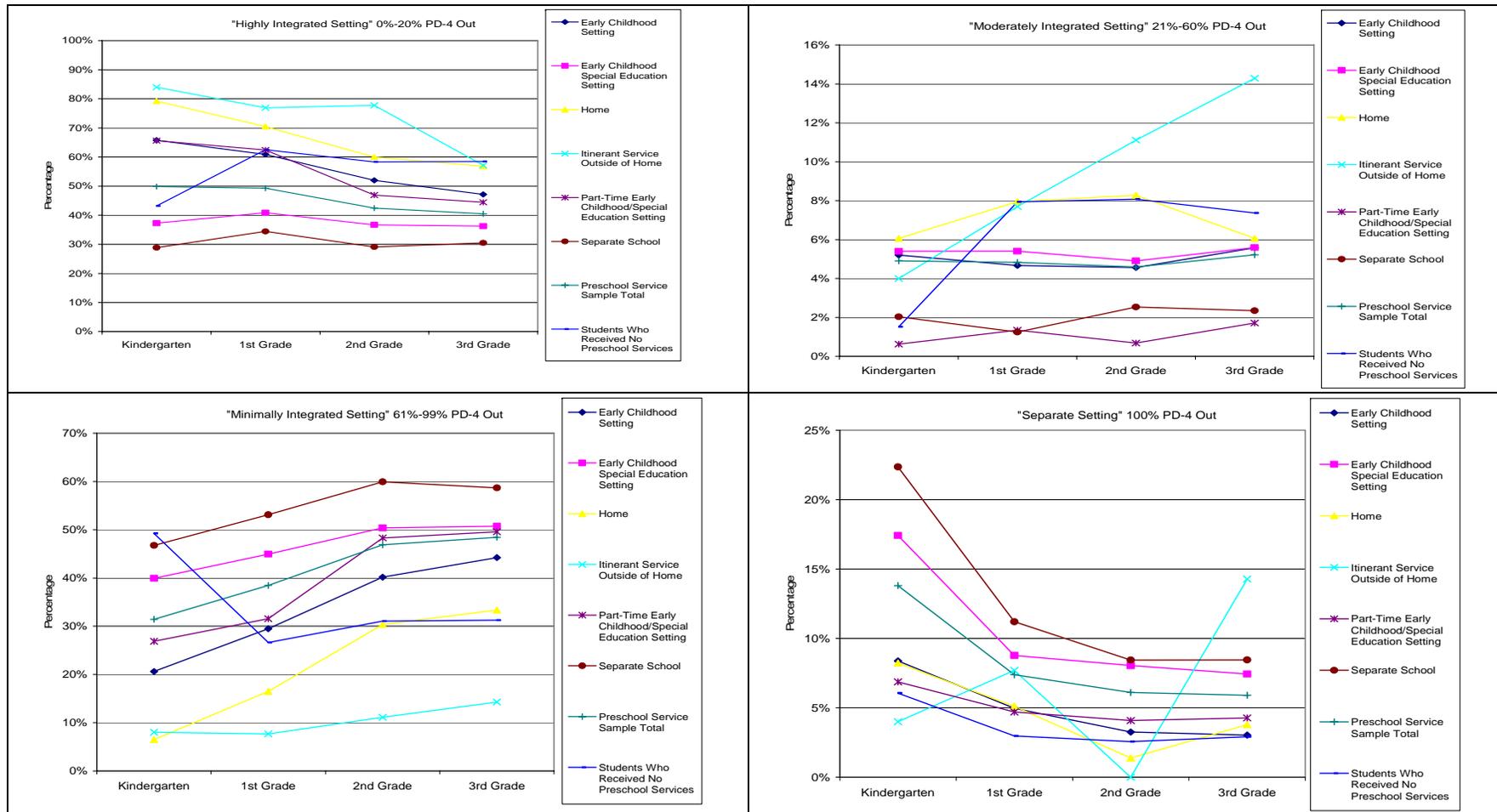
Summary of Findings and Conclusions Pertaining to New York Preschool Special Education Longitudinal Study Goals, Objectives, and Related Questions

- Among the preschool categories, the largest shift by percentage from one setting to another occurred among students who had received preschool special education services in Part-Time Early Childhood/Special Education Settings, 66 percent of whom were enrolled in Highly Integrated Settings in kindergarten. This figure dropped to 43 percent in third grade, representing a 23 percent shift, in this case, to Minimally Integrated Settings .
- There was similar shift among students who received preschool special education services in Early Childhood Special Education Settings and at home.

Findings from **Exhibit 6-2** below, recreated from Exhibit 5-6, summarize as line graphs these trends in terms of levels of integration data, grade by grade. In the first line graph, presenting kindergarten through third grade trends in use of Highly Integrated Settings, the consistent downward slope of grade-by-grade lines for each preschool special education setting and for students in the comparison cohort (especially first through third grades) chronicles the gradual shift of students in both cohorts to less integrated classroom settings as they progressed through the grades. In the preschool cohort percentages of students in Highly Integrated Settings tended to hold steady both for students who received preschool special education services in Early Childhood Special Education Settings and for those who received services in Separate School settings. Conversely, in the next two line graphs, which present grade trends in Moderately Integrated Settings and Minimally Integrated Settings, we see in most categories a general upward slope, more pronounced for some preschool special education settings than others, confirming the attrition of students from Highly Integrated Settings. However, notably in the Separate Setting graph, for most categories of preschool cohort students we see the opposite trend—a downward slope from kindergarten through third grade, with a steep decline in percentages of students placed in separate settings occurring from kindergarten to first grade.

Summary of Findings and Conclusions Pertaining to New York Preschool Special Education Longitudinal Study Goals, Objectives, and Related Questions

**EXHIBIT 6-2
FOUR LEVELS OF INTEGRATION COMPARING PRESCHOOL COHORT (BY PD-1/4 CATEGORY) AND COMPARISON COHORT STUDENTS: KINDERGARTEN THROUGH THIRD GRADE**



Source: MGT of America, Inc., New York Preschool Special Education Study database, 2001 through 2006.

6.1.2 Conclusions

From these findings, two general trends were noteworthy regarding the preschool cohort's kindergarten through third grade placements with reference to their preschool special education settings. First, there was a notable shift of preschool special education students—in most cases, regardless of their preschool special education setting—from Highly Integrated Settings when they entered kindergarten, to less integrated school-age special education settings by the time they reached third grade, most notably, Minimally Integrated Settings. Second, there was an equally notable reverse shift of students from the Separate Settings when they entered kindergarten to Minimally Integrated Settings by the time they reached third grade. Although in the first case, the shifts began gradually from kindergarten to first grade, they accelerated between first and second grades and then decelerated from second to third grade, suggesting something of a “second grade effect” in terms of student placements relative to the general education setting. On the other hand, the acceleration of the shift from the Separate Settings to more integrated school-age special education placement settings took place during the transition from kindergarten to first grade in what might be called a “first grade effect” for these students.

The dynamics of these two distinct shift patterns are interesting to consider with reference to the relatively underutilized Moderately Integrated Settings special education placements regardless of grade or Need/Resource Capacity (N/RC) category. New York City, for instance, placed less than 1 percent of its students in this category in any grade, kindergarten through third.

The argument that students who moved from more integrated school-age special education settings in kindergarten to less integrated settings in subsequent grades may have needed a broader and deeper range of services is underscored by the reverse shift among students who were placed in Separate Settings in kindergarten but moved to more integrated school-age special education settings later on. The intensity of the services they received early on impacted their movement to more integrated settings later on. Children who received special education services in Early Childhood Special Education Settings, for whom the pattern of school-age special education placements, kindergarten through third grade, remained relatively unchanged offers another perspective when compared with shift patterns of students who received preschool special education services in more integrated Early Childhood Settings, whose shift to less integrated school-age special education settings was rather pronounced. This finding suggests that many students who were placed in a more integrated preschool special education setting might have benefited from placement in Early Childhood Special Education Settings in light of their subsequent school-age special education placements.

6.1.3 Summary of Classification Patterns by PD-7 Category

To offer a different perspective in response to Goal I, the next set of findings presented in **Chapter 5.0** addressed preschool special education students' school-age special education placements in the four categories—Highly Integrated Setting, Moderately Integrated Setting, Minimally Integrated Setting and Separate Setting—with reference to PD-7, or preschool special education service type, categories, kindergarten through third grade.

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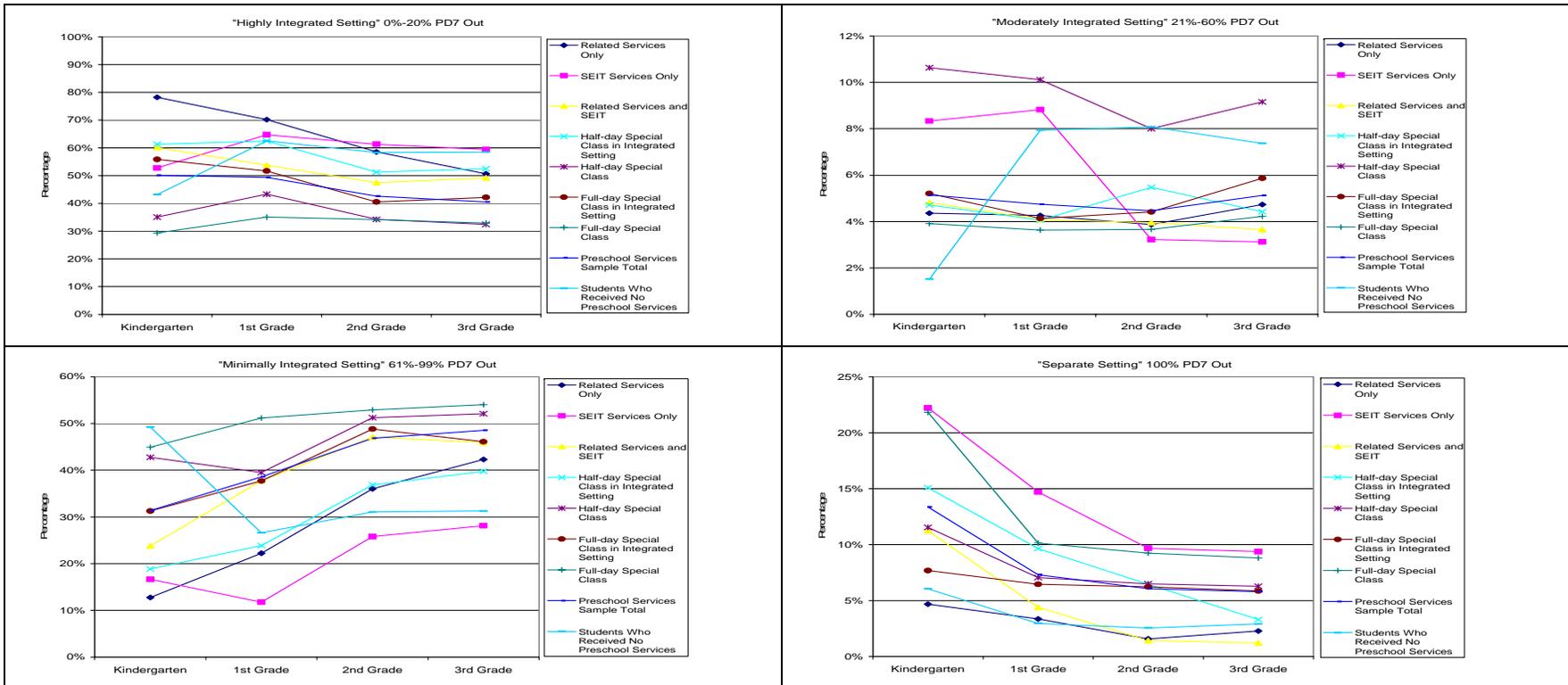
Grade-level findings for kindergarten through third grade by PD-7 category may be summarized as follows:

- As students who remained classified moved through the grades to third grade, there was a large shift of students who had received their preschool special education services in the more integrated settings from Highly Integrated Settings in kindergarten to Minimally Integrated Settings over time and for students who had received preschool special education programs and services in less integrated environments, from Separate Settings to Minimally Integrated Settings.
- Overall representation of the preschool cohort decreased in Highly Integrated school-aged Settings from 50 to 41 percent and increased in Minimally Integrated Settings from 31 to 49 percent.
- From kindergarten through third grade, preschool cohort students from the Full-Day Special Class in preschool decreased their representation in school-age Separate Settings from 22 to 9 percent.
- Among the preschool special education program and services categories, the largest shift by percentage from one placement setting to another occurred among students who had participated in preschool Related Services, 78 percent of whom were enrolled in the Highly Integrated Settings in kindergarten. By third grade, this figure had dropped to 51 percent, representing a 27 percent shift, in this case, to Moderately Integrated Settings.

Findings from **Exhibit 6-3**, recreated from Exhibit 5-12, summarize in line graphs the trends in terms of levels of integration data, grade by grade. The first line graph presents kindergarten through third grade trends in the provision of school-age special education programs and services at the Highest Integration level. The consistent downward slope of grade-by-grade lines for many preschool special education programs and services categories and a slight downward slope for students in the comparison cohort (especially first through third grades) chronicles the gradual shift of students in both cohorts to less integrated special education programs and services as they progressed through the grades. In the preschool cohort post-kindergarten percentages of students in this category tended to hold steady for students from all preschool special education service categories but Related Services Only, which experienced a more precipitous decline. In the next line graph, which presents grade trends in Moderately Integrated Settings, we see for most preschool special education services categories a more gradual upward slope, becoming more pronounced for all preschool special education service categories in the Minimally Integrated Settings. This accounts, in part, for the attrition of students from Highly Integrated Settings. However, in the Separate Setting graph, both for students from all preschool special education programs and services and for students who received no preschool special education services, we see a steep downward slope from kindergarten through third grade, with a particularly steep decline from kindergarten to first grade.

Summary of Findings and Conclusions Pertaining to New York Preschool Special Education Longitudinal Study Goals, Objectives, and Related Questions

**EXHIBIT 6-3
FOUR LEVELS OF INTEGRATION, COMPARING PRESCHOOL COHORT (PD-7 CATEGORY) AND COMPARISON COHORT STUDENTS: KINDERGARTEN THROUGH THIRD GRADE**



Source: MGT of America, Inc., New York Preschool Special Education Study database, 2001 through 2006.

6.1.4 Conclusions

Analysis of trends in levels of integration by PD 7 categories of programs and services parallels the findings discussed in relation to PD 1/4 setting. Preschool cohort students who remained classified throughout grades kindergarten through third and began kindergarten in the highest level of integration (i.e., out of general education less than 20% of the time) moved to Minimally Integrated programs and services over time, at third grade spending more than 60% of the time out of general education. Preschool cohort students who began kindergarten placed in totally separate programs and services, shifted to one integration level higher by the time they reached third grade, i.e. moving into the Minimally Integrated level of integration. The shifts began gradually from kindergarten to first grade; they accelerated between first and second grades and then decelerated from second to third grade, affirming the presence of a “second grade effect” in terms of student special education placements relative to the general education setting. The shift from the Separate Settings to more integrated school-age special education settings similarly took place during the transition from kindergarten to first grade, affirming the presence of a “first grade effect” for these students. Moderately Integrated Settings were relatively underutilized regardless of grade or N/RC.

6.2 Goal II: Findings and Conclusions

GOAL II. Understand the scope and intensity of special education service recommendations for students with disabilities who received preschool special education services.

- **Determine the effect of preschool special education type (integrated vs. separate setting) on intensity of services.** To what extent do students with disabilities who received preschool special education programs and services in a setting with nondisabled peers receive a lower intensity of services upon entry to kindergarten or school-age special education programs compared with students who received preschool special education programs and services in separate settings?

It will be recalled from the description of the process of creating the Service Intensity variable in Section 5.6 of **Chapter 5.0** that this variable was derived by assigning values of 1 through 5 to various combinations of services, service locations, service delivery settings, and the number of special education sessions per school year and minutes per session. Once these values were calculated, they were submitted to two-way analysis of variance (ANOVA), a statistical procedure that examined the differences among preschool and comparison cohort means, to respond to Goal II items. **Exhibit 6-4** reports findings from the analysis.

**EXHIBIT 6-4
TESTS OF THIRD GRADE MEAN INTENSITY VALUES (ANOVA) FOR PRESCHOOL COHORT STUDENTS IN THREE PD-7 CATEGORIES**

Preschool Service Type by PD-7 Category	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Range of "Service Intensity" Values	
					Lower Bound	Upper Bound	Minimum	Maximum
Related Services	597	361.1	627.8	29.4	303.4	418.8	9	4479
Combined Services	846	819.4	904.3	57.3	706.5	932.3	15	4497.5
Special Class	996	1647.7	1146	53.7	1542.2	1753.2	15	6120.4
All Preschool Cohort Students	2439	964.2	1084.1	31.8	901.8	1026.6	9	6120.4
Comparison Cohort	1962	646.9	1061.6	40.5	567.3	726.5	3	10056

Source: New York Preschool Longitudinal Study school district data, 2001-2006.

Note: Differences in mean comparisons were statistically significant ($p < .001$) for comparisons between "Related Services" and three categories: "Combined Services," "Special Class," and "Comparison Cohort." "N's" reflect students for whom complete special education service data were provided by districts and who received services in any grade, kindergarten through third. Consequently, "n" values in this table are less than n values reported in the PD-7 school-age placement tables in Exhibits 5-8 through 5-11.

Findings suggest that not only did the Service Intensity variable do a good job of distinguishing the intensity of school-age special education services among the three preschool special education service type categories,¹ it may also tell us a great deal about the differences in the nature of student disabilities between those served in the various preschool special education programs and services and the comparison cohort. Preschool special education students who, owing to the nature of their disability, required services in less integrated preschool special education programs which tended to require more intense school-age special education services. Preschool cohort students whose disability required that they receive preschool special education services in the least integrated preschool special education service category (i.e., Special Class) continued to receive the most intense combinations of special education services in school-age special education programs, as demonstrated by their mean Service Intensity value of 1647.7. At the other extreme, the Service Intensity mean value for students who received preschool Related Services Only ($m = 361.1$), the most integrated preschool special education service type, was the lowest among all categories charted in Exhibit 6-4, including the comparison cohort ($m = 646.9$). The mean Service Intensity value for preschool cohort students who received preschool special education services in the mid-range of integration ($m = 819.4$), —the Combined Services category— fell

¹ Although the delivery of services provided in these three preschool service categories is qualitatively different from category to category, none of the three taken individually provided sufficient sample sizes to permit individual mean comparisons without violating assumptions about the normality of the distributions of their ratings. Consequently, to proceed with the analysis, it was necessary to combine the three categories of into one "Combined Services" category. Having done so, it was possible to conceive of this combination as the middle range of services in terms of the student's integration into the general education setting. In general, the PD-7 category Related Services represents the highest level of integration; the Special Class category, the lowest.

between the values for the Related Services Only and Special Class preschool special education programs and services, as might be expected. It can be concluded that students who received preschool special education services, kindergarten through third grade, received a more intense combination of school-age special education services in less integrated settings more frequently than preschool cohort students who received preschool special education services in the more integrated settings.

It is worth noting the difference between mean Service Intensity values for the preschool cohort ($m = 964.2$) and for the comparison cohort ($M = 646.9$). This difference achieved statistical significance ($p < .01$), further underscoring a qualitative difference between the nature of disabilities discussed in Exhibit 5-23 in **Chapter 5.0** in which, for instance, third grade students in the comparison cohort were much more likely to have been classified with Learning Disabilities and much less likely to have been classified with Speech Impairment than were students in the preschool cohort. It is tempting to conclude from this finding that preschool cohort students required more intense school-age special education services than comparison cohort students. It is more likely, especially in light of differences in disability classifications between the cohorts, that comparison cohort students, in fact, may not have been all that comparable to preschool cohort students. Comparison cohort students may have looked more like students who received preschool Related Services Only.

6.3 Goal III: Findings and Conclusions

GOAL III. Distinguish differences in the achievement, emotional well-being, and social adjustment of elementary students with disabilities who received preschool special education programs and services in two different types of settings:

1. **With nondisabled peers.**
2. **In separate settings with only disabled peers.**

Goal III also involves distinguishing differences in the above-mentioned outcome variables factors for elementary students with disabilities who:

1. **Received preschool special education programs and services.**
 2. **Did not receive special education programs and services until elementary school.**
- **Determine effect of preschool special education type (integrated vs. separate) on reading, math, and behavioral assessment scores.** What are the differences in the achievement, emotional well-being, and social adjustment of elementary school students with disabilities on statewide/districtwide standardized measurements of reading and math and behavioral assessments between students who received preschool special education programs and services in a setting with nondisabled peers and those who received preschool special education programs and services in a separate setting?

Summary of Findings and Conclusions Pertaining to New York Preschool Special Education Longitudinal Study Goals, Objectives, and Related Questions

In response to items 1 and 2 in Goal III, preschool cohort teacher ratings of student development for three outcome measures—the Part A “Participation in General Education” measure, the Teacher-Child Rating Scale (T-CRS), and the Work Sampling System® (WSS)—were analyzed in three PD-7 categories and for the comparison cohort. Third grade outcomes were submitted for regression analysis. Tables presented in **Chapter 5.0** are recreated below,² followed by a summary of findings and conclusions. **Exhibits 6-5** through **6-7** reproduce findings reported in **Chapter 5.0** for third grade Part A, T-CRS, and WSS teacher ratings of student development for both the preschool cohort by PD-7 category and for the comparison cohort.

6.3.1 Regression Analysis: Part A “Participation in General Education,” Comparing Third Grade Teacher Ratings in Three Preschool Special Education Categories

The second regression model looked within the three preschool categories to compare Part A mean teacher ratings in each category, one to another. Examining **Exhibit 6-5**, the comparison of mean ratings in the “Cognitive and Academic Development” category between third graders who received preschool Related Services Only and those who received Combined Services and Special Class services achieved statistical significance ($b = -0.274$, $b = -0.267$, $F < 0.01$, respectively). Although findings achieved statistical significance in these two sets of comparisons, in general, students who received preschool Related Services Only required less assistance than students who received preschool special education services in less integrated settings.

**EXHIBIT 6-5
PART A TEACHER RATINGS OF “ASSISTANCE REQUIRED IN THE GENERAL EDUCATION CLASSROOM” FOR PRESCHOOL COHORT THIRD GRADE STUDENTS IN THREE PRESCHOOL SPECIAL EDUCATION CATEGORIES**

Part A Developmental Domains	N	Adjusted R-square	F- value (F)	Probability (p)	Coefficients (b)		
					"Related Services" vs. "Combined Services"	"Related Services" vs. "Special Class"	"Combined Services" vs. "Special Class"
Language and Literacy	708	0.118	32.618	0.000	-0.157	0.151	-0.006
Personal and Social	716	0.133	37.706	0.000	-0.09	0.116	0.027
Cognitive and Academic	714	0.124	34.616	0.000	-0.274*	-0.267*	-0.007
Physical	735	0.051	14.015	0.000	0.046	0.053	0.1

Source: Part A “Participation in General Education” Survey, 2002 through 2006.

Note: Negative coefficient values above connote the need for “less teacher assistance” for the given preschool cohort category when compared with the comparison cohort. Asterisks (*) indicate statistically significant values (i.e., $p < .05$) relative to the need for less teacher assistance.

² Reading and math achievement data were not available at the time this final report was produced. The three outcome measures reported in this chapter and in **Chapter 5.0** represent teacher behavioral assessments of student development in the domains of “social adjustment,” “emotional well-being,” as well as “Language and Literacy Development” (Part A and the WSS) and “Mathematical Thinking” (WSS).

6.3.2 Regression Analysis: T-CRS Ratings, Comparing Third Grade Teacher Ratings in Three Preschool Special Education Categories

The second regression model looked within the three preschool special education programs and services categories to compare T-CRS mean teacher ratings for students served in each category. As shown in **Exhibit 6-6**, developmental ratings for third grade students served in the preschool special education Related Services Only category were also significantly higher than for students in the Combined Services subsample on both the Task Orientation ($b = 2.187$) and the Behavior Control ($b = 1.777$) domains. In the same two T-CRS categories, teacher ratings of student development for third graders who received preschool Related Services Only were also significantly higher than those students who received preschool Special Class (Task Orientation, $b = 2.342$; Behavior Control, $b = 1.323$). These findings support the hypothesis that third grade progress in these T-CRS domains is greater for students who received preschool Related Services Only, than for those in the Combined Services and Special Class services categories. On the other hand, there was no statistical difference in ratings for any preschool programs and services in the Assertiveness and Peer Social Skills domains, nor in any of the four T-CRS domains when developmental ratings were compared for third grade students who received preschool special education services in the Combined Services category and students who received preschool Special Class programs and services.

**EXHIBIT 6-6
T-CRS RATINGS, COMPARING THIRD GRADE MEAN TEACHER RATINGS FOR THREE PD-7 CATEGORIES**

T-CRS Developmental Domains	N	Adjusted R-square	F- value (F)	Probability (p)	Coefficients (b)		
					"Related Services" vs. "Combined Services"	"Related Services" vs. "Special Class"	"Combined Services" vs. "Special Class"
Task Orientation	968	0.102	37.539	0.000	2.187*	2.342*	0.155
Behavior Control	967	0.094	34.468	0.000	1.777*	1.323*	-0.454
Assertiveness	964	0.045	16.161	0.000	0.958	0.975	0.018
Peer Social Skills	965	0.052	18.534	0.000	1.288	0.902	-0.385

Source: Teacher-Child Rating Scale, 2002 through 2006.

Note: Asterisks (*) indicate statistically significant values (i.e., $p < .05$) relative to the need for less teacher assistance. Negative coefficient values above connote higher teacher ratings for the "Comparison Cohort", although these were not statistically significant.

6.3.3 Regression Analysis: WSS, Comparing Third Grade Mean Teacher Ratings for Three PD-7 Categories

Exhibit 6-7 reports logistical regression findings for third grade preschool cohort students in the three preschool special education categories used for the analysis, comparing the likelihood in each combination of preschool group comparisons shown in the exhibit to be rated As Expected by teachers in the three WSS developmental domains. Examining the exhibit, the odds of receiving an As Expected developmental

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rating achieved statistical significance for two sets of preschool group comparisons: the comparison of third graders who received preschool Related Services Only with those who received Combined Services ($b = 1.691$) and the comparison of third graders who received preschool Related Services Only with those who received Special Class preschool services ($b = 1.780$). Results in the Personal and Social Development domain indicate that third grade students who received preschool Related Services Only were 1.691 times as likely as third graders who received preschool special education services in the Combined Services category and 1.780 times as likely as third grade students in the Special Class preschool services category to receive an As Expected developmental rating as a function of their receipt of preschool Related Services.

**EXHIBIT 6-7
REGRESSION ANALYSIS: WSS, COMPARING THIRD GRADE MEAN
TEACHER RATINGS FOR THREE PD-7 CATEGORIES**

WSS Developmental Domains	N	Pseudo R-Square (Nagelkerke)	Coefficients (b)		
			“Related Services” vs. “Combined Services”	“Related Services” vs. “Special Class”	“Combined Services” vs. “Special Class”
Personal and Social	1023	0.066	1.691*	1.780*	1.052
Language and Literacy	1023	0.083	1.091	1.22	1.119
Mathematical Thinking	1023	0.183	1.495	1.523	1.019

Source: Work Sampling System, 2002 through 2006.

Note: Asterisks (*) note statistically significant findings (i.e., $p < 0.05$).

6.3.4 Conclusions

Findings for the Part A and T-CRS outcome measures, and to a lesser extent, the WSS, led to the conclusion that, in general, third grade students who received preschool Related Services Only tended to require less assistance from teachers in the general education classroom than students who received preschool special education services in less integrated settings. To interpret findings in the exhibit, values that approximate 1.0 suggest no difference in the odds of one group outperforming another. Higher values greater than 1.0 and asterisked, as in the case of the comparison between students who received preschool Related Services Only and the Combined Services (i.e., 1.691*), connote greater developmental progress for the former. When teacher developmental ratings were compared for students who received preschool Special Class services and those who received preschool special education services in the more integrated Related Services Only, teacher developmental ratings consistently favored the latter category. For the the WSS, comparisons between third grade students who received preschool Related Services Only and the other preschool special education categories failed to achieve statistical significance in the “Language and Literacy Development” and

“Personal and Social Development” domains. Third grade teacher ratings on the TCR-S and Part A of development for students who received preschool special education services in the Combined Services category were also often higher than the ratings given to preschool cohort students served in preschool special class programs and again except for the three domains of the WSS. That these differences were often statistically significant, especially for comparisons between Related Services Only and Special Class preschool cohort students, suggests that receipt of preschool Related Services Only exercised a greater impact on student development than did preschool Special Class services. However, it should not be concluded from these findings that the quality and quantity of preschool special education services received in one setting or another were superior or inferior. Rather, differences in teacher development ratings more likely reflected differences in the degree of disability between students assigned to more integrated preschool special education settings and those who were assigned to a separate setting. A more precise gauge of the quality of preschool special education services is the comparison of teacher ratings between each of the three preschool special education cohort samples and the comparison cohort, presented in the next section.

6.3.5 Regression Analysis: Part A “Participation in General Education,” Comparing Third Grade Teacher Ratings for Three Preschool Special Education Categories and the Comparison Cohort

Exhibits 6-8 through **6-10** reproduce findings reported in **Chapter 5.0** for third grade Part A, T-CRS, and WSS teacher ratings of student development for both the preschool cohort by PD-7 category and for the comparison cohort.

As shown in **Exhibit 6-8**, when the contribution of Service Intensity was held constant, comparing teacher ratings in the Language and Literacy, Personal and Social, and Cognitive and Academic developmental domains, preschool cohort third grade students required significantly less teacher assistance than students in the comparison cohort: Language and Literacy Development ($b = -0.411$), Personal and Social Development” ($b = -0.226$), and “Cognitive and Academic Development ($b = -0.383$). Negative coefficient values in the exhibit connote the need for significantly less teacher assistance for the given preschool cohort category when compared with the comparison cohort. These findings support the hypothesis that as a function of their receipt of preschool special education services, third grade special education students who received preschool Related Services Only required less teacher assistance in the general education classroom in three of four T-CRS domains than third grade special education students who received no preschool special education services.

Similar conclusions can be drawn from comparisons of teacher ratings in the Language and Literacy Development domain when preschool cohort students in both the Combined Services and Special Class subsamples were compared with comparison cohort students. Preschool cohort students in these two preschool special education categories also required significantly less teacher assistance than students in the comparison cohort.

**EXHIBIT 6-8
PART A TEACHER RATINGS OF “ASSISTANCE REQUIRED IN THE GENERAL EDUCATION CLASSROOM” FOR PRESCHOOL AND COMPARISON COHORT
THIRD GRADE STUDENTS**

Part A Developmental Domains	N	Adjusted R-square	F- value (F)	Probability (p)	Coefficients (b)		
					“Related Services” vs. Comparison Cohort	“Combined Services” vs. Comparison Cohort	“Special Class” vs. Comparison Cohort
Language and Literacy	1130	0.114	37.255	0.000	-0.411*	-0.249*	-0.245*
Personal and Social	1155	0.106	35.06	0.000	-0.226*	-0.115	-0.042
Cognitive and Academic	1142	0.114	37.644	0.000	-0.383*	-0.111	-0.123
Physical	1183	0.049	16.352	0.000	0.064	0.028	0.15

Source: Part A “Participation in General Education” Survey, 2002 through 2006.

Note: Negative coefficient values above connote the need for less teacher assistance for the given preschool cohort category when compared with the comparison cohort. Asterisks (*) indicate statistically significant values (i.e., $p < .05$) relative to the need for less teacher assistance.

6.3.6 Regression Analysis: T-CRS Ratings Comparing Third Grade Mean Teacher Ratings for Three PD-7 Categories and the Comparison Cohort

Consistent with mean values reported in **Exhibit 6-2, Exhibit 6-9** findings (reproduced from Exhibit 5-67) for third grade students who received preschool Related Services Only and for the comparison cohort indicate a statistically significant difference in their respective developmental ratings in all four T-CRS domains as a function of their receipt of preschool special education services: Task Orientation ($b = 3.253$), Behavior Control ($b = 1.940$), Assertiveness ($b = 1.632$), and Peer Social Skills (2.529). These findings support the hypothesis that developmental progress was greater for third grade special education students who received preschool Related Services Only than for students who received no preschool special education services. On the other hand, the absence of any other significant b-values for other preschool special education service groupings compared with the comparison cohort suggests that receipt of preschool special education services in those categories had no significant impact on third grade T-CRS teacher ratings, a finding supported by the nearly identical mean teacher ratings reported in **Exhibit 6-6**.

**EXHIBIT 6-9
T-CRS RATINGS FOR PRESCHOOL AND COMPARISON COHORT THIRD GRADE STUDENTS**

T-CRS Developmental Domains	N	Adjusted R-square	F- value (F)	Probability (p)	Coefficients (b)		
					"Related Services" vs. Comparison Cohort	"Combined Services" vs. Comparison Cohort	"Special Class" vs. Comparison Cohort
Task Orientation	1501	0.066	27.552	0.000	3.253*	0.796	0.165
Behavior Control	1500	0.054	22.559	0.000	1.940*	-0.107	-0.117
Assertiveness	1493	0.038	43.408	0.000	1.632*	0.608	0.476
Peer Social Skills	1497	0.034	13.221	0.000	2.529*	0.97	0.877

Source: Teacher-Child Rating Scale, 2002 through 2006.

Note: Asterisks (*) indicate statistically significant values (i.e., $p < .05$) relative to the need for less teacher assistance. Negative coefficient values above connote higher teacher ratings for the "Comparison Cohort", although these were not statistically significant.

6.3.7 Regression Analysis: WSS, Comparing Third Grade Mean Teacher Ratings for Three PD-7 Categories and the Comparison Cohort

Exhibit 6-10 reports logistical regression findings for third grade preschool cohort students in the three preschool special education categories used for the analysis and for third graders in the comparison group for the three WSS developmental domains. As shown, only the odds ratio comparing As Expected ratings for preschool cohort students who received preschool Related Services Only and the comparison group achieved statistical significance, suggesting that students with disabilities who received these special education services were nearly twice as likely as their comparison cohort peers to progress developmentally As Expected in this domain as a function of their receipt of preschool special education services. Students in the comparison cohort outperformed third grade preschool cohort students who had received preschool special class services on the Mathematical Thinking domain. Other combinations of preschool and comparison cohorts revealed no significant difference in the likelihood of their receiving an As Expected developmental rating, suggesting that receiving preschool special education services in these instances had no impact on teacher As Expected ratings.

**EXHIBIT 6-10
REGRESSION ANALYSIS: WSS, COMPARING THIRD GRADE MEAN
TEACHER RATINGS FOR THREE PD-7 CATEGORIES AND THE
COMPARISON COHORT**

WSS Developmental Domains	N	Pseudo R-Square (Nagelkerke)	Odds Ratio		
			“Related Services” vs. Comparison Cohort	“Combined Services” vs. Comparison Cohort	“Special Class” vs. Comparison Cohort
Personal and Social	1656	0.036	1.883*	1.052	0.896
Language and Literacy	1656	0.05	1.205	1.034	0.825
Mathematical Thinking	1656	0.117	1.304	0.787	0.649*

Source: Work Sampling System, 2002 through 2006.

Note: Asterisks (*) note statistically significant findings (i.e., $p < 0.05$).

6.3.8 Conclusions

Findings for the third grade Part A and T-CRS outcome measures, and to a lesser extent the WSS, led to the conclusion that, in general, third grade students who received preschool special education services in settings with nondisabled peers tended to require significantly less assistance from teachers in the third grade general education classroom than students in the comparison cohort. To interpret findings in the exhibit, values that approximate 1.0 suggest no difference in the odds of one group outperforming another. Higher values greater than 1.0 and asterisked, as in the case of the comparison between students who received preschool Related Services Only and the comparison cohort (i.e., 1.883), connote greater developmental progress for the former. Lower values greater than 1.0 and asterisked, as in the case of the comparison between students who received Special Class services and the comparison cohort (i.e., 0.649), connote greater developmental progress for the latter. That these differences were statistically significant suggests that receipt of Related Services Only had a greater impact on student development for third graders than not having received preschool special education services.

6.4 Goal IV: Findings and Conclusions

GOAL IV. Distinguish differences in satisfaction among parents of children who received preschool special education programs and services with nondisabled peers, in separate settings, and students with disabilities who did not receive preschool special education programs and services.

- **Determine effect of preschool special education type (integrated vs. separate) on parent satisfaction.** What are the differences in satisfaction among the parents of children who received preschool special education services with and without their nondisabled peers?
- **Determine the effect of preschool special education on parent satisfaction.** What are the differences in satisfaction among the parents of children who did and did not receive preschool special education services?

To address Goal IV, MGT and the Preschool Longitudinal Special Education Study Advisory Committee designed and implemented a survey and a focus group interview protocol to understand parental perceptions of their child's preschool special education experience. MAGI Educational Services, Inc., under subcontract to MGT of America, Inc., conducted the parent satisfaction study from summer 2001 through summer 2002. The survey asked questions regarding experiences of parents and students from the study's preschool cohort: A total of 1,418 surveys were mailed and 293 were returned—a response rate of 20 percent.

Parent focus groups were implemented to augment the surveys and gain additional insight into each parent's experience. Focus group questions probed areas such as overall satisfaction with preschool special education, impact of services on both parent and child, satisfaction with child progress, and satisfaction with the transition to school-age programs. Parent focus groups were conducted in 20 districts, or 74 percent of the total sample of 27 school districts selected for the longitudinal study. The parents represented 17 districts throughout New York State—including urban, suburban, and rural communities—and three districts in New York City.

6.4.1 Satisfaction with Preschool Special Education

Overall, respondents indicated they were very satisfied with preschool special education services (see **Exhibit 6-11**). Nearly all agreed or strongly agreed that services were of high quality (95%), of the right type (99%), and of sufficient frequency (91%); that their child had received adequate individual attention (93%); and that their child's skills had improved (96%). On the other hand, slightly fewer parents agreed that their child had had sufficient opportunity to learn and play with other children, particularly non-disabled peers. It should be noted, however, that the percentage of parents who agreed or strongly agreed (84%) their child had had sufficient time to play and learn with other children with disabilities was not much higher than the percentage of parents who agreed or strongly agreed (76%) that their child had had adequate time with non-disabled children.

Summary of Findings and Conclusions Pertaining to New York Preschool Special Education Longitudinal Study Goals, Objectives, and Related Questions

**EXHIBIT 6-11
PARENT SATISFACTION WITH PRESCHOOL SPECIAL EDUCATION**

PRESCHOOL SPECIAL EDUCATION SERVICES	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	NOT SURE
a. The preschool special education services my child received were of high quality. (n=290)	63%	32%	3%	1%	1%
b. My child received the right type of services. (n=290)	63%	33%	2%	1%	1%
c. My child received services often enough. (n=287)	55%	36%	6%	1%	2%
d. My child's skills improved because of the services. (n=288)	68%	28%	2%	1%	1%
e. My child received enough individual attention from school staff. (n=280)	62%	30%	3%	1%	4%
f. My child had enough time to play and learn with other children with disabilities. (n=255)	46%	38%	6%	3%	8%
g. My child had enough time to play and learn with other children who had no disabilities. (n=260)	45%	31%	10%	5%	9%

Source: MAGI Educational Services, Inc., Preschool Special Education Program Survey, spring 2002.

6.4.2 Satisfaction with the Committee on Preschool Special Education

As shown in **Exhibit 6-12**, very high percentages of parents agreed or strongly agreed that CPSE meetings and decisions helped their child (95%); that they were comfortable in meetings (91%); that they were satisfied with decisions regarding CPSE recommendations for their child (97%); and that they were involved in the decision-making process (94%). There was slightly less agreement that they received useful information at meetings (89%) or that the CPSE understood their child's strengths and needs (88%). It should be noted that respondents represented a fairly educated population (42% college graduates), and that this might have had some bearing on their level of comfort with CPSE proceedings.

**EXHIBIT 6-12
SATISFACTION WITH COMMITTEE ON PRESCHOOL SPECIAL EDUCATION**

COMMITTEE ON PRESCHOOL SPECIAL EDUCATION (CPSE)	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
a. Overall the CPSE meetings and decisions helped my child. (n=285)	61%	34%	4%	1%
b. I received useful information at CPSE meetings. (n=285)	43%	46%	9%	2%
c. I felt comfortable asking questions during CPSE meetings (n=283).	50%	41%	6%	3%
d. I understood my child's test results. (n=282)	45%	47%	7%	1%
e. I felt the CPSE understood my child's strengths and needs. (n=284)	50%	38%	9%	3%
f. I helped make decisions about my child. (n=285)	60%	34%	3%	2%
g. I was satisfied with the CPSE recommendations for my child. (n=283)	57%	36%	4%	3%

Source: MAGI Educational Services, Inc., Preschool Special Education Program Survey, spring 2002.

6.4.3 Satisfaction with Preschool Special Education Personnel

Exhibit 6-13 reveals that respondents were overwhelmingly satisfied with their interactions with staff. Nearly all agreed or strongly agreed that staff were friendly (99%), understood their child's needs (98%), worked well with their child (98%), helped him or

Summary of Findings and Conclusions Pertaining to New York Preschool Special Education Longitudinal Study Goals, Objectives, and Related Questions

her learn (97%), listened to their concerns (97%), explained their child's disability in understandable language (97%), and communicated in the parent's preferred language when possible (98%). Finally, most (93%) agreed or strongly agreed that staff talked to them regularly about their child's progress.

**EXHIBIT 6-13
SATISFACTION WITH SPECIAL EDUCATION STAFF**

SPECIAL EDUCATION STAFF (TEACHERS, THERAPISTS, EVALUATORS)	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
a. Overall preschool special education staff helped my child learn. (n=285)	71%	26%	1%	1%
b. The staff was friendly. (n=289)	75%	24%	.3%	.3%
c. The staff understood my child's needs. (n=289)	71%	27%	1%	1%
d. The staff worked well with my child. (n=285)	71%	27%	1%	1%
e. The staff explained my child's disability in language I could understand. (n=288)	70%	27%	2%	1%
f. The staff talked to me regularly about my child's progress. (n=288)	61%	32%	7%	1%
g. The staff listened to my concerns. (n=287)	68%	29%	3%	1%
h. The staff considered my child's strengths and interests. (n=286)	68%	30%	2%	1%
i. The staff respected my family's cultural background. (n=278)	66%	33%	1%	.4%
j. The staff communicated in my preferred language when possible. (n=269)	70%	28%	1%	.4%

Source: MAGI Educational Services, Inc., Preschool Special Education Program Survey, spring 2002.

6.4.4 Experience as a Parent

Exhibit 6-14 reports findings regarding parent experiences with special education programs and services. Respondents also indicated very high levels of satisfaction with their experiences as a parent of a child who received preschool special education services. They agreed or strongly agreed that their experiences had been positive (97%), that they had a better understanding of their child's disability (97%), that they had a better understanding of how to improve their child's skills (97%), and that they had been given ideas on how to help their child at home (95%), and that they had a better understanding of how to get the services their child needed (94%).

**EXHIBIT 6-14
EXPERIENCE AS A PARENT**

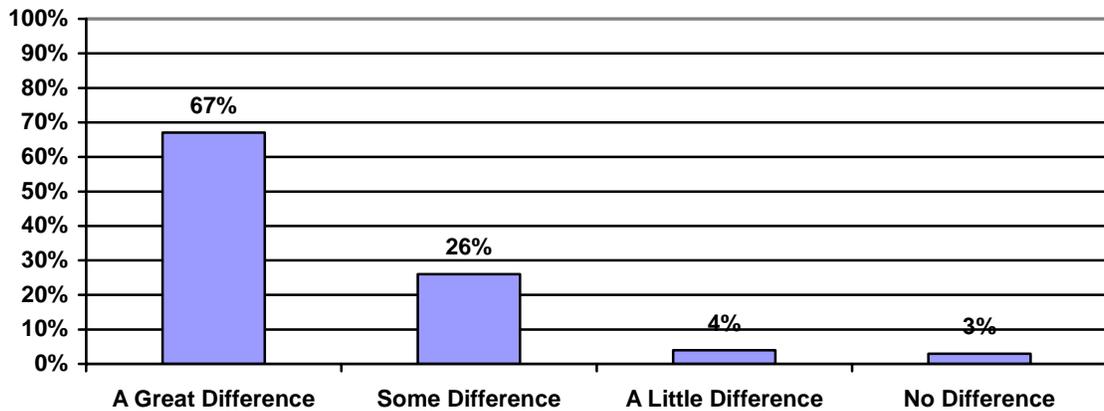
YOUR EXPERIENCES AS A PARENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
a. Overall my experiences as a parent were positive. (n=289)	66%	31%	1%	1%
b. I have a better understanding of how to improve my child's skills. (n=289)	63%	34%	4%	0
c. I have a better understanding of my child's disability. (n=280)	60%	37%	2%	1%
d. I feel better prepared to parent my child with a disability. (n=277)	60%	37%	3%	1%
e. I have a better understanding of how to get the services my child needs. (n=289)	61%	33%	5%	1%
f. I was given ideas on how to help my child at home. (n=289)	60%	35%	4%	1%

Source: MAGI Educational Services, Inc., Preschool Special Education Program Survey, spring 2002.

6.4.5 Impact on Child and Family Life

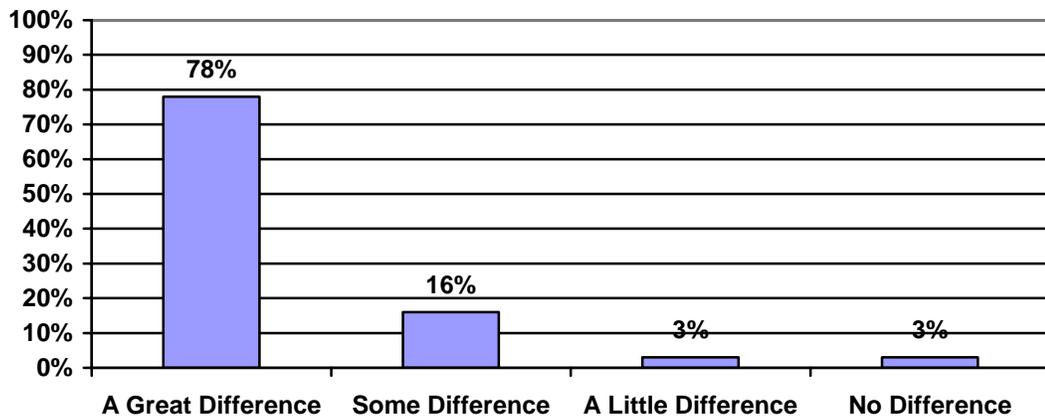
Regarding the impact of special education services on their family's life (**Exhibit 6-15**) and on their child's life, (**Exhibit 6-16**), two-thirds of respondents felt that preschool special education programs and services made a great difference (67%) and another quarter reported a difference (26%) in their family's life. Moreover, more than three-quarters of the parents indicated that preschool special education programs and services made a great difference (78%) or some difference (16%) in their child's life.

**EXHIBIT 6-15
EXTENT TO WHICH PRESCHOOL SPECIAL EDUCATION PROGRAMS AND SERVICES MADE A DIFFERENCE IN THEIR FAMILY'S LIFE
(n=293)**



Source: MAGI Educational Services, Inc., Preschool Special Education Program Survey, spring 2002.

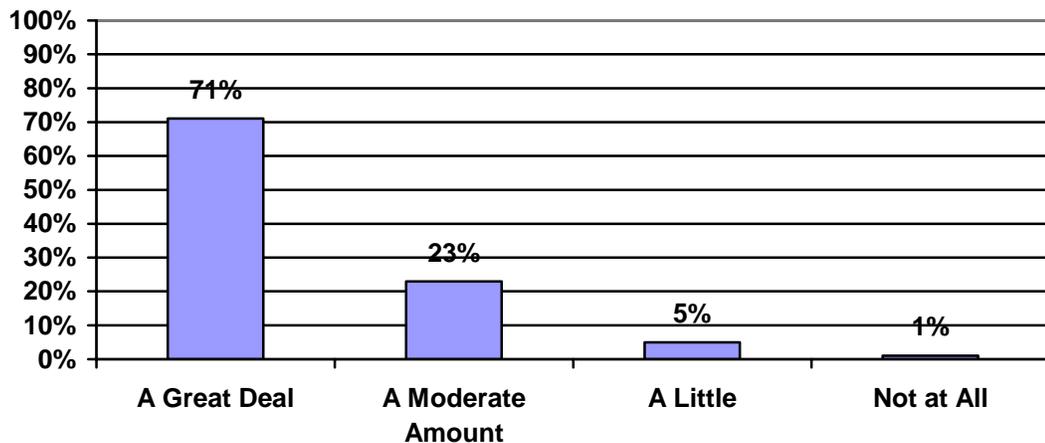
**EXHIBIT 6-16
EXTENT TO WHICH PRESCHOOL SPECIAL EDUCATION AND SERVICES MADE A DIFFERENCE IN THEIR CHILD'S LIFE
(n=293)**



Source: MAGI Educational Services, Inc., Preschool Special Education Program Survey, spring 2002.

Exhibit 6-17 reports findings regarding the extent to which parents felt special education services met their child's needs. Most felt that a great deal of their child's needs were met (71%) and nearly a quarter (23%) felt needs were met moderately well. Five percent believed their child's needs were met only a little and 1 percent, not at all. Nearly two-thirds of parents indicated their child had made a great deal of progress (64%) or some progress (29%) and others indicated either little (6%) or no progress (2%).

EXHIBIT 6-17
EXTENT TO WHICH SPECIAL EDUCATION SERVICES MET
CHILD'S NEEDS
(n=289)



Source: MAGI Educational Services, Inc., Preschool Special Education Program Survey, spring 2002.

6.4.6 Satisfaction with Preschool Special Education and Related Services

Satisfaction with these services was gauged by asking parents to assign a grade from A to D (**Exhibit 6-18**). The average grade was B+. More than 75 percent of the parents assigned an A grade to SEIT, Speech and Language Therapy, Occupational Therapy, and Physical Therapy. There were slightly fewer A grades for Counseling (60%), Assistive Technology (63%), and Parent Counseling (68%). Special Class was given an A grade by 70 percent of respondents. Poor grades (C or D) were assigned by fewer than 10 percent of respondents. The lowest grades were for Parent Counseling, Training, and/or Education (11%) and Counseling (10%).

Summary of Findings and Conclusions Pertaining to New York Preschool Special Education Longitudinal Study Goals, Objectives, and Related Questions

**EXHIBIT 6-18
GRADES FOR PRESCHOOL SPECIAL EDUCATION AND RELATED SERVICES**

PLEASE GRADE THE FOLLOWING PRESCHOOL SPECIAL EDUCATION SERVICES	A	B	C	D	MY CHILD DID NOT HAVE THIS SERVICE
a. Special Education Itinerant Teacher (SEIT) (n=148)	80%	16%	3%	2%	43%
b. Speech and Language Therapy (n=270)	77%	17%	4%	1%	5%
c. Occupational Therapy (n=166)	75%	17%	6%	2%	37%
d. Physical Therapy (n=126)	76%	18%	4%	2%	51%
e. Assistive Technology Services (n=60)	63%	32%	5%	0%	76%
f. Parent Counseling, Training, and/or Education (n=120)	68%	23%	8%	3%	54%
g. Counseling (n=100)	60%	30%	6%	4%	61%
h. Special Class (n=117)	79%	23%	3%	3%	53%

Source: MAGI Educational Services, Inc., Preschool Special Education Program Survey, spring 2002.

6.4.7 Conclusions

Parent survey and focus group findings reported in **Chapter 4.0** demonstrated that parents were generally quite satisfied with preschool special education programs, services, and staff. Parents were particularly impressed with the quality and responsiveness of staff and the progress their child had made towards the goals and objectives outlined in his or her individualized education program (IEP). Although there were some comments about delays and administrative procedures, special education programs and services were otherwise rated positively.

Although parents were also generally satisfied with Committee on Preschool Special Education processes and transition services, these were identified as areas of dissatisfaction in one-third of the survey comments and in 10 of 20 focus group discussions. Some parents were intimidated and overwhelmed by the CPSE bureaucracy. Others mentioned the value of having an advocate to negotiate the system and obtain appropriate services on their behalf. Parents also commented that the district did not provide adequate preparation for the transition to school-age programs. In other words, although the *process* presented some challenges for parents, the more general sentiments expressed by parents was that their children benefited from preschool special education programs and services and that they were grateful to staff, whom they viewed as competent, caring, and professional.