

***Children Entering School Ready to
Learn:
School Readiness Information
2003-04***

***Relationship of Prior Early Care
Experiences on School Readiness Skills***

Maryland Results

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Relationship of School Readiness and Prior Early Care Experiences

Summary

The analyses of the relationship between school readiness skills and prior early care experience provides a series of statewide results which are helpful to policymakers, program managers, and local school systems. Data for similar analyses for specific local school systems can be requested from www.caseconsultinginc.com/mmsr/requestreport.html.

- ✓ Foremost, the student outcomes indicate that enrollment in early care and education programs before kindergarten is more beneficial in terms of school readiness than being in home or informal care. Those benefits are consistent for children from low-income families.
- ✓ Almost 2 out of 10 children are not enrolled in any type of regulated early care and education program.
- ✓ Prekindergarten and Head Start children who are also enrolled at child care centers are improving their school readiness skills significantly, presumably, due to the additional hours of regulated early care.
- ✓ Children with disabilities who stay at home or are enrolled in Head Start do not fare as well in terms of school readiness as those who attend nursery or prekindergarten programs.
- ✓ More than 2 percent of entering kindergartners are repeating the grade. Yet, their school readiness results are below the state average.

Introduction

Since 2001, the Maryland State Department has issued an annual report entitled *Children Entering School Ready to Learn: School Readiness Information for State and County*. This report provides profiles of children's skill levels in seven major domains as they enter school. It includes valuable trend data about the school readiness levels of specific groups for children in the state and its 24 jurisdictions.

This report provides a more in-depth analysis of the relationship between school readiness results and prior early care experiences, including the results for children from more than one setting as well as supplementary early childhood services. It also includes information about children who repeated Kindergarten.

Since the establishment of the school readiness baseline in school year 2001-02, the MSDE School Readiness Report included information about where children have been enrolled 12 months prior to entering kindergarten. For school year 2001-02 and 2002-03, the data did not account for children who might have been in more than one setting during the 12 months period¹. The information in those reports reflects the predominant, most structured early education experience for young children.

This school year 2003-04², the data collection methodology for children's early care experiences was revised to take into account children who might have been at multiple early and education settings 12

¹ Maryland State Department of Education (2002). *Children Entering School Ready to Learn – School Readiness Baseline Information for School Year 2001-02 by State and County*. Baltimore, MD: Author.

² Maryland State Department of Education (2004). *Children Entering School Ready to Learn – School Readiness Information for School Year 2003-04 by State and County*. Baltimore, MD: Author.

months before starting kindergarten. For school years 2001-02 and 2002-03, information on prior care experiences identified children being in the most predominant, structured early care setting before they started kindergarten. That methodology did not differentiate for children who were in multiple settings during the year prior to kindergarten. The Prior Care categories in this year's report –which was released by MSDE on March 31, 2004 - reflect children who were exclusively enrolled in either of the following early childhood programs: childcare centers, family child care, non-public nursery, Head Start, or public school prekindergarten. As in previous reports, information about children who stayed at home or were cared for by relatives (i.e., informal care) was included, as well. For instance, in this year's report, children who attended exclusively prekindergarten were captured in the School Readiness Report. This subsequent report provides more detailed information in prior care arrangements, including children who attended multiple settings or had supplementary services.

Methodology

In the winter 2002/03, each local school system received the data layout specifications for the revised data collection of entering kindergartners' prior early care experience. Local school systems were advised to include prescribed questions on their kindergarten registration forms providing information on children for three major categories.

The first major category is predominant prior care ("In what kind of early care (other than home or care by a relative) did the child spend most of the time since September 2002?"). The parents were instructed to mark only one of the following types of prior care:

- Head Start³
- Prekindergarten⁴
- Child Care Center⁵
- Family Child Care⁶
- Non-Public Nursery School⁷
- Kindergarten⁸

This category establishes the predominant prior care by one criterion – time spent – and reflects all children that had some type of organized early care and education experience within 12 months before they started kindergarten.

The second major category, entitled Home/Informal Care is defined as identifying children who have been cared for exclusively at home or by a relative within the 12 months prior to kindergarten. This category reflects the number of those children who have not been enrolled in regulated early care and education programs.

The third major category intends to capture children who had any other early care or early childhood services in addition to the predominant prior care ("Has the child had any other early care experience since September 2002 in addition to the ones above or had received the following services?") Aside from

³ Defined as preschool programs for 2-5 year olds from low-income families; licensed by the state's Child Care Administration (CCA) and/or local boards of education.

⁴ Defined as public school prekindergarten education for four-year old children. Administered by local boards of education and regulated by the Maryland State Department of Education (MSDE)

⁵ Defined as child care provided in a facility, usually non-residential, that for part of all of the day provides care to children in the absence of the parent. Centers are licensed by CCA.

⁶ Defined as regulated family child care given to a child younger than 13 years old, in place of parental care for less than 24 hours a day, in a residence other than the child's residence and for which the provider is paid. Regulated by CCA.

⁷ Defined as pre-school programs with an "educational" focus for 3 and 4 year olds; approved by the Maryland State Department of Education; usually part day, nine months a year.

⁸ Defined as students who repeat kindergarten

the kind of early care and education listed above, parents could check off whether their children received Even Start⁹, HIPPY¹⁰, Parents as Teachers¹¹, or Preschool Special Education¹² services.

Local school systems collected the information from parents during the registration periods for kindergarten or at parent/teacher conferences in the beginning of the school year. A field study about the parents' perception of the various categories of early care and the format of collecting the information was not conducted. The data was processed by local school systems either electronically in the form of a demographic variable or by providing the information on a scannable form. The forms were scanned by NCS Pearson. Both data collection processes, merged by student ID numbers, comprise the data base for these analyses.

Sample

According to MSDE, 55,485 were enrolled in kindergarten in 2003-04. The total number of children for whom school readiness information is available is 52,130 (94%). However, the samples for the respective domains of learning¹³ vary due to omission of assessment information provided by the kindergarten teachers. For instance, one missed assessment indicator on a student automatically excludes the student's assessment on the related domain and the composite scores. The statewide student counts with assessment information for each domain and the composite scores are as follows:

Domain of Learning	Number of Students Assessed
Social and Personal	51,634
Language and Literacy	51,156
Mathematical Thinking	52,100
Scientific Thinking	51,598
Social Studies	51,407
The Arts	51,870
Physical Development	52,130
Composite	48,106

The number of children for which prior early care information and composite assessment information is available breaks out as follows:

Type of Prior Care	Number of Students¹⁴	Percentage
Child Care Center	5,527	11.5
Family Child Care	1,695	3.5
Head Start	4,005	8.3
Non-Public Nursery	6,779	14.1
Prekindergarten	16,796	34.9
Kindergarten – Repeat	1,242	2.6

⁹ Defined as family literacy program that includes early childhood, parenting, and adult education services. Administered by local boards of education and monitored by MSDE.

¹⁰ Home Instruction for Parents of Preschool Youngsters, defined as a homevisiting program for parents to support their children's early learning. Administered by public and non-public organizations.

¹¹ Defined as a homevisiting program for parents to support their children's early learning; administered by public and non-public organizations.

¹² Defined as services for children with disabilities.

¹³ The School Readiness Report uses seven domains of learning and a composite score

¹⁴ Numbers are based on total number of students with composite scores

Head Start/Child Care Center	955	2.0
Head Start/Family Child Care	194	0.4
Prek/Child Care Center	955	2.0
Type of Prior Care	Number of Students¹⁵	Percentage
Prek/Family Child Care	972	2.0
Prek/Head Start	220	0.5
Home/Informal Care	8,763	18.2
Other	3	0.0
Total	48,106	100

The number of children who received early childhood services within 12 months before they started kindergarten in addition to prior care breaks out as follows:

Type of Prior Care	Even Start	Parents as Teachers	HIPPY	Special Education
Child Care Center	3	56	11	157
Family Child Care	2	33	5	100
Head Start	15	30	13	238
Non-public Nursery	5	54	3	256
Prekindergarten	48	123	82	1,374
Home/Informal Care	11	164	19	508
Total	84	460	133	2,633

Relationship of School Readiness and Prior Care Experiences

What are the school readiness skills of children with one predominant type of early care experience?

The analysis for children who were exclusively in one type of prior care has been included in the report, *Children Entering School Ready to Learn – School Readiness Information: 2003-04 School Year by State and County*.¹⁶ The composite scores below indicate a significant variance in the school readiness levels among children who have been enrolled in early care and education programs within 12 months before they started kindergarten. For instance, almost 3 out of 4 children (74 %) from non-public nursery programs bring the school readiness skills for meeting the curricular expectations in kindergarten, while less than half of Head Start children (45%) were evaluated by their teachers as having the needed school readiness skills. Both children from child care centers (59%) and prekindergarten programs (57%) perform as well as the kindergarten population as a whole.

Type of Prior Care	Total Number	Composite Results (Percentage of Kindergarten Students)		
		Full	Approaching	Developing
Child Care Center	5,527	59	36	4
Family Child Care	1,695	57	37	6
Head Start	4,005	45	47	9
Prekindergarten	16,796	57	38	5
Non-public Nursery	6,779	74	25	1

¹⁵ Numbers are based on total number of students with composite scores

¹⁶ Maryland State Department of Education (2004). *Children Entering School Ready to Learn – School Readiness Information: 2003-04 for School Year by State and County*. Baltimore, MD: Author

Home/Informal Care	8,763	46	43	11
Total	43,565			

What are the school readiness skills of low-income children with one predominant type of early care experience?

Research suggests that the socio-economic background of young children impacts student outcomes, i.e., young children from low-income backgrounds tend to have lower school readiness skills than their peers. In school year 2003-04, entering kindergartners coming from Head Start were seven times more likely to be from low-income families than children who were enrolled in non-public nursery programs. Kindergartners who came from prekindergarten are four times as likely to be low income than those from nursery programs. It is of interest to note that kindergartners who had no regulated early care and education experience (i.e., those who had home or informal care) were six times more likely than nursery school children to be from low income families.

The table below describes the percentage of low-income children¹⁷ by the type of prior care¹⁸.

Type of Prior Care	Number of Low Income Children ¹⁹	Total Number	Percentage
Child Care Center	1,052	5,527	19.0
Family Child Care	630	1,695	37.2
Head Start	2,008	4,005	50.1
Prekindergarten	4,886	16,796	29.1
Non-public Nursery	459	6,779	6.8
Home/Informal Care	3,638	8,763	41.5
Total	12,673	43,565	29.1

The results below indicate that the school readiness skills for low income children with prior care experience are significantly different from the results for all kindergartners. Compared to the composite scores for all kindergartners, those for low income students was significantly lower across all prior early care experiences, except Head Start. Also, the range among the six types of prior care is less pronounced among low income children (35 to 55 percent) than all kindergartners (45 to 74 percent.)

Type of Prior Care	Composite Results for all Kindergartners			Composite Results for low income Kindergartners			Difference		
	Full	App	Dev	Full	App	Dev	Full	App	Dev
Child Care Center	59	36	4	45	48	7	-14	+12	+3
Family Child Care	57	37	6	40	48	12	-17	+11	+6
Head Start	45	47	9	43	47	9	-2	0	0
Non-public Nursery	74	25	1	55	39	6	-19	+14	+5
Prekindergarten	57	38	5	47	46	7	-10	+8	+2

¹⁷ Defines as children who are eligible for Free and Reduced Priced Meals.

¹⁸ Percentage of children who only had one type of prior care experience.

¹⁹ The relatively low percentage reflected in the number of children identified as eligible for free and reduced priced meals is a result of circumstances related to the collection of income information and return rate of eligibility forms regarding free and reduced priced meals. For instance, due to Federal program eligibility requirements, nine out of ten Head Start children are eligible for free and reduced meals.

Home/Informal Care	46	43	11	35	49	16	-11	+6	+5
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Key: Full = Full Readiness; App=Approaching Readiness; Dev=Developing Readiness²⁰

In general, the results indicate that school readiness performance is impacted by both prior early care experience and economically disadvantaged backgrounds. Low income children in all types of early care settings are not doing as well as their peers from middle and upper middle income groups. The significant drop for low income children from home and informal care indicates that low income children in any type of early childhood education program are better off in terms of school readiness than those who do not have such an experience. Significant differences among program types suggest that the prior care settings offer varying effects on low income children. Low income children from child care centers are performing better than those from home or family child care, while low income students at prekindergarten are performing better than those from home, family child care, and Head Start, but not as well as those from nursery schools.

What are the school readiness skills of children enrolled in two early care programs?

While the vast majority of children had only one type of prior care experience within 12 months before the started kindergarten, seven percent of children were listed as having been enrolled in two types of early care and education programs. It is known from other state reports that the number of working parents who need full-day early care and education for their four-year old children is much higher. The enrollment data for the combined settings suggests that many children whose parents need full-day (i.e., 8-10 hours) and year-around early care and education services receive informal care before and after the Head Start, or prekindergarten program hours²¹.

The following analyses are limited to five separate types of combined early care and education – children who were enrolled prior to kindergarten in:

- Head Start and Child Care Center
- Head Start and Family Child Care
- Prekindergarten and Child Care Center
- Prekindergarten and Family Child Care
- Prekindergarten and Head Start

The table below lists the composite results for all readiness levels from children who are enrolled in only one predominant prior care setting and the results of children who are in combined settings.

<i>Type of Prior Care</i>	Composite Results (Percent of Kindergarten Students)			
	<i>Number of Students</i>	<i>Full</i>	<i>Approaching</i>	<i>Developing</i>
Head Start <i>only</i>	4,005	45	47	9
Head Start/ Child Care Center	995	54	41	5
Head Start/ Family Child Care	194	47	50	3
Prekindergarten <i>only</i>	16,796	57	38	5
PreK/ Child Care Center	955	65	32	4
PreK/ Family Child Care	972	62	35	3
PreK/Head Start	220	48	43	9

²⁰ See definitions of readiness levels in Maryland State Department of Education (2004). *Children Entering School Ready to Learn – School Readiness Information: 2003-04 School Year by State and County*. Baltimore, MD: Author

²¹ Non-public nursery programs typically provide early care “wraparound” services for working families.

Child Care <i>only</i>	5,527	59	36	4
Family Child Care <i>only</i>	1,695	57	37	6

Note: May not total to 100% due to rounding.

The results suggest that children in extended type of programs, such as Head Start and some kind of child care appear to benefit from the additional organized early care experiences. The patterns for prekindergarten students with child care “wraparound” services are similar, albeit less pronounced. The results of Head Start children who are also enrolled in prekindergarten is slightly higher for the “Full Readiness” level.

What are the school readiness skills of children enrolled in predominant prior care with supplemental early childhood services?

The School Readiness Report also collected information on children who enrolled in one type of predominant prior care such as Head Start, Child Care Center, Family Child Care, Nursery, or Prekindergarten and participated in supplemental early childhood programs. The pre-selected services are:

- Even Start (family literacy services)
- Home Instruction for Parents of Preschool Youngsters-HIPPY (homevisiting)
- Parents as Teachers-PAT (homevisiting)

The table below provides a comparison of the composite scores at the “Full Readiness” levels for children who enrolled in prior care programs with and without the aforementioned supplemental services.

Type of Prior Care	Composite Results – Full Readiness (Percent of Kindergarten Students)					
	Even Start		HIPPY		PAT	
	N	Percent	N	Percent	N	Percent
Head Start	6	40	13	31	13	43
Prekindergarten	24	50	82	37	82	67
Child Care Center	*	*	11	73	38	68
Family Child Care	*	*	*	*	16	49
Non-public Nursery	*	*	*	*	40	74
Home/Informal Care	7	64	19	53	69	42
Total	42	50	133	44	258	56

* = fewer than 5

The number of prekindergarten-age children who receive supplemental services is relatively small and driven by grant funding to specific programs. All of the supplemental programs are coordinated by community-based organizations and local school systems and are designed to provide educational materials and parenting support to families as part of regular homevisits.

What are the school readiness skills of children with disabilities enrolled from predominant prior care settings?

At the age of four, before enrollment in kindergarten, children with disabilities receive special education services in various early care and education services or receive such services at home. The table below

provides a comparison of school readiness results for children with disabilities who receive special education services and those who do not have a disability for each of the six types of prior care.

Type of Care	Composite Results (Percent of Kindergarten Students)			
	N	Full	Approaching	Developing
Child Care Center (Non-Sped)	5,379	60	36	4
Child Care Center (Sped)	157	34	54	12
Family Child Care (Non-Sped)	2,307	59	36	6
Family Child Care (Sped)	100	36	49	15
Head Start (Non-Sped)	2,739	48	46	7
Head Start (Sped)	238	21	58	21
Non-public Nursery (Non-Sped)	6,608	75	24	1
Non-public Nursery (Sped)	256	60	38	2
Prekindergarten (Non-Sped)	10,761	59	37	4
Prekindergarten (Sped)	1,374	38	47	15
Home/Informal Care (Non-Sped)	8,965	47	43	10
Home/Informal Care (Sped)	508	32	46	23
Total (Non-Sped)	36,759	58	37	5
Total (Sped)	2,633	39	47	16

Key:

Non-Sped = Children who do not have disabilities

Sped = Children with disabilities

Note: This sample size is smaller compared to the student count used for the School Readiness Report.

The analysis suggests that the results for children with disabilities indicate significant differences in school readiness skills than their peers. The results also show differences for children with disabilities among the different prior care settings. Children with disabilities who stay at home or are enrolled in Head Start do not fare as well in terms of “Full Readiness” as those who attend nursery or prekindergarten programs. The percentage of children listed in the “Developing Readiness” category are especially high for Home/ Informal Care, Head Start, and –to a lesser degree – Prekindergarten.

What are the school readiness skills of children who repeated kindergarten?

Due to a number of curricular and programmatic changes, an increasing number of local school systems are retaining kindergarten students. According to the school readiness database, a total of 1,316 students (2.5 %) repeated kindergarten in school year 2003-04. The table below provides a demographic comparison between the cohort of children as a whole and those who were retained.

Demographic Category	Kindergarten Cohort		Repeating Kindergarten Cohort	
	N	Percent	N	Percent
<i>Race/Ethnicity</i>				
American Indian	246	0.5	9	0.7
Asian	2,377	5.0	36	2.9
African American	17,061	36.0	530	42.9

White	23,860	50.3	541	43.8
Hispanic	3,877	8.2	119	9.6
Subtotal	47,421	100	1,235	100
<i>Gender</i>				
Male	24,626	51.7	787	63.4
Female	23,049	48.3	455	36.6
Subtotal	47,675	100	1,242	100
Special Education	3,426	7.4	245	20.0
LEP	3,891	8.4	151	12.3
FARM	15,198	33.0	632	51.4

Key: Special Education = Children with disabilities receiving special education services

LEP = English language learners with limited English proficiency

FARM = children whose parents qualify for free and reduced priced meals

The results of this analysis indicate that children from minority groups, boys, children with disabilities or limited English proficiency, and those from low-income families are more likely to be retained than their peers. The school readiness results show that the extra year of kindergarten did not contribute to a better start in school. The 2003-04 cohort of repeating kindergartners is not performing as well as all kindergarten students.

Kindergarten Group	Composite results (Percent of Kindergarten Students)			
	N	Full	Approaching	Developing
All Kindergarten Students	48,106	55	38	6
Repeating Kindergartners	1,316	51	41	8

Results

The analyses of the relationship between school readiness skills and prior early care experience provides, for the first time, methodology to interpret results for children in multiple settings. It is recommended that local planning groups replicate the analyses by requesting reports from www.caseconsultinginc.com/mmsr/requestreport.html.

The major results for school year 2003-04 are:

- The student outcomes indicate that enrollment in early care and education programs before kindergarten is more beneficial in terms of school readiness than being in home or informal care. Those benefits are consistent for children from low-income families.
- Almost 2 out of 10 children are not enrolled in any type of regulated early care and education program.
- More than one third of all entering kindergartners had some prekindergarten experience within the 12 months before kindergarten.

- Aside from Head Start, the largest proportion of low income children are identified in the Home/Informal category and, thus, not enrolled in any regulated early care and education programs.
 - Seven percent of all children are enrolled in some kind of combined early care and education arrangement such as prekindergarten for part of the day and a child care center for the rest of the day.
 - Prekindergarten and Head Start children who are also enrolled at child care centers are improving their school readiness skills significantly, presumably, due to the additional hours of regulated early care.
- Head Start children who are enrolled in prekindergarten programs during the day are doing slightly better as their Head Start peers.
- Low-income children in any type of regulated early care and education are performing better than low income children who stayed at home or in informal care arrangements (i.e., care by a relative).
- The school readiness results of Head Start children is strongly impacted by the results of low income children. Low-income children in Head Start were doing as well as low-income children from child care centers in terms of school readiness skills.
- Low-income children enrolled in non-public nursery programs are performing better than children in any other regulated early care and education setting. (However, the proportion of low-income children at non-public nurseries is very small.)
- The homevisiting program, Parents as Teachers, significantly boosted the results of those children who were enrolled in prekindergarten or at child care centers. (However, the sample size for PAT is very small compared to those for prekindergarten and child care centers.)
- Children with disabilities who stay at home or are enrolled in Head Start do not fare as well in terms of school readiness as those who attend nursery or prekindergarten programs. However, the proportion of children with disabilities who are consistently lacking school readiness skills (i.e., “Developing Readiness”) is high among all regulated early care and education programs, with the exception of nursery programs.
- More than 2 percent of entering kindergartners are repeating the grade. Yet, their school readiness results are below the state average.

The results were drawn from the kindergarten cohort 2003-04 and are based on the composite scores of the Work Sampling System (WSS) fall assessment. More specific information about the results for each domain is available in Appendices A and B.