

First Steps School Readiness Study

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Summary and implications for discussion

This report combines data for children ages 3 to 5 across the three cohorts in the study. As of November 2011, 782 3-year-olds were screened by Rochester Schools and Head Start and then enrolled in the First Steps School Readiness Study, up from 674 in the initial report last year. Teachers and child care providers completed an initial Work Sampling Developmental Checklist for 528 (68%) of these children, up from 394 (58%) since November 2010.

Compared with the 782 children in the study group as a whole, these 528 children with completed developmental assessments (Checklists) are:

- More commonly children of color (36% vs. 30%)
- More commonly from low-income families (40% vs. 32%)
- More commonly in Head Start (33% vs. 25%) and less commonly in licensed family homes (18% vs. 29%)

Also as of November 2011, 494 4-year-olds were screened, up from 234 since November 2010. The demographic profile of the 4-year-olds who were screened is similar to the screened 3-year-olds.

Developmental status of children in the First Steps study

Overall, screened children were on track developmentally, with over 94 percent of both 3- and 4-year-olds on target for both physical and social-emotional development.

The percentages *behind* developmentally were higher for:

- Children of color, on physical screenings at age 3 and 4, and social-emotional screenings at age 3;
- Low-income children, physical and social-emotional screenings at age 3 and 4, and
- Children in Head Start, on physical screenings at age 3, and social-emotional screenings at age 3 and 4.

Similar to last year, as many as 13 percent of the 152 children screened in Head Start using the ASQ:SE were found to be developmentally below age level, compared with only a few children from other settings.

Based on Picture Naming scores (one of the IGDI measures), 60 percent of the 3-year-olds in the First Steps study had scores that met or exceeded the target score for emergent literacy, similar to last year. At age 4, 38 percent were on target for Picture Naming and 38 percent were also on target for Alliteration. These emergent literacy scores were lower for children-of-color, children from low-income households, and those in Head Start.

Change in developmental status of children in the First Steps study

Children returning for screenings at age 4

Overall, about half of children that were not at their development age during their 3-year-old screenings returned for a screening at age 4. Between a quarter and all of those children showed improvement at age 4, with all on target in physical development, two-thirds showing social-emotional skills, and 23 percent displaying emergent literacy.

Change in developmental status of 3-year-olds

At their latest follow-up assessment by providers using the Work Sampling Checklist, 67 percent of 3-year-olds showed proficiency in their overall development (the domains combined), with 32 percent improving to proficient. Another 25 percent improved their overall development but had not yet achieved proficiency. Last year, 75 percent of the 3-year-olds were proficient on their overall development, with 38 percent improving to proficient.

White children and children from higher-income families were more likely to be proficient in their overall development (79-87% compared with 48-51%), as well as in each domain area.

Children in licensed family child care (88%), preschools (85%), and child care centers (83%) were more likely to be rated as proficient in their overall development than those in Head Start (45%).

Change in developmental status of 4-year-olds

At their latest follow-up assessment at age 4, 86 percent showed proficiency in their overall development (the domains combined), with 41 percent improving to proficient, similar to last year. Another 12 percent improved their overall development, but had not yet achieved proficiency.

White children and children from higher-income families were more likely to be proficient in their overall development (93-95% compared with 64-71%), as well as in each domain area.

Children in licensed family child care (96%), and preschools (90%), were more likely to be rated as proficient in their overall development than those in child care centers (75%) or Head Start (59%).

Kindergarten readiness

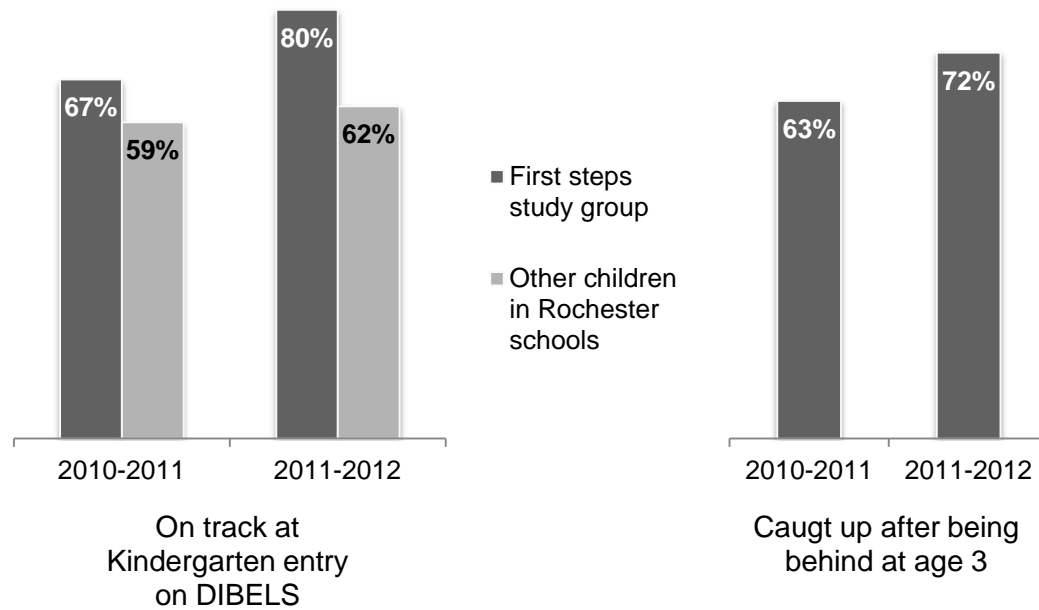
Overall, three-quarters of the 5-year-olds in the First Steps School Readiness Study were on track developmentally at kindergarten entrance. The percentage increased from 67 percent last year to 80 percent this year. The percentages identified as being well below benchmark at kindergarten entry were higher for children of color (17% vs. 5%), low-income children (28% vs. 4%), and children in Head Start (29% vs. 3-7% for children in other settings).

Of the 3-year-olds who were not on target for emergent literacy, two out of three (68%) had caught up by kindergarten and met DIBELS benchmarks. The percentage not on target for emergent literacy and catching up by kindergarten increased from 63 percent last year to 72 percent this year. White children, higher-income children, and those in preschools, child care centers, and licensed family homes were more likely to improve to age-appropriate literacy skills from age 3 to kindergarten entrance. Those with providers who participated in SEEDS training also had improvements, but the numbers are small and not statistically significant.

In addition, kindergartners in the First Steps Study were more likely to score above the benchmark DIBELS score than those who are not in the First Steps Study (74% vs. 60%). Those in the study were 13 percentage points higher this year (80%) than last year's group (67%); while the group not in the study was 3 percentage points higher this year (62%) than last year's group (59%).

Moreover, both boys and girls, white children, children with English proficiency, both low and higher-income children (based on qualifications for free or reduced priced lunch), and those that are not in special education in the First Steps Study were more likely to be above the benchmark DIBELS score than those same groups not in the First Steps Study. Higher DIBELS scores also seem to be associated with having a provider with SEEDS training, but the numbers are small and not statistically significant.

First steps school readiness study: Kindergarten readiness results 2010-11 vs. 2011-12



Implications for discussion

Child development assessments by teachers and child care providers using the Work Sampling Checklist in this study are consistent with the standard screenings conducted by Rochester Schools and Head Start. As incentives grow for more providers to use assessments on a regular basis, these providers have a good base of experience to build on.

Throughout the study, the families volunteering to be part of the study following their screenings by the Rochester schools have children largely on-track for school readiness. Except for Head Start families, families with children at-risk developmentally are either not coming in for 3-year-old screenings or not enrolled in any licensed child care settings. This gap in study participation shows up again in the DIBELS results, with children in the study scoring better than those not in the study.

While these differences on the DIBELS are largely due to children at-risk developmentally not participating in the study group starting at age 3, some findings do point to the possibility they may also be due, in part, to small impacts of the focus on child development for children in the study. For example, the overall percentage of children in the study on track developmentally at kindergarten entrance went from 67 percent in last year's cohort to 80 percent this year. While those in the study are, as expected, doing better than those not in the study, comparing last year's kindergarten class to this year's class, the percentage of children in the First Steps Study on track increased 13 percentage points while the percentage of children not in the study on track increased just 3 percentage points. Moreover, both low and higher-income

children (based on qualifications for free or reduced priced lunch) were more likely to be above the benchmark DIBELS score than those same groups not in the First Steps Study. Children whose providers had SEEDS training also seem to have better DIBELS scores.

All in all, study findings suggest a small uptick in school readiness commensurate with the focus on improving the child development knowledge and skills of early care and education providers. Continuing to offer and encouraging providers to obtain child development assessment and SEEDS training, instructional supports, and coaching on how to use them in their instructional practice will probably continue to reap small improvements.

However, to achieve greater gains more quickly will require more comprehensive and intensive interventions focused on identifying and serving the vulnerable children now falling through the gaps. Extending Head Start and other targeted services for more low-income children may be a way to reach more of the potentially at-risk children not currently part of this school readiness improvement process. Working in concert with community-based leaders and groups within specified communities to build community capacity to promote healthy child development may also yield the school readiness results that First Steps expects.

Introduction

Purposes of the study

This report describes:

- The results of developmental screenings by Rochester Schools and Head Start for children at ages 3 and 4 in the First Steps School Readiness Study
- The results of developmental assessments by Rochester Schools, Head Start, and child care providers for children at ages 3, 4 and 5 in the First Steps School Readiness Study
- Changes in the children’s developmental status over time
- The relationship, if any, of those developmental changes to demographics, type of early care and education, and SEEDS training by providers
- The implications of study results for provider and parent training and support related to school readiness

Measuring developmental status

In this study, developmental status is measured using four tools:

The **Early Screening Inventory-Revised (ESI-R™)** provides a brief developmental screening individually administered to children. **The Early Screening Inventory-Preschool (ESI-P)** for ages 3.0 through 4.5 years identifies children who may need special education services in order to perform successfully in school. The instrument addresses developmental, sensory, and behavioral concerns in the following areas:

- Visual Motor/Adaptive
- Language and Cognition
- Gross Motor Skills

The **Ages and Stages Questionnaires™: Social-Emotional (ASQ:SE)** screen children ages 6 months to 60 months for social-emotional problems in need of further assessment. Personal-social-emotional development includes self-regulation, compliance, communication, adaptive functioning, autonomy, affect, and interaction with people. The questionnaire is completed by parents and scored by the staff.

Picture Naming, one of the **Indicators of Individual Growth and Development for Infants and Toddlers (IGDIs)**, completed by teachers and school staff, measures emergent literacy and can be used by early childhood practitioners to monitor and estimate children's rate of growth and progress over time.

Work Sampling Developmental Checklist, developed by the Minnesota Department of Education, is a briefer version of the Work Sampling System, which is a criterion or standards-based (not norm-referenced) observational assessment system designed to provide information about an individual child's achievement and progress over time. The Checklist consists of five domains: personal and social development, language and literacy, mathematical thinking, the arts, and physical development and health. Each domain is measured with a set of indicators. Children's performance on each indicator is rated as: "not yet," "in process," or "proficient."

- Not Yet, meaning that a child cannot demonstrate the skill or knowledge represented by a performance indicator;
- In Process, meaning that the skill or knowledge represented by a performance indicator is intermittent or emergent, and is not demonstrated consistently;
- Proficient, meaning that the skill or knowledge represented by a performance indicator is demonstrated consistently, and is firmly within the child's repertoire.

DIBELS (Dynamic Indicators of Basic Early Literacy Skills), developed by the University of Oregon, assesses students literacy skills from kindergarten through sixth grade. DIBELS measures phonological awareness, alphabetic principles, fluency with connected text, vocabulary and comprehension. Students receive a benchmark score, which indicates whether or not they are at-risk in each area.

Profile of children in the First Steps Study

As of November 2011, 782 3-year-olds were screened by Rochester Schools and Head Start and then enrolled in the First Steps School Readiness Study in the study's three cohorts. As shown in Figure 1:

- About a third (30%) are children of color.
- About a third (32%) are in lower-income families.
- They are spread across early learning settings – preschool (29%), licensed family homes (29%), Head Start (25%), and child care centers (15%).

Figure 1 also shows the profile of the 528 children (68%) in the study with at least one Work Sampling developmental checklist completed by their teacher or child care provider. Compared with the 782 children in the study group as a whole, these 528 children with completed developmental assessments (Checklists) slightly over-represent low-income children (40% vs. 32%) and children of color (36% vs. 30%) because Head Start teachers were more likely than licensed family providers to complete the Checklists and, consequently, those with data are more commonly in Head Start (33% vs. 25%) and less commonly in licensed family homes (18% vs. 29%)

These results were similar for the 494 4-year-olds who were screened through the course of the study; though there were fewer demographic differences between all 4-year-olds and those with at least one Work Sampling developmental checklist.

1. Demographic profile of 3- and 4-year-olds in the study (as of November 2011)

	3-year-olds		4-year-olds	
	All 3-year-olds in study	Children with a completed developmental Checklist	All 4-year-olds in study	Children with a completed developmental Checklist
Gender of child	(N=774)	(N=527)	(N=491)	(N=312)
Female	53%	52%	49%	50%
Male	47%	48%	51%	50%
Race/ethnicity of child	(N=778)	(N=528)	(N=492)	(N=312)
White (non Hispanic)	70%	64%	69%	71%
Latino/Hispanic/Chicano	13%	17%	14%	14%
African American/Black	8%	10%	9%	6%
Multiple groups	6%	6%	5%	6%
Asian	3%	3%	3%	3%
Native American/American Indian	<1%	<1%	<1%	1%
Household income	(N=751)	(N=514)	(N=479)	(N=303)
<\$40,000	32%	40%	32%	27%
\$40,000 to \$55,000	5%	5%	5%	5%
\$55,001 to \$75,000	13%	11%	13%	13%
More than \$75,000	50%	45%	51%	55%
Parental status	(N=772)	(N=524)	(N=488)	(N=311)
Living with only one parent (parent may be partnered)	16%	18%	16%	14%
Living with both parents	84%	82%	84%	86%
Mother's highest level of education	(N=753)	(N=520)	(N=483)	(N=306)
Less than high school	10%	14%	12%	9%
High school diploma/GED	11%	14%	10%	8%
Trade school or some college	10%	11%	10%	10%
Associate degree	11%	11%	11%	11%
Bachelor's degree	31%	30%	33%	36%
Graduate or professional degree	26%	21%	25%	27%
Type of early care and education setting	(N=765)	(N=765)	(N=489)	(N=309)
Head Start	25%	33%	27%	21%
Preschool	29%	33%	37%	46%
Child Care Center	15%	15%	14%	14%
Licensed Family Home	29%	18%	19%	16%

Note: Total for each category may vary from 100 percent due to rounding.

Developmental status of children in the First Steps School Readiness Study

The children screened as part of the First Steps School Readiness Study were largely OK or on target for both physical and social-emotional development (more than 90%) at both age 3 and age 4. Fewer children were on target for emergent literacy skills, however, with 60 percent of 3-year-olds on target in Picture Naming and 38 percent of 4-year-olds on target in Picture Naming and Alliteration.

With the exception of 3-year-olds boys being less physically developed, there were no differences by gender.

Children-of-color were less likely to meet targets on all screenings/assessments than white children at all ages, except for social-emotional competency at age 4. Differences were noted between Hispanic children and other children-of-color at the age 3 screenings/assessments, but not the age 4 screenings.

All screenings at all ages varied by household income, with children from higher-income households (\$40,000 or more per year) displaying physical development, social emotional competency, and early literacy at higher rates. Similarly, students in preschools, child care centers, or family child care performed better on all screening/assessments than those who were in Head Start, with the exception of the physical development of 4-year-olds.

The developmental status of 3-year-olds screened during the earlier study years (2008 & 2009) are comparable to those screened in more recent years (2010 & 2011), indicating First Steps missed and reached similar levels of at-risk children across all four years.

2. Screening results of 3- and 4-year-olds

	Physical screening (ESI)		Social-emotional (ASQ:SE)		Emergent literacy (IGDI – Picture Naming)		Emergent literacy (IGDI – Alliteration)
	Age 3	Age 4	Age 3	Age 4	Age 3	Age 4	Age 4
Number screened	729	404	744	402	687	404	326
Total percent OK, on target, meeting benchmark	94%	98%	97%	97%	60%	38%	38%
Gender of child							
Female	96%*	98%	98%	99%	59%	37%	40%
Male	91%*	88%	96%	95%	62%	38%	36%
Race of child							
White (non-Hispanic)	98%*	99%*	99%*	97%	68%*	46%*	43%*
Of-color	85%*	96%*	92%*	97%	37%*	22%*	26%*
Ethnicity of child							
Hispanic	76%*	93%*	96%*	99%	22%*	18%	24%
Non-Hispanic children-of- color	91%*	100%*	89%*	96%	47%*	26%	28%
Household income							
Low-income (under \$40,000/year)	83%*	96%*	90%*	93%*	31%*	22%*	20%*
Higher-income	98%*	99%+*	99%*	99%*	69%*	48%*	45%*
Early care experience							
Head Start	79%*	96%	87%*	93%*	26%*	18%*	19%*
Preschool	97%	99%	99%+	99%	67%	46%	42%
Child care center	98%	100%	99%	98%	66%	52%	53%
Licensed family provider	99%	100%	99%+	100%	67%	47%	40%

Note: Total for each category may vary from 100 percent due to rounding. Asterisk indicates statistical significance. Plus sign indicates over 99.4%.

Change in developmental status

Children returning for screenings at age 4

Overall, about half of children who were not at their development age during their 3-year-old screenings returned to for a screening at age 4.

- Half of the children who were referred for further assistance for physical development (12 of 25) returned for a physical screening at age 4; all of whom were OK at their age 4 screening.
- Half of the children (50%) who were not on target at age 3 for early literacy (IGDI – Picture Naming) returned for an early literacy screening at age 4; a quarter (23%) of whom were on target at age 4.
- Less than half of the children who were not meeting age expectations for social-emotional development (9 of 24) returned for a social-emotional screening at age 4; two-thirds of whom were in target at age 4.

Change in developmental status of 3-year-olds

At their latest follow-up assessment, 67 percent of 3-year-olds showed proficiency in their overall development (the domains combined), with 32 percent improving to proficient. Another 25 percent improved their overall development but had not yet achieved proficiency. White children and children from higher income families were more likely to be proficient in their overall development (79-87% compared with 48-51%).

White children and those from higher income families were also more proficient in each of the domain areas. The largest gaps between white children and children-of-color were in personal and social, language and literacy, and physical development domains (24 percentage points), and the largest gap between low- and higher-income children is in physical development (36 percent points) gap.

Children in licensed family child care (88%), preschools (85%), and child care centers (83%) were more likely to be rated as proficient in their overall development than those in Head Start (45%).

Work Sampling Checklist scores relative to a comparison group

Data from an at-risk group of 3-year-olds in northern Minnesota (from 2008-09) assessed using the same Checklist provide perspective about the change in developmental status of children in the First Steps Study. In the at-risk group, 66 percent of the 3-year-olds had

achieved proficiency in their physical development and health; 27 percent achieved proficiency in mathematical thinking, 31 percent in the arts, 42 percent in language and literacy, and 39 percent achieved proficiency in personal and social development. Looking at the domains combined, 42 percent achieved proficiency their overall development, with 27 percent improved, but had not yet achieved proficiency.

3. Change in developmental status of 3-year-olds in the First Steps Study based on Work Sampling Checklist, by race and income

	All (N=340)	White (N=187-188)	Other groups (N=151-152)	<\$40,000 (N=170-172)	\$40,000+ (N=161)
Personal and social development					
Achieved proficiency	65%	76%	52%*	51%	82%*
<i>Remained proficient</i>	35%	49%	18%*	19%	52%*
<i>Improved to proficient</i>	30%	27%	34%	31%	30%
Improved but not proficient	12%	5%	20%*	23%	<1%*
Unchanged and not proficient	21%	16%	28%*	26%	14%*
Decreased	2%	3%	<1%	0%	3%
Language and literacy					
Achieved proficiency	58%	69%	45%*	45%	73%*
<i>Remained proficient</i>	24%	35%	11%*	13%	36%*
<i>Improved to proficient</i>	34%	34%	34%	31%	37%
Improved but not proficient	18%	7%	31%*	32%	3%*
Unchanged and not proficient	24%	23%	24%	23%	22%
Decreased	1%	1%	<1%	0%	2%
Mathematical thinking					
Achieved proficiency	51%	57%	43%*	41%	62%*
<i>Remained proficient</i>	18%	24%	10%*	12%	24%*
<i>Improved to proficient</i>	33%	33%	33%	29%	37%
Improved but not proficient	16%	6%	29%*	30%	<1%*
Unchanged and not proficient	31%	35%	27%	29%	34%
Decreased	2%	3%	1%	0%	4%*
The arts					
Achieved proficiency	59%	68%	47%*	47%	73%*
<i>Remained proficient</i>	31%	43%	15%*	17%	45%*
<i>Improved to proficient</i>	28%	25%	32%	30%	28%
Improved but not proficient	17%	7%	29%*	32%	1%*
Unchanged and not proficient	21%	20%	22%	21%	20%
Decreased	4%	5%	1%*	<1%	6%*

3. Change in developmental status of 3-year-olds in the First Steps Study based on Work Sampling Checklist, by race and income (continued)

	All (N=340)	White (N=187-188)	Other groups (N=151-152)	<\$40,000 (N=170-172)	\$40,000+ (N=161)
Personal and social development					
Physical development and health					
Achieved proficiency	72%	83%	59%*	55%	91%*
<i>Remained proficient</i>	46%	63%	26%*	27%	67%*
<i>Improved to proficient</i>	26%	20%	34%*	29%	25%
Improved but not proficient	9%	3%	16%*	17%	0%*
Unchanged and not proficient	17%	12%	23%*	27%	6%*
Decreased	2%	2%	1%	0%	0%*
Combined domains					
Achieved proficiency	67%	79%	51%*	48%	87%*
<i>Remained proficient</i>	35%	48%	19%*	19%	50%*
<i>Improved to proficient</i>	32%	32%	33%	29%	37%
Improved but not proficient	25%	10%	44%*	47%	3%*
Unchanged and not proficient	5%	6%	4%	5%	6%
Decreased	3%	5%	<1%*	0%	5%*

Note: Total for each category may vary from 100 percent due to rounding. Asterisk indicates statistical significance.

4. Change in developmental status of 3-year-olds in the First Steps Study based on Work Sampling Checklist, by early child care provider

	All (N=340)	Head Start (N=157)	Preschools (N=94)	Centers (N=49)	Licensed Homes (N=34)
Personal and social development					
Achieved proficiency	65%	47%*	83%	80%	85%
Improved but not proficient	12%	24%	1%	2%	0%
Unchanged and not proficient	21%	29%	14%	12%	12%
Decreased	2%	0%	2%	6%	3%
Language and literacy					
Achieved proficiency	58%	43%*	76%	67%	71%
Improved but not proficient	18%	33%	4%	4%	3%
Unchanged and not proficient	24%	24%	18%	27%	27%
Decreased	1%	0%	2%	2%	0%
Mathematical thinking					
Achieved proficiency	51%	38%*	66%	47%	65%
Improved but not proficient	16%	32%	2%	0%	0%
Unchanged and not proficient	31%	29%	28%	47%	35%
Decreased	2%	0%	4%	6%	0%
The arts					
Achieved proficiency	59%	45%*	66%	76%	85%
Improved but not proficient	17%	34%	0%	0%	3%
Unchanged and not proficient	21%	21%	29%	12%	12%
Decreased	4%	0%	5%	12%	0%
Physical development and health					
Achieved proficiency	72%	53%*	86%	92%	94%
Improved but not proficient	9%	19%	0%	0%	0%
Unchanged and not proficient	17%	29%	10%	4%	6%
Decreased	2%	0%	4%	4%	0%
Combined domains					
Achieved proficiency	67%	45%*	85%	84%	88%
Improved but not proficient	25%	50%	5%	2%	3%
Unchanged and not proficient	5%	5%	5%	6%	6%
Decreased	3%	0%	4%	8%	3%

Note: Total for each category may vary from 100 percent due to rounding. Asterisk indicates statistical significance.

Change in developmental status of 4-year-olds

At their latest follow-up assessment at age 4, 86 percent showed proficiency in their overall development (the domains combined), with 41 percent improving to proficient. Another 12 percent improved their overall development but had not yet achieved proficiency.

Children from higher income families were more likely to be proficient in their overall development (95% compared with 64% of children from lower income families), as were white children (93% vs. 71%). White children and those from higher income families were also more proficient in each of the domain areas, with the biggest gap in the mathematical thinking domain (28 percentage point gap by race and a 48 percentage point gap by income). Similarly, children from Head Start were less likely to be proficient in each domain and overall.

5. Change in developmental status of 4-year-olds in the First Steps Study based on Work Sampling Checklist, by race and income

	All (N=225-228)	White (N=145-149)	Other groups (N=76-79)	<\$40,000 (N=69-72)	\$40,000+ (N=146-149)
Personal and social development					
Achieved proficiency	81%	87%	68%*	64%	88%*
<i>Remained proficient</i>	43%	55%	20%*	11%	59%*
<i>Improved to proficient</i>	37%	32%	48%*	53%	29%*
Improved but not proficient	3%	0%	8%*	8%	0%
Unchanged and not proficient	17%	13%	24%*	28%	12%*
Decreased	0%	0%	0%	0%	0%
Language and literacy					
Achieved proficiency	80%	89%	63%*	56%	91%*
<i>Remained proficient</i>	38%	46%	22%*	11%	51%*
<i>Improved to proficient</i>	43%	43%	42%	44%	40%
Improved but not proficient	4%	1%	10%*	14%	0%*
Unchanged and not proficient	15%	9%	27%*	31%	9%*
Decreased	0%	0%	0%	0%	0%
Mathematical thinking					
Achieved proficiency	70%	80%	52%*	38%	86%*
<i>Remained proficient</i>	29%	35%	18%*	4%	41%*
<i>Improved to proficient</i>	41%	45%	34%	33%	45%*
Improved but not proficient	9%	5%	17%*	22%	3%*
Unchanged and not proficient	20%	14%	30%*	40%	10%*
Decreased	<1%	<1%	1%	0%	1%

5. Change in developmental status of 4-year-olds in the First Steps Study based on Work Sampling Checklist, by race and income (continued)

Personal and social development	All (N=225-228)	White (N=145-149)	Other groups (N=76-79)	<\$40,000 (N=69-72)	\$40,000+ (N=146-149)
The arts					
Achieved proficiency	75%	83%	59%*	54%	85%*
<i>Remained proficient</i>	41%	50%	24%*	13%	55%*
<i>Improved to proficient</i>	33%	32%	36%	41%	30%
Improved but not proficient	5%	2%	11%*	15%	<1%
Unchanged and not proficient	19%	14%	29%*	32%	12%*
Decreased	1%	1%	1%	0%	2%
Physical development and health					
Achieved proficiency	90%	95%	80%*	75%	97%*
<i>Remained proficient</i>	61%	74%	34%*	23%	76%*
<i>Improved to proficient</i>	30%	21%	46%*	52%	20%*
Improved but not proficient	<1%	0%	1%	1%	0%
Unchanged and not proficient	9%	5%	18%*	23%	3%*
Decreased	0%	0%	0%	0%	0%
Combined domains					
Achieved proficiency	86%	93%	71%*	64%	95%*
<i>Remained proficient</i>	44%	54%	26%*	15%	59%*
<i>Improved to proficient</i>	41%	39%	45%	49%	36%
Improved but not proficient	12%	6%	22%*	29%	4%*
Unchanged and not proficient	2%	<1%	5%*	7%	0%*
Decreased	<1%	0%	1%	0%	<1%

Note: Total for each category may vary from 100 percent due to rounding. Asterisk indicates statistical significance.

6. Change in developmental status of 4-year-olds in the First Steps Study based on Work Sampling Checklist, by early child care provider

	All (N=225-228)	Head Start (N=61-63)	Preschools (N=101-102)	Centers (N=24)	Licensed Homes (N=26)
Personal and social development					
Achieved proficiency	81%	59%*	90%	75%*	96%
Improved but not proficient	3%	10%	0%	0%	0%
Unchanged and not proficient	17%	32%	10%	25%	4%
Decreased	0%	0%	0%	0%	0%
Language and literacy					
Achieved proficiency	80%	51%*	93%	83%	92%
Improved but not proficient	4%	14%	1%	0%	0%
Unchanged and not proficient	15%	35%	6%	17%	8%
Decreased	0%	0%	0%	0%	0%
Mathematical thinking					
Achieved proficiency	70%	32%*	85%	79%	85%
Improved but not proficient	9%	24%	4%	8%	0%
Unchanged and not proficient	20%	44%*	10%	13%	12%
Decreased	<1%	0%	1%	0%	4%
The arts					
Achieved proficiency	75%	49%*	83%	83%	89%
Improved but not proficient	5%	15%*	2%	0%	0%
Unchanged and not proficient	19%	36%*	14%	13%	8%
Decreased	1%	0%	1%	4%	4%
Physical development and health					
Achieved proficiency	90%	74%*	94%	100%	100%
Improved but not proficient	<1%	2%	0%	0%	0%
Unchanged and not proficient	9%	25%	6%	0%	0%
Decreased	0%	0%	0%	0%	0%
Combined domains					
Achieved proficiency	86%	61%*	94%	96%	96%
Improved but not proficient	12%	31%*	6%	4%	0%
Unchanged and not proficient	2%	8%	0%	0%	0%
Decreased	<1%	0%	0%	0%	4%

Note: Total for each category may vary from 100 percent due to rounding. Asterisk indicates statistical significance.

Kindergarten readiness

First Steps children's school readiness

Overall, three out of four 5-year-olds in the First Steps Study were meeting benchmarks at kindergarten entrance. The percentage increased from 67 percent last year to 80 percent this year.

Boys and girls have similar rates of readiness. Children-of-color were less likely to be ready for kindergarten than white children at all ages. Differences were also noted between Hispanic children and other children-of-color. Readiness also varied significantly by household income, with children from higher-income households (\$40,000 or more per year) displaying kindergarten readiness at higher rates. Similarly, students in preschools, child care centers, or family child care performed better than those who were in Head Start.

7. Developmental status of 5-year-olds in the First Steps Study

	N	At or above benchmark	Below benchmark	Well below benchmark
Total	231	75%	12%	13%
Gender of child				
Female	122	71%	16%	13%
Male	109	78%	8%	14%
Race of child				
White (non-Hispanic)	141	86%*	9%	5%*
Of-color	90	57%	17%	17%
Ethnicity of child				
Hispanic	43	44%*	14%	41%*
Non-Hispanic children-of-color	47	68%	19%	13%
Household income				
Low-income (under \$40,000/year)	92	57%*	15%	28%*
Higher-income	135	86%	10%	4%
Early care experience				
Head Start	77	53%*	18%	29%*
Preschool	79	85%	9%	6%
Child care center	27	74%	19%	7%
Licensed family provider	33	91%	6%	3%

Kindergarten readiness relative to 3-year-old screening

Of the 3-year-olds in the First Steps Study who were not on target for emergent literacy, two out of three (68%) had caught up by kindergarten and met DIBELS benchmarks. Most (84%) who were on target at age 3 also met kindergarten literacy benchmarks, though about 20 students regressed. That is, they were displaying emergent literacy at age 3 but were not at age level at the start of kindergarten.

The percentage not on target for emergent literacy and catching up by kindergarten increased from 63 percent last year to 72 percent this year.

White children, higher-income children, and those in preschools, child care centers, and licensed family homes were more likely to improve to age-appropriate literacy skills from age 3 to kindergarten entrance. Those with providers who participated in SEEDS training also had improvements, but the numbers are small and not statistically significant.

8. Developmental status of 5-year-olds in the First Steps Study compared with IGD screening scores at age 3

	N	On target at age 3 (62% of all)		Not on target at age 3 (38% of all)	
		Met DIBELS benchmark	Below DIBELS benchmark	Met DIBELS benchmark	Below DIBELS benchmark
Total	201	84%	16%	68%	32%
Gender of child					
Male	93	81%	19%	74%	26%
Female	108	89%	11%	62%	38%
Race of child					
White (non-Hispanic)	135	87%	13%	84%	16%
Of-color	66	70%	30%	57%*	44%
Ethnicity of child					
Hispanic	29	100%	0%	44%	56%
Non-Hispanic children-of- color	37	63%	37%	71%	29%
Household income					
Low-income (under \$40,000/year)	65	81%	19%	51%*	49%
Higher-income	132	86%	14%	90%	10%

8. Developmental status of 5-year-olds in the First Steps Study compared with IGD screening scores at age 3 (continued)

	N	On target at age 3 (62% of all)		Not on target at age 3 (38% of all)	
		Met DIBELS benchmark	Below DIBELS benchmark	Met DIBELS benchmark	Below DIBELS benchmark
Early care experience					
Head Start	52	84%	16%	49%*	51%
Preschool	78	84%	16%	85%	14%
Child care center	27	75%	25%	71%	29%
Licensed family provider	32	92%	8%	100%	0%
Provider had SEEDS training					
Yes	44	88%	13%	80%	20%
No	157	83%	17%	67%	33%

Note: Total for each category may vary from 100 percent due to rounding. Asterisk indicates statistical significance.

Comparison with all kindergarteners

Among all kindergartners, those who are in the First Steps Study were more likely to get a composite score on the DIBELS above the benchmark than those who were not (74% vs. 60%). This held true for children of almost all demographics; readiness rates were significantly higher for boys and girls, white children, children with English proficiency, low and higher income children (based on whether they qualify for free or reduced priced lunch), and children not in special education.

Those in the study were 13 percentage points higher this year (80%) than last year's group (67%); while the group not in the study was 3 percentage points higher this year (62%) than last year's group (59%).

9. Comparison of kindergarteners' scores on the DIBELS, by First Steps Study involvement and characteristics

	Children in First Steps Study		All other children	
	N	Percent above benchmark	N	Percent above benchmark
Total*	219	74%	2,314	60%
Gender of child				
Female*	121	72%	1,080	62%
Male*	98	77%	1,232	58%
Race/ethnicity of child				
White (non Hispanic) *	136	85%	1,505	67%
Latino/Hispanic/Chicano	41	42%	231	28%
African American/Black	29	59%	283	55%
English proficiency				
English proficiency *	180	82%	1,295	66%
Limited English proficiency	39	36%	355	27%
Free and reduced priced lunch				
Qualifies *	80	54%	780	39%
Does not qualify *	139	86%	1,533	71%
Special education				
No *	198	76%	2,122	62%
Yes	21	52%	191	41%

Note: Total for each category may vary from 100 percent due to rounding. Asterisk indicates statistical significance. Ns and percents vary from Figure 7 due to fewer cases in the aggregate data file that includes all kindergarten cases used in the analysis for this figure.