Illinois Preschool for All (PFA) Program Evaluation

March 2012

erikson

SRI International®

Illinois State Board of Education

Illinois Preschool for All (PFA) Program Evaluation

Erika Gaylor, Ph.D.
Center for Education and Human Services
SRI International

Donna Spiker, Ph.D.
Center for Education and Human Services
SRI International

Jana Fleming, Ph.D.
Herr Research Center for Children and Social Policy
Erikson Institute

Jon Korfmacher, Ph.D
Erikson Institute

Funded by the Illinois State Board of Education

Funding:
This study was funded by the Illinois State Board of Education under contract with Erikson Institute. Erikson Institute subcontracted with SRI International to assist with the evaluation. Any opinions expressed in this report do not necessarily reflect those of the funding agency.

About the Authors:
Erika Gaylor is an early childhood researcher and Donna Spiker is a program manager in the Center for Education and Human Services at SRI International in Menlo Park, CA. Jana Fleming is the director of the Herr Research Center for Children and Social Policy and Jon Korfmacher is an associate professor at Erikson Institute in Chicago, IL.

Acknowledgements:
We thank the teachers in the Preschool for All and kindergarten programs who generously responded to our surveys in the fall of the 2009 and the fall of 2010 and who welcomed us into their classrooms to assess children and observe the educational setting. We thank the children who engaged in the assessments and the parents who graciously agreed to allow their children to participate.

We also would like to thank all those at Erikson Institute and SRI International who contributed to the work and spent time collecting and analyzing data and editing this report.

Suggested Citation:
Gaylor, E., Spiker, D., Fleming, J., and Korfmacher, J. (2012). Illinois Preschool For All (PFA) Program Evaluation. Erikson Institute, Herr Research Center for Children and Social Policy.

For more information about this study, contact:

Herr Research Center for Children and Social Policy
Erikson Institute
451 N. LaSalle Street
www.erikson.edu/hrc
Email: herrcenter@erikson.edu

SRI International
333 Ravenswood Avenue
Menlo Park, CA 94025
http://policyweb.sri.com/cehs
Email: cehs@sri.com

CONTENTS

Exhibits

EXECUTIVE SUMMARY

Research supports the important contribution that high-quality early educational experiences have on children's development and school readiness, particularly for low-income, minority, and other at-risk populations. In 2009–2010, 40 states funded prekindergarten programs, and these programs provided services to nearly 1.3 million children nationwide. At that time, state preschool programs in Illinois provided services to nearly 90,000 children ages three to five statewide. These early childhood programs were spread across Illinois's 102 counties and served children from nearly 700 school districts.

Recognizing that program quality and implementation make a difference in terms of child outcomes, the Illinois State Board of Education (ISBE) contracted with Erikson Institute to design and implement an evaluation of its Early Childhood Block Grant outside the city of Chicago, which includes Preschool for All (PFA) programs. (Programs in Chicago were not included because they conduct their own program evaluation.) PFA has historically focused on providing high-quality educational services to children ages three to five who lived in low-income families or were determined to be at risk of academic failure due to home and community factors. At the time of the study, in order to be eligible for PFA funding, the state required that at least 51% of the children enrolled in a PFA program be considered at risk of academic failure.

Research Questions

With the help of SRI International, Erikson began collecting data for the evaluation in 2008 to answer the following primary evaluation questions:

- Children's Outcomes: What are the developmental and school readiness outcomes of children attending PFA programs?
- Program Quality: What is the quality of PFA programs?
- Program Staff Characteristics: What are the characteristics of PFA staff?
- Program Characteristics: What are the characteristics of PFA programs, and how are programs being implemented?
- Program Participants: What are the characteristics of children and families participating in PFA programs?

Data Collection

To address these questions, the evaluation team collected data from multiple sources, including web-based surveys (completed by program administrators); classroom observations; interviews with program administrators; interviews with parents; teacher surveys, and direct assessments of children's skills and knowledge. The evaluators received information from over 500 PFA programs through web surveys and took an in-depth look at representative sample of 120 PFA programs and nearly 700 children in those programs throughout the state of Illinois, excluding Chicago.

Summary of Findings and Implications For Policy and Practice

The findings from the evaluation of Illinois's PFA program provide important information about how the program is impacting children outside of Chicago in the areas of school readiness skills, the quality of classrooms, staff characteristics, and who is being served. Key findings and implications are highlighted below.

Global quality of Illinois's PFA classrooms was in the moderate range. The quality of emotional support and classroom organization in PFA classrooms was high, while the quality of instructional support was moderate and the quality of personal care routines was low.

On average, PFA classrooms in Illinois scored a 4.4 on the ECERS-R, which is considered moderate quality. Though a quarter of classrooms were rated as high-quality, the majority of classrooms fell within the medium or moderate range. Programs tended to fare better in the areas of classroom interactions and program structure, with lower ratings in personal care routines. This "moderate" rating is similar to that found in separate evaluations of several other large, state-funded pre-kindergarten programs across the U.S.

Classrooms tended to score in the high range on the CLASS emotional support (79%) and classroom organization (67%) scales. Classrooms tended to fair worse on the CLASS instructional support scale, with nearly half (48%) of classrooms scoring in the low range and just over half (52%) scoring in the moderate or high range. This relatively low score on instructional support is similar to findings from other state pre-kindergarten evaluations.

Implications:

As a result of the state's ongoing investment in early childhood, the majority of PFA classrooms are emotionally supportive environments for young children and are warm, well-organized places where children are engaged in learning tasks. Very few provide poor-quality experiences. However, Illinois PFA programs still have room to grow. PFA teachers would benefit from additional training and professional development in areas that can directly impact classroom quality. One such area is personal care routines, which includes activities such as meals, hand washing, and toileting. Another area is instructional support, which is concerned with how teachers promote analysis and reasoning and engage children in a way that expands their understanding of concepts. Such improvements are critical because research shows that high quality teacher-child interactions are a critical predictor of a child's school readiness skills.

Overall, children made academic and social-emotional gains; however, there was a decline in math skills.

Data from child assessments showed that PFA contributes to an improvement in children's school readiness in all but two areas. Overall, PFA children improved significantly in vocabulary, social skills, problem behaviors, and attention/task persistence. Children had no change in early literacy skills, and they had a slight but significant decline in early math skills.

Implications:

Children in PFA programs generally improved in areas related to social-emotional development, which is an important indicator of school readiness. However, they did not consistently improve in

academic skills, and they declined in math skills. PFA students would benefit from increased participation in activities aimed at developing early math skills. Teachers should be offered training and professional development on ways to provide children with rigorous and developmentally appropriate experiences and engagement in math concepts.

PFA programs serve a diverse population of children across the state.

Though the majority of the children in the study were four years old, white, and spoke English as their primary language, approximately a quarter of PFA programs across the state serve 75% or more minority children. Additionally, approximately one third of programs serve at least one child whose primary language is not English. At the time of the study, the state required that at least 51% of the children enrolled in a PFA program be considered at risk of academic failure. Programs cited income level, employment status, home language, parent education, and single parenting as common criterion for screening children for at-risk status.

Implications:

As of 2011, Illinois requires that at least 80% of children enrolled in each PFA program be considered at risk. The state is to be commended for this change and for encouraging programs to direct limited resources to children and families who need them most. The new requirement may also result in more three year olds participating in PFA, which could provide an extended pre-kindergarten experience for children with higher risk factors. The increase in percentage of at-risk children served is important to the overall well-being of the state because research shows that early childhood education helps reduce the negative effects of poverty on children's cognitive, social, and physical development and benefits communities overall.[1]

PFA teachers are satisfied with their jobs, but many believe they could be better prepared to teach children with diverse needs.

Teachers are generally satisfied with their jobs, believe they are making a difference, and would choose teaching as a career if they had it to do all over again. In general, PFA lead teachers believe they receive enough professional development and support. However, many teachers believe they could be better prepared to teach children with diverse needs, including children with special needs, those with challenging behavior, and those who are dual language learners.

Implications:

Teachers tend to feel supported in their work environments, and programs should be applauded for establishing positive work settings and providing development opportunities for staff. Teacher education programs may want to consider providing pre-service teachers with more extensive and practical training in working with children with diverse needs. Current PFA teachers would benefit from additional training and technical assistance in this area as well.

PFA teachers are well-educated, predominantly white, and mono-lingual.

Consistent with state law, all PFA teachers hold a Bachelor's degree and Type 04 certificate. Approximately one-third also hold an advanced degree in early childhood education. Teachers in PFA programs are predominantly white, female, and English-speaking, with many approaching retirement age.

Implications:

The state has done a good job requiring that teachers in PFA programs meet basic education and training standards, which is an important step toward ensuring that classroom practices are high quality. It is critical that the state be proactive in taking steps to maintain a strong pipeline of PFA teachers, especially given the aging population of teachers. Additional work is also needed to increase the diversity of the teaching workforce. Given the diverse ethnic and linguistic characteristics of the children being served in PFA programs across the state, and with recent census data indicating that state's population is growing increasingly diverse, Illinois should aim to recruit, train, and support a more heterogeneous PFA workforce.

PFA programs involve families in program activities.

Administrators report that their PFA programs have a strong parent involvement component and provide a range of family support services, such as parent-child interaction activities (92%), parenting skills development activities (85%), and parent resource libraries (92%). Most parents report having strong connections to their child's PFA programs and having been encouraged to visit their child's school.

Implications:

PFA programs should be commended for involving parents in activities related to their children's care and development. Programs should continue forging these strong relationships to ensure that parents and programs work as partners to support optimal development of children enrolled in PFA.

Conclusions

Overall, the findings from this study of Illinois's PFA programs indicate that the programs (outside of Chicago) are largely meeting their goals and objectives to serve children at risk for academic failure and prepare them for success in school. ***The study shows that PFA programs are serving at-risk children across the state and that the programs are associated with improvements in children's school readiness skills.*** The findings also suggest that the continued success of the program requires enhanced training and technical assistance for teachers to support high-quality practices, especially those related to developing children's understanding of math concepts, increasing instructional support, and enhancing teachers' ability to work effectively with children who have diverse needs.

Illinois has a long history of providing pre-kindergarten for children who are most at risk for academic failure. While the state is to be commended for its long-term commitment, it is important to recognize that PFA is not currently serving all eligible children; therefore, we strongly encourage the state to increase its investment in PFA to ensure all children at risk of academic failure are able to participate. We believe the study findings provide ample evidence that Illinois's PFA program is having a positive impact, as well as information that can be used to inform the future development of early childhood policy to both improve the program and broaden its impact.

INTRODUCTION

Research supports the important contribution that high-quality early educational experiences have on children's development and school readiness, particularly for low-income, minority, and other at-risk populations.[2] In 2009–2010, 40 states funded prekindergarten programs, and these programs provided services to nearly 1.3 million children nationwide.[3] At that time, the state preschool programs provided services to nearly 90,000 children ages three to five statewide.[4] These early childhood programs spread across Illinois's 102 counties and served children from nearly 700 school districts.

Illinois was a pioneer in the pre-kindergarten movement, with the inception of its Prekindergarten At-Risk Program in 1986. In 1998, Illinois began funding its programs with the Early Childhood Block Grant (ECBG), and in 2006, the Illinois State Board of Education (ISBE) expanded the services funded by the ECBG to offer the Preschool for All program. In 2011, these programs were combined, and they are now all referred to as Preschool for All (PFA).

The PFA program has historically focused on providing high-quality educational services to preschool children ages three to five who lived in low-income families or were determined to be at risk of academic failure due to home and community factors. [i,ii] At the time of the study, in order to be eligible for PFA funding, programs had to:

- Have 51% or more of the enrolled children identified as "at risk;"
- Prioritize at-risk students over non-at-risk students when making enrollment decisions; and
- Have taken specific, proactive measures to ensure that the parents of potentially at-risk children in the community were aware of the opportunity for preschool education through the program.[5]

PFA programs were also required to follow certain guidelines, some of which include:

- Curriculum: PFA programs were required to use a research-based curriculum aligned to the Illinois Early Learning Standards.
- Staff: Lead teachers in PFA programs had to have at minimum a Bachelor's degree and a Type 04 (early childhood) teaching certificate. Staff also had to have written professional development plan that demonstrated how they intend to further their professional goals.
- Program Schedule: PFA programs met five days a week, for a minimum of two and a half hours each day. Programs followed the same calendar as the local school system.
- Progress Monitoring: Programs were required to assess each child at the beginning of the school year to determine the child's educational program and to monitor their progress throughout the year. Programs were required to share the child's progress with parents.
- Parent Partnerships: Programs had to partner with parents to ensure parent involvement, parent education, and optimal communication between home and school.

---

i Eligible children are three to five years old and are not eligible for kindergarten.

ii Children are considered low-income if their family's income is less than four times the poverty guidelines published in the Federal Register by the US Department of Health and Human Services. At risk children are those who "because of their home and community environment, are subject to such language, cultural, economic, and like disadvantages" and who, as a result of screening, have been determined to be at risk of academic failure. Programs determine their own screening criteria. However, ISBE mandates that a disproportionate share of all children considered at risk to be from low-income families, homeless families, families where English is not the primary language spoken at home, or families where one or both parents are teenagers or have not completed high school.

- Community Collaboration: Programs were required to develop a plan to collaborate with others in the community, in an effort to provide multi-dimensional, continuous services to families.

Recognizing that program quality and implementation make a difference in producing positive child outcomes, ISBE contracted with Erikson Institute to design and implement an evaluation of its ECBG outside the city of Chicago, which includes PFA programs, as well as programs serving children from birth to age three.[iii, iv] (Programs in Chicago were not included because they conduct their own program evaluation.) With the help of SRI International, Erikson began collecting data for the evaluation of the PFA programs in the spring of 2008. This report describes the evaluation of PFA and summarizes findings across Illinois.

[iii] PFA programs in the city of Chicago are not included in this evaluation because they conduct their own evaluation of programs.

[iv] Erikson Institute is currently conducting the evaluation of the ISBE Prevention Initiative (PI) programs for children ages birth to three. Findings from that study will be available in late summer 2012.

OVERVIEW OF THE PFA EVALUATION

The primary purpose of the PFA evaluation was to assess the effectiveness of Illinois's state-funded prekindergarten programs outside of the city of Chicago. (Programs in Chicago were not included because they conduct their own program evaluation.) Erikson Institute and SRI International staff (hereafter referred to as the evaluation team) worked closely with ISBE staff and an advisory committee to develop a set of primary evaluation questions that would yield a broad array of information about the PFA programs in Illinois and to provide input on progress and findings once the evaluation was underway. As shown in Exhibit 1, the study aimed to provide a picture of the school readiness outcomes of children attending PFA programs, the characteristics and quality of the programs, and the characteristics of the children and families served.

Exhibit 1. Primary Evaluation Questions

- Children's Outcomes: What are the developmental and school readiness outcomes of children attending PFA programs?
- Program Quality: What is the quality of PFA programs?
- Program Staff Characteristics: What are the characteristics of PFA staff?
- Program Characteristics: What are the characteristics of PFA programs, and how are they being implemented?
- Program Participants: What are the characteristics of children and families participating in PFA programs?

Data collection began in the fall of 2008 with a web-based survey distributed to all PFA grantees, followed by an assessment of program quality and school readiness outcomes in a subset of programs, which continued through the fall of 2010.

SAMPLE SELECTION

In the fall of 2008, the evaluation team sent a web-based survey to all PFA grantees (excluding the city of Chicago) to learn about the overall characteristics and implementation of PFA across Illinois.[v] Grantees in turn distributed the survey to their individual program sites. A total of 522 (87%) PFA sites completed the survey.

From this population of program sites, the evaluation team selected a representative sample of PFA programs outside the city of Chicago for in-depth analysis, which included assessing program quality and children's school readiness outcomes. A total of 120 programs participated in the in-depth study. Letters were sent to families of all children in these programs to recruit their participation. Children were selected for inclusion if they met the following criteria:

- Eligible to enter kindergarten in fall 2010.
- Primary language of English or Spanish (since the direct child assessments were only conducted in those two languages).

[v] The evaluation did not include the city of Chicago because Chicago Public Schools conducts its own evaluations of its ECBG and other funded early childhood programs.

- Parents submitted a completed consent.

The final sample included a total of 683 children. Additional information about our sampling strategy is provided in Appendix A.

MEASURES

To answer the evaluation questions, we employed a variety of data collection methods and measures. In addition to the web-based surveys, we administered a number of program quality and school readiness measures, as well as conducted interviews with parents and program administrators. One of the goals of the PFA program is to promote children's school readiness. We selected measures that would assess multiple dimensions of children's school readiness, particularly early literacy, early math, and social-emotional skills. Additionally, we selected instruments that would do the following:

- Tap skills and competencies supported by the research literature as predictors of school achievement and success.
- Cover domains that kindergarten and early elementary school teachers have reported as being necessary for school adjustment and success and that have been included in the early learning standards or guidelines of several states across the U.S.[vi]
- Have proven reliability and validity, preferably with national norms to allow for the comparison of scores with age-expected levels of performance.
- Have been used in other state and national studies, to allow for a comparison of results.

Child Development and School Readiness Measures

Child development and school readiness information was collected through direct child assessment and teacher report. Trained assessors conducted child assessments in the child's primary language in the fall of the preschool year in 2009 (at age 4) and again in fall of the kindergarten year in 2010 (at age 5).[vii,viii] Each child's preschool teacher and, a year later, kindergarten teacher completed checklists about the child's social skills and behavioral adjustment. Exhibit 2 provides more information about the specific measures used to assess children's school readiness.

[vi] Early learning standards are statements of what children are expected to know and be able to do. They are also sometimes referred to as early learning guidelines, foundations, or benchmarks. For more information about early learning standards, see Neuman, S. B., & Roskos, K. (2005). The state of state pre-kindergarten standards. *Early Childhood Research Quarterly*, *20*, 125-145.

[vii] Most state preschool evaluation studies assess children in the fall and spring of the preschool year. Due to budget constraints and funding availability, we used the preschool-kindergarten pre-post design in the Illinois PFA statewide outcome evaluation. To address concerns that the children might "lose" skills over the summer between preschool and kindergarten, we implemented a summer loss substudy. Results indicated little evidence of significant loss of skills over the summer, prior to children entering kindergarten.

[viii] Children were assessed in either English or Spanish. Children with a primary language other than English or Spanish were not included in the study.

Exhibit 2. Child Development and School Readiness Measures

Skills domain	Measure[ix]	Data collection method	Sample size *
• Vocabulary	Peabody Picture Vocabulary Test-Fourth Edition (PPVT-4)[6]	Direct assessment	669/637 children
• Early literacy achievement	Woodcock-Johnson III Achievement Battery, Letter-Word Identification (WJ-III)[7]	Direct assessment	683/636 children
• Early math skills	WJ-III, Applied Problems [8]	Direct assessment	682/636 children
• Attention/task persistence	Preschool Learning Behaviors Scale (PLBS)[9]	Teacher report checklist	576/446 children
• Social skills	Preschool and Kindergarten Behavior Scales -Second Edition (PKBS-2)[10]	Teacher report checklist	575/445 children
• Problem behaviors	PKBS-2[11]	Teacher report checklist	576/446 children

* The first number listed for sample size refers to baseline data collected in fall 2009 and the second refers to data collected at kindergarten entry in fall 2010. In fall 2009, a total of 683 children had at least one or more of the three direct child assessment measures completed, and 576 had one or more of the teacher report measures completed. In fall 2010, these totals were 637 and 446, respectively.

Program Quality Measures

To learn about both program quality and implementation, we used two standard observational measures, a semi-structured interview with program administrators (program directors or early childhood coordinators) and teacher surveys. The standard observational measures, the Early Childhood Environment Rating Scale-Revised (ECERS-R) and the Classroom Assessment Scoring System (CLASS), are established tools that have been widely used in early childhood program evaluations. These measures assess overall program quality, as well as several subcomponents of quality. Most classroom observations were conducted in the spring of 2009. The majority of the teacher surveys and administrator interviews were conducted in the spring of 2009, and a few were completed in the fall of 2009. All three sources of data—classroom observations, administrator interviews, and teacher surveys—provide important and unique information on program service delivery. Exhibit 3 provides information about the program quality measures used in the evaluation. Additional details about the measures can be found in Appendix A.

[ix] For all measures, the mean for the national norm is 100 with a standard deviation of 15, except for the attention/task persistence score, where the mean score for the national norm is 50 and the standard deviation is 10.

Exhibit 3. Program Quality Measures

Characteristic	Measure	Data collection method	Sample size
• Total overall classroom quality score • 6 subscale scores: Space and furnishings, Personal care routines, Language-reasoning, Activities, Interactions, Program structure • Teaching and interactions composite score [x, 12] • Provisions for learning composite score [xi, 13]	Early Childhood Environment Rating Scale-Revised (ECERS-R)[14]	Observation	179 classrooms
• Emotional support subscale score • Classroom organization subscale score • Instructional support subscale score	Classroom Assessment Scoring System (CLASS)[15]	Observation	179 classrooms
• Use of evidence-based curriculum • Teachers' daily instructional activities	Administrator interview Teacher survey	Interview Survey	120 sites 150 teachers

Staff Characteristics Measures

In the fall of 2009, preschool teachers in the observed classrooms completed surveys to provide information about their experience, preparedness to work with special populations, and perceptions about their work environment and the PFA program. Exhibit 4 contains additional information about the staff characteristics measures.

Exhibit 4. Staff Characteristics Measures

Characteristic	Measure	Data collection method	Sample size
• Staff experience and level of education • Staff training and professional development • Staff demographics • Teacher perceptions of PFA	Teacher survey	Survey	150 teachers

Program Characteristics Measures

Information about program characteristics was collected from program administrators through a web-based survey and phone interview. The web-based survey was administered in the fall of 2008 to learn about the characteristics of PFA programs and to assist with sample selection. The survey contained questions about program characteristics (e.g., number of classrooms, class size) and provision of services for families (e.g., family support services, parenting skills classes). A subset of program

[x] The ECERS-R teaching and interactions composite focuses on the quality of teacher-child interactions and measures the emotional and educational quality of those interactions and the encouragement of language development in preschool programs. The composite is an 11-item subscale, created in a multi-state prekindergarten study on the basis of a factor analysis of the ECERS-R in 240 prekindergarten classrooms, sampled from six states.

[xi] The ECERS-R provisions for learning composite is a 12-item subscale created as a part of a multi-state pre-kindergarten study. The composite includes measures of room arrangement, availability, and adequacy of furnishings, and materials for art, dramatic play, blocks, nature/science, and gross motor activities.

administrators were interviewed in the spring of 2009 to learn about other factors of program implementation, including enrollment criteria, staff professional development needs, and collaboration with other programs. Exhibit 5 contains additional information about the program characteristics measures.

Exhibit 5. Program Characteristics Measures

Characteristic/score	Measure	Data collection method	Sample size
• Center characteristics • Family services	Grantee/site survey	Web-based survey	522 sites
• Enrollment criteria • Professional development needs of staff • Collaboration with other programs	Administrator interview	interview	120 sites

Family and Child Characteristics Measures

We learned about the characteristics of children and families served in PFA programs through the web-based survey that was initially completed by program administrators from 522 programs and interviews with parents of children who were selected to participate in the child assessments. The web-based survey contained questions about the characteristics of children attending the PFA program, including age, ethnicity, primary language, and special needs. Parent interviews were conducted by phone and took place in conjunction with the child development and school readiness assessments in the fall of 2009 and again in the fall 2010. The purpose of the interviews was to obtain information about family demographic characteristics, home literacy characteristics, involvement in children's school, and family income.[xii] Exhibit 6 provides information about family and child characteristics collected in the evaluation.

Exhibit 6. Family and Child Characteristics Measures

Characteristic/score	Measure	Data collection method	Sample size
• Family and child characteristics	Survey items	Web-based survey	522 sites
• Hours of attendance • Parent involvement • Family income	Interview	Parent interview	532 parents*

*Of the 683 families whose child participated in the school readiness outcomes study, a total of 532 (78%) participated in at least one interview in either 2009 or 2010.

DATA ANALYSIS

In the evaluation of school readiness outcomes, we conducted a power analysis to determine the appropriate sample size for the study. To test for the magnitude of the effect of PFA participation on children's kindergarten school readiness outcomes, we used hierarchical linear modeling (HLM),

[xii] Family income was later coded as being below 100% of the Federal poverty level (FPL), below 185% of the FPL, and above 185% of the FPL.

adjusting for important covariates (e.g., pretest scores at beginning of PFA at age 4). Appendix A provides more information about the power analysis and HLM analysis.

KEY FINDINGS

In the following section we highlight key findings in five major areas:

- School readiness outcomes of PFA children
- Quality of PFA programs
- Characteristics of PFA staff
- Implementation of PFA programs
- Characteristics of PFA children and their families

SCHOOL READINESS OUTCOMES

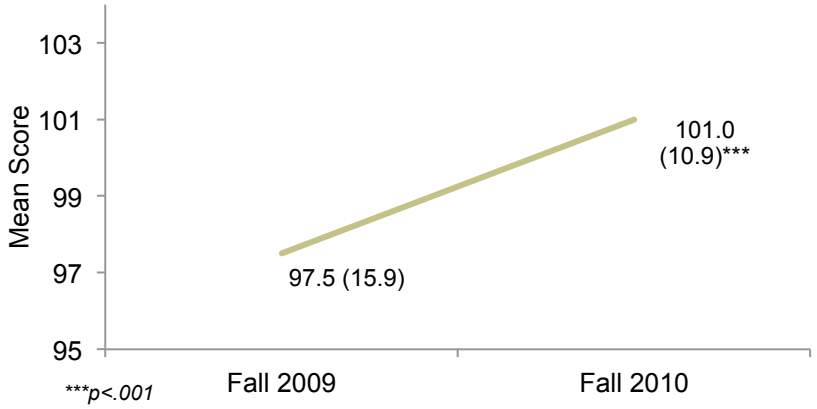
We examined school readiness for the total study sample by analyzing data from the direct child assessments and teacher report checklists. Results from these analyses are detailed in the following section. We also performed exploratory analyses of differences in school readiness outcomes by poverty status and by at-risk status.[xiii] The evaluation team recommends that findings resulting from poverty and risk subgroups be interpreted with caution. Income data were received from approximately three-fourths (72%) of the families in the sample. However, the sample may not be demographically similar to the entire population of PFA families and children.

Outcomes for All Children

Across the total sample, children showed significant improvement in four of the six school readiness outcomes measured: vocabulary, social skills, problem behaviors, and attention/task persistence. Early literacy scores did not change, and early math skills showed a slight but significant decline.

Outcomes vary for children's pre-academic skills. From the initial assessment in the fall of the preschool year (at age 4) until kindergarten entry (at age 5), PFA children overall showed significant improvements in vocabulary skills, no change in early literacy skills, and a slight but significant decline in early math skills. Exhibits 7-9 show average scores on assessments of academic skills in both preschool and kindergarten.

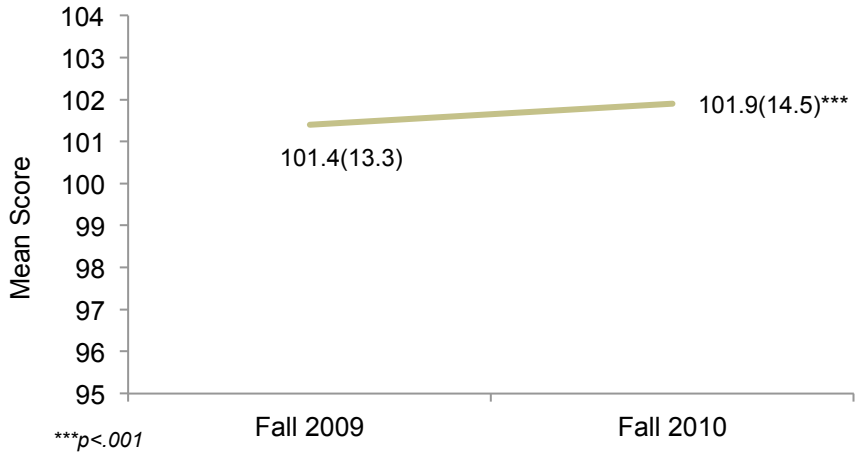
Exhibit 7. Vocabulary Skills at Preschool and Kindergarten



Source: Child assessments, Peabody Picture Vocabulary Test-Fourth Edition (PPVT-4)

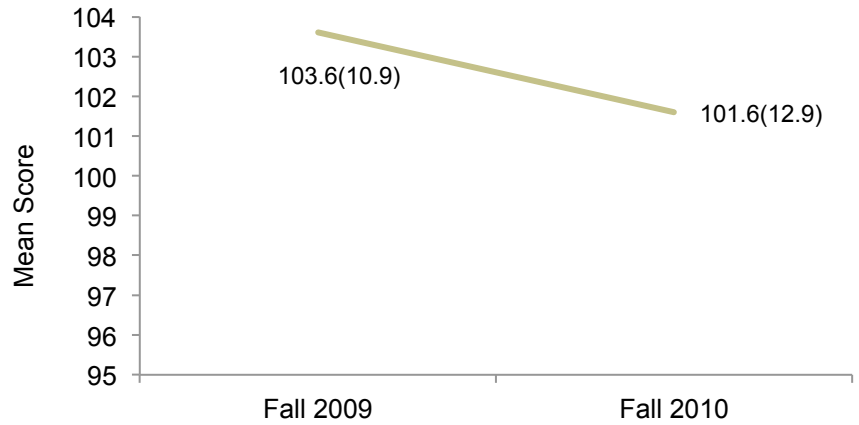
[xiii] Household income was a key variable in determining a family's poverty and risk status. Income data were requested during the parent interviews. However, not all parents provided information on income. As a consequence, the number of children for whom household income was available is smaller than the total sample size. Income data were obtained for approximately 72% of the children in the study.

Exhibit 8. Early Literacy Skills at Preschool and Kindergarten



Source: Child assessments, Woodcock-Johnson III Achievement Battery, Applied Problems

Exhibit 9. Early Math Skills at Preschool and Kindergarten

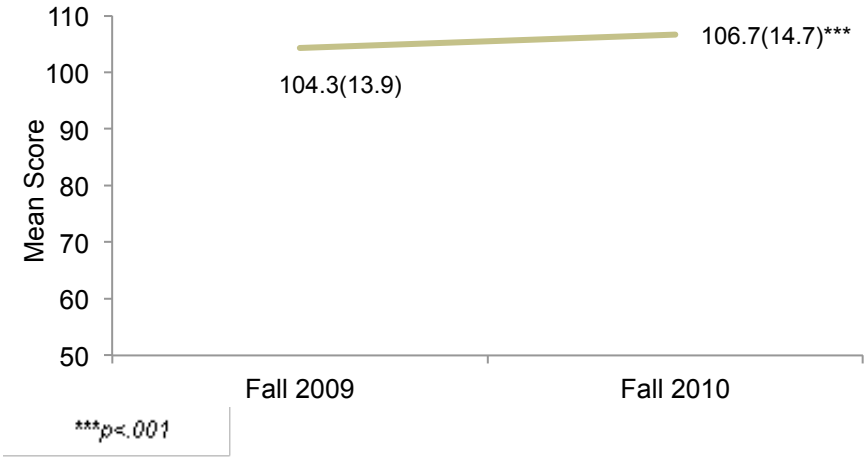


Source: Child assessments, Woodcock-Johnson III Achievement Battery, Letter-Word Identification

Children show improvement in social and behavioral skills. From the initial assessment in the fall of the preschool year (at age 4) until kindergarten entry (at age 5), PFA children overall showed significant improvement on social skills and attention/persistence and a decline in problem behaviors.[xiv] Exhibits 10-12 show average scores on assessments of social and behavioral skills in both preschool and kindergarten.

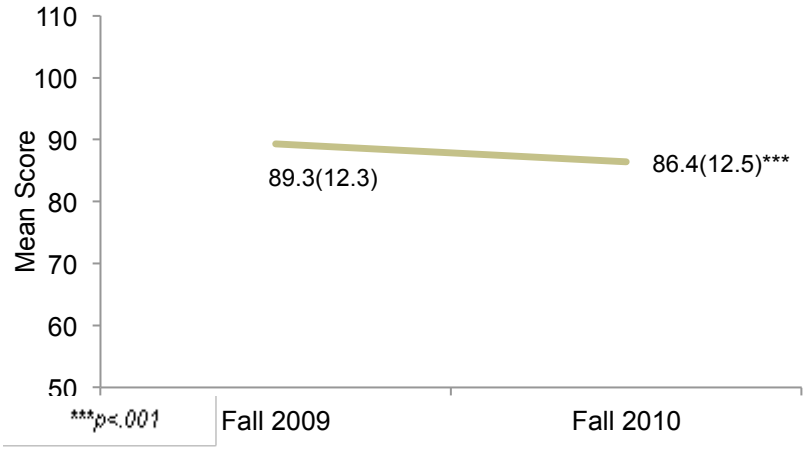
[xiv] A statistically significant decline in problem behaviors is characterized as a "significant improvement."

Exhibit 10. Social Skills at Preschool and Kindergarten



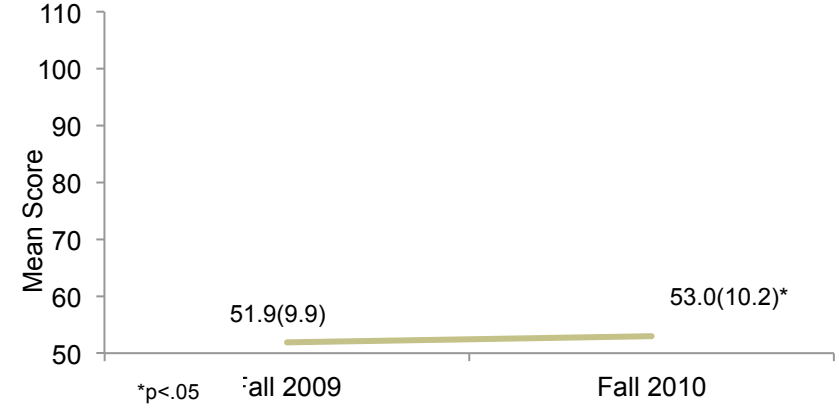
Source: Teacher report checklist, Preschool and Kindergarten Behavior Scales–Second Edition

Exhibit 11. Problem Behaviors at Preschool and Kindergarten



Source: Teacher report checklist, Preschool and Kindergarten Behavior Scales–Second Edition

Exhibit 12. Attention/Persistence Skills at Preschool and Kindergarten



Source: Teacher report checklist, Preschool Learning Behaviors Scale (PLBS)

Outcomes by Poverty and Risk Status

The evaluation team conducted exploratory analyses of school readiness outcomes by the child's household poverty status and by risk status (whether a child was considered as low or high risk for developmental and academic delay.) Household poverty status was derived by examining household income in relation to the federal poverty level (FPL)—below 100% of the FPL, below 185% of the FPL, and above 185% of the FPL. Findings by poverty status were similar to those for the total sample, with a few exceptions. Children in families with incomes below 100% FPL saw no change in social skills or problem behaviors, and children in families with incomes above 185% FPL saw no change in social skills or attention/task persistence.

In order to examine home and family influences on child development and school readiness, the evaluation team identified risk factors that might affect a child's cognitive or social-emotional development in PFA programs. Using data from parent interviews, the evaluation team classified children as low- or high-risk using the following factors: income level, single or dual parent household, household size, parent education, parent employment, and parent age. When examined by risk status, the findings for children in the low-risk category were similar to those for the total sample, with one exception; children in the low-risk category saw no change in attention/task persistence. Children in the high-risk category were quite different from the total sample, showing significant improvement in vocabulary skills but no change in the other areas. Exhibit 13 shows the significance of the change in school readiness outcomes by household poverty and risk status. For more detailed information about children's school readiness outcomes by household poverty and risk status, see Appendix B.

Exhibit 13. Comparison of School Readiness Outcomes, By Household Poverty and Risk Status

Child Outcomes	Total Sample	Household Poverty Status			Risk Status	
		Below 100% FPL	Below 185% FPL	Above 185% FPL	Low Risk	High Risk
Vocabulary Skills	Significant Improvement	Significant Improvement	Significant Improvement	Significant Improvement	Significant Improvement	Significant Improvement
Early Literacy Skills	No Change	No Change	No Change	No Change	No Change	No Change
Early Math Skills	Significant Decline	Significant Decline	Significant Decline	Significant Decline	Significant Decline	No Change
Social Skills	Significant Improvement	No Change	Significant Improvement	No Change	Significant Improvement	No Change
Problem Behaviors[xv]	Significant Improvement	No Change	Significant Improvement	Significant Improvement	Significant Improvement	No Change
Attention and Persistence	Significant Improvement	Significant Improvement	Significant Improvement	No Change	No Change	No Change

Source: Combined data from child school readiness assessments and parent interview.

[xv] A statistically significant decline in problem behaviors is characterized as a "significant improvement."

QUALITY OF PFA PROGRAMS

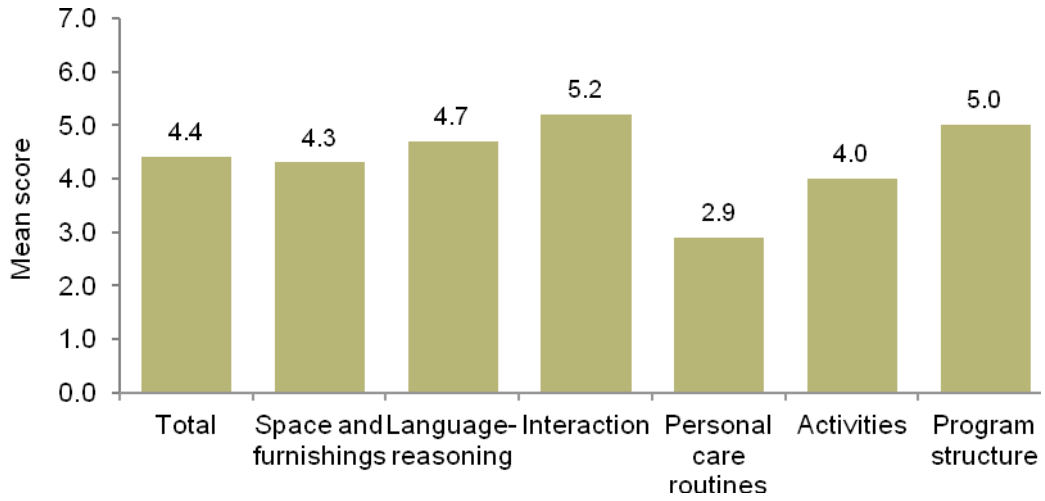
Observations were conducted in PFA classrooms to assess program quality. The section below highlights findings about classroom quality in Illinois's PFA programs and compares these findings to studies of other state preschool programs.

Overall Classroom Quality

To get a picture of PFA program quality, assessors observed classrooms using two standard observational measures of preschool program quality: the Early Childhood Environment Rating Scale–Revised (ECERS-R)[16] and the Classroom Assessment Scoring System (CLASS).[17] On each scale, classrooms can receive a score between a 1 (low quality) and 7 (high quality). In general, PFA programs were found to have moderate overall quality.

ECERS-R Scores. The average total classroom quality score was 4.4, which is considered medium or moderate quality.[xvi] (A score of 3 is considered "minimal" quality, and a score of 5 is considered "good" quality.) ECERS-R scores were analyzed by six subscales (space and furnishings, language and reasoning activities, interaction between teachers and children, personal care routines, classroom learning activities, and program structure characteristics) and by two composites (teaching and learning and provisions for learning). An analysis of subscales showed that average scores on five of the six subscales were in the medium to high range. Programs did well in teacher interactions (5.2) and program structure (5.0) but performed poorly on personal care routines (2.9), which include areas such as toileting, meals and snacks, and health and safety practices. Exhibit 14 shows ECERS-R total and subscale scores.

Exhibit 14. Average ECERS-R Total and Subscale Scores for PFA Classrooms

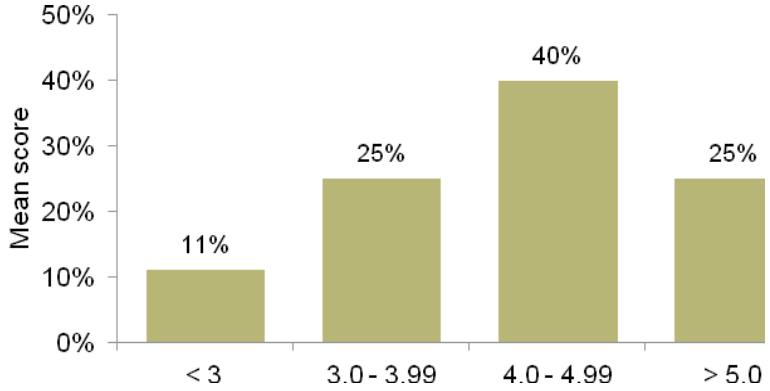


Source: Observations of 179 PFA classrooms.

Classrooms most commonly scored between a 4 and 5 on the ECERS-R (40%), and 25% of the classrooms scored greater than a 5, which is considered high quality. Exhibit 15 shows the distribution of scores in PFA programs.

[xvi] ECERS-R scores can be grouped into three categories, low quality (1 – 2.99), medium quality (3-4.99), and high quality (5-7).

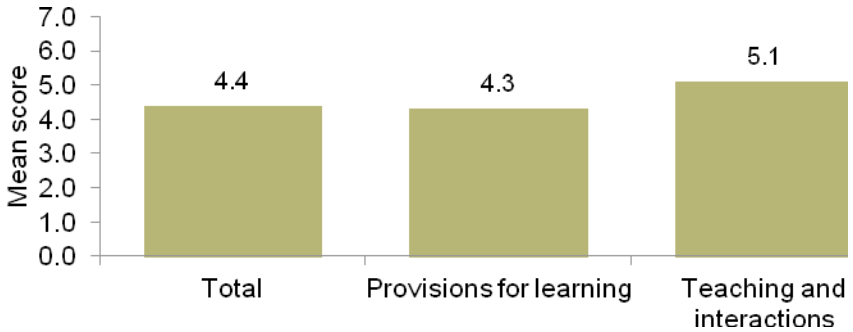
Exhibit 15. Distribution of ECERS-R Total Scores for PFA Classrooms



Source: Observations of 179 PFA classrooms.

An analysis of composite scores for multiple indicators on the ECERS-R showed that PFA classrooms scored 4.3 for the provisions for learning composite and 5.1 for the teaching and interactions composite. Provisions for learning is comprised of 12 items that focus on classroom space, furnishings, and available materials. The teaching and interactions composite is comprised of 11 items that focus on the emotional and educational quality of teacher-child interactions. Exhibit 16 shows average overall scores and composite ECERS-R scores in PFA classrooms.

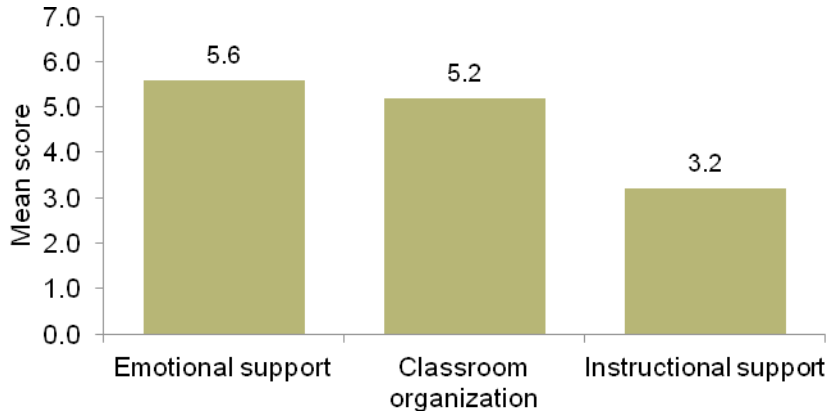
Exhibit 16. Average ECERS-R Total and Composite Scores for PFA Classrooms



Source: Observations of 179 PFA classrooms.

CLASS Scores. The CLASS is designed to assess teacher-child interactions across three domains: emotional supports, classroom organization, and instructional support. PFA programs performed well in the areas of emotional support (5.6) and classroom organization (5.2), with scores in the high range in both domains. (A score of a 1 or 2 is considered low; a 3, 4, or 5 is considered moderate; and a score above a 5 is considered high.) PFA programs scored lowest on the instructional support domain, with the average score (3.2) falling in the moderate range. Exhibit 17 shows the average domain scores on the CLASS.

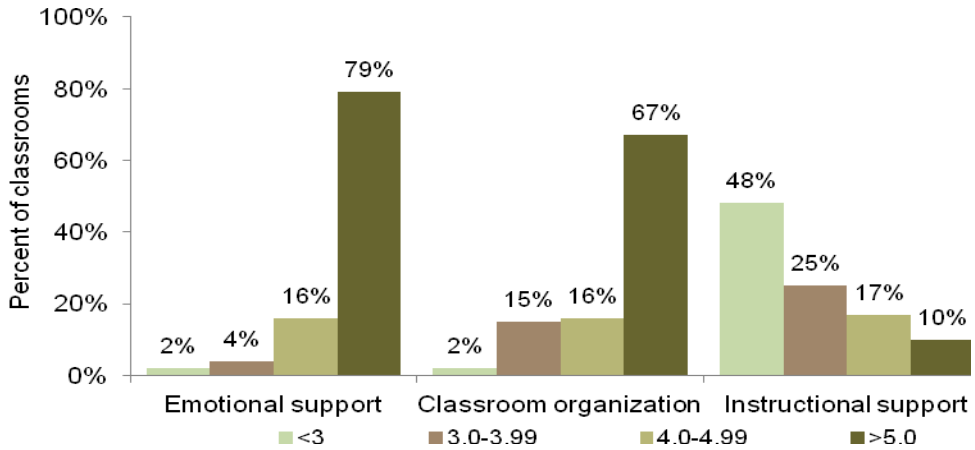
Exhibit 17. Average CLASS Domain Scores for PFA Classrooms



Source: Observations of 179 PFA classrooms.

Most of the PFA classrooms had CLASS scores in the high range for emotional support (79%) and classroom organization (67%). In contrast, only 10% scored in the high range for instructional support, and nearly half (48%) scored below a 3.0 on that domain, indicating a low level of instructional support. Exhibit 18 shows the percent of classrooms scoring less than a 3, between 3 and 3.99, between 4 and 4.99, and greater than 5 on the CLASS in each of the subscales.

Exhibit 18. Distribution of CLASS Subscale Scores for PFA Classrooms



Source: Observations of 179 PFA classrooms.

Findings from Other Studies

To understand how the quality of Illinois's PFA programs looked in relationship to that of other publicly-funded preschool programs, the evaluation team examined other studies that used the ECERS-R and/or CLASS measures, including the following studies:

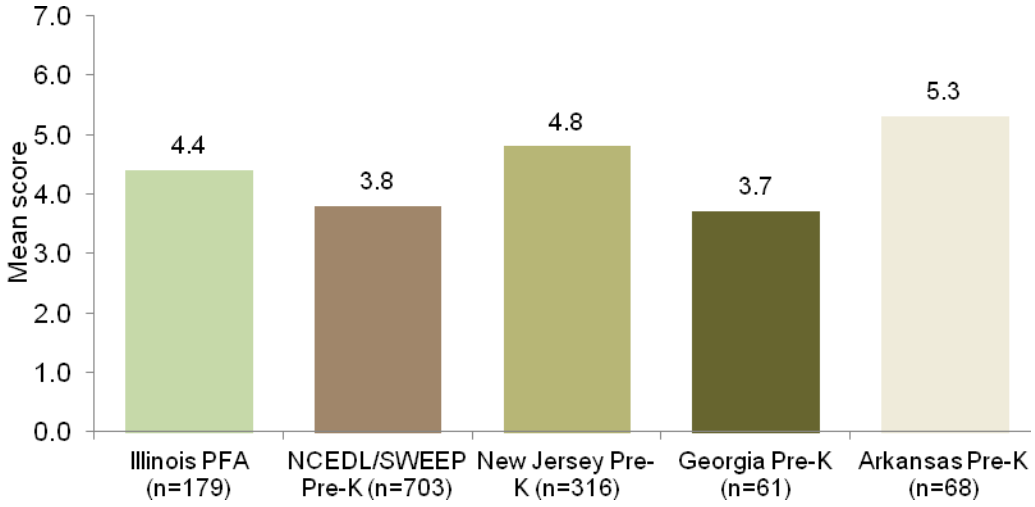
- National Center for Early Development and Learning (NCEDL) and Multi-State-Wide Early Education Programs (SWEEP) Studies (2005), a study of programs in 11 states[18]
- Chicago Program Evaluation Project (C-PEP) (2008)[19]
- New Jersey: The Abbott Preschool Program Longitudinal Effects Study (2007)[20]
- Georgia: The Early Childhood Study of Georgia's Pre-K program (2009)[21]
- Virginia: A study of Virginia's Preschool Initiative (VPI)(2007)[22]

- Tulsa, OK: A study of the Pre-K program (2009)[23]
- Arkansas: A study of the state's Better Chance Program for preschool (2008)[24]

The findings from these others studies are being presented simply to put the lllinois PFA data in context. The evaluation team did not conduct statistical comparisons between PFA data and data from the other evaluations.

ECERS-R Scores. Exhibits 19 - 21 show the ECERS-R total, composite, and subscales scores of Illinois's PFA program with those from other publicly-funded preschool evaluation studies.[xvii] The average ECERS-R score for Illinois's PFA programs was in the medium range of quality, as were scores for New Jersey, Georgia, and those programs in the NCEDL/SWEEP study. In addition, a greater percentage of PFA programs were in the high range of quality than those in Georgia or in the NCEDL/SWEEP study. An analysis of ECERS-R composite scores showed Illinois and New Jersey scoring in the medium range for provisions for learning, with programs in the NCEDL/SWEEP study scoring in the high range. Overall scores for teaching and interactions ranged from 4.7 to 5.6 in other states and programs, with Illinois scoring 5.1.

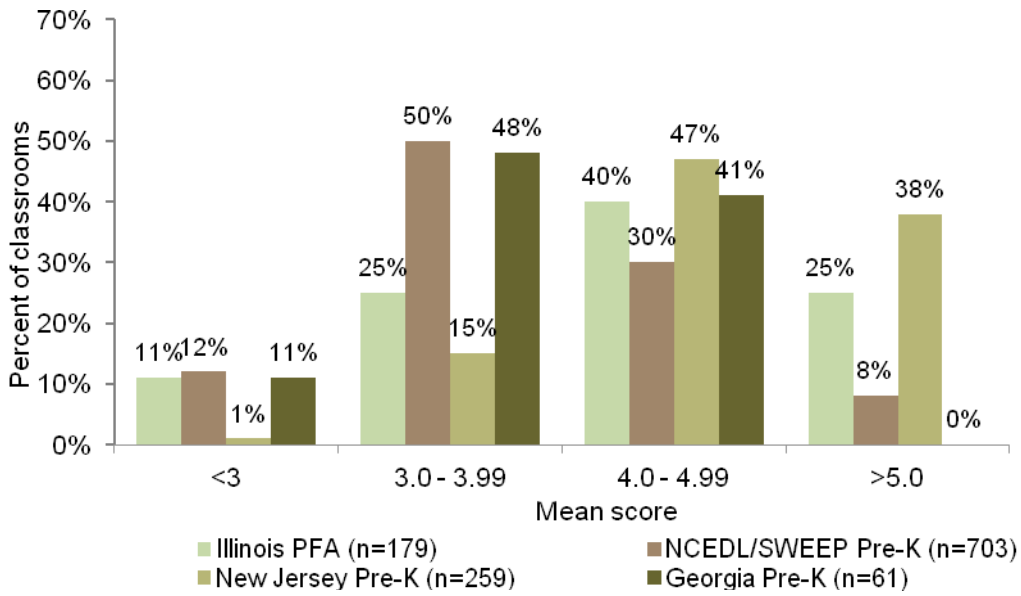
Exhibit 19. Average ECERS-R Total Scores from Other Studies of Preschool Classrooms



Source: Data reported for other studies of state-funded preschool programs.

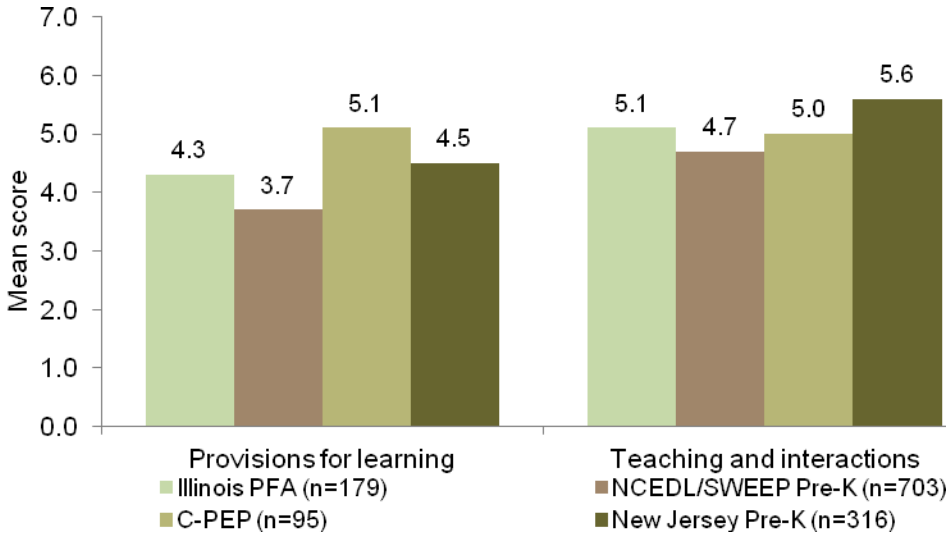
[xvii] Not all data were available from each of the comparison studies.

Exhibit 20. Distribution of ECERS-R Total Scores from Other Studies of Preschool Classrooms



Source: Data reported for other studies of state-funded preschool programs.

Exhibit 21. Average ECERS-R Composite Scores from Other Studies of Preschool Classrooms

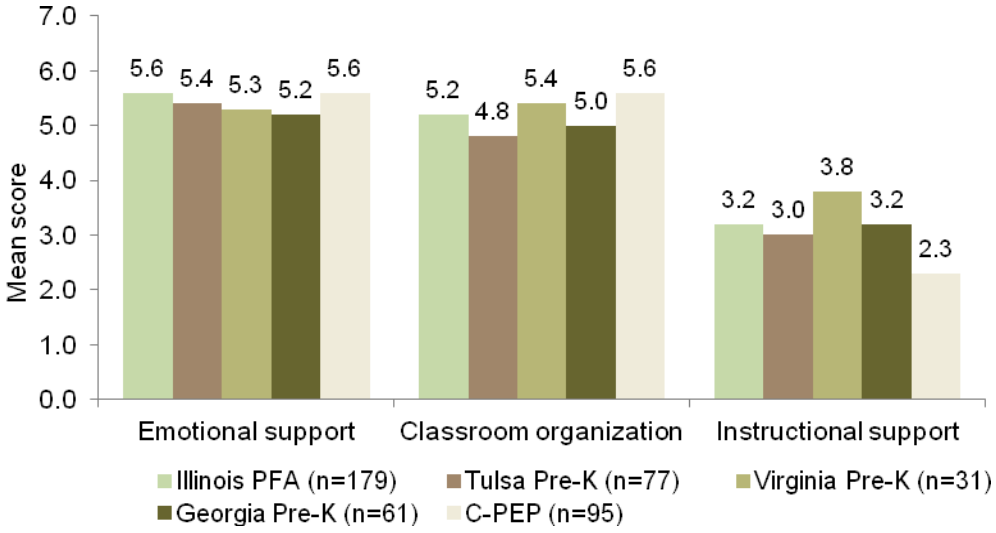


Source: Data reported for other studies of state-funded preschool programs.

CLASS Scores. Exhibit 22 shows CLASS domain scores for Illinois's PFA programs with those from other preschool evaluation studies.[xviii] Across studies, scores on the emotional support and classroom organization domains were generally in the moderate to high range, whereas the instructional support domain in each of the studies was in the low to moderate range.

[xviii] Not all data were available from each of the comparison studies.

Exhibit 22. Average CLASS Subscale Scores from Other Studies of Preschool Classrooms



Source: Data reported for other studies of state-funded preschool programs.

PFA STAFF CHARACTERISTICS

Information about the characteristics of PFA teaching staff was obtained from a survey administered to lead teachers in the observed classrooms. The surveys provided information about individual teacher's demographic characteristics, training, professional development, classroom practices, and perceptions and attitudes about the PFA program.

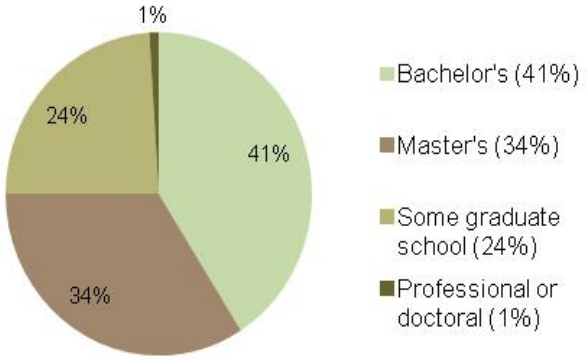
Demographics of Lead Teachers

PFA lead teachers were predominantly white, female, and English-speaking. Approximately 93% were white, 4% were black, and 3% were Hispanic. Almost all (99%) reported English as their primary language. Five percent (5%) spoke Spanish fluently.

Education and Experience of Lead Teachers

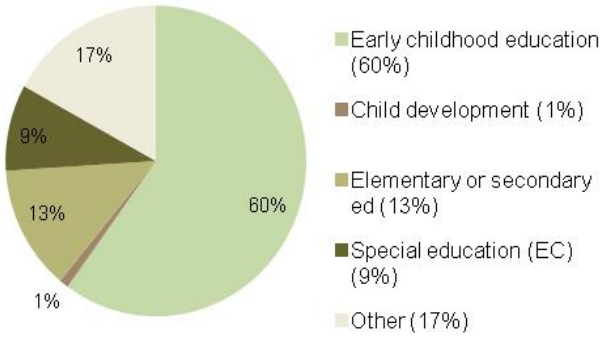
Consistent with the PFA requirements, all lead teachers had at least a bachelor's degree and a Type 04 (early childhood) teaching certificate. In addition, 35% also had a graduate degree (Exhibit 23), and at least 70% had degrees in early childhood or related fields (Exhibit 24).

Exhibit 23. Education Levels of PFA Lead Teachers



Source: Teacher surveys.

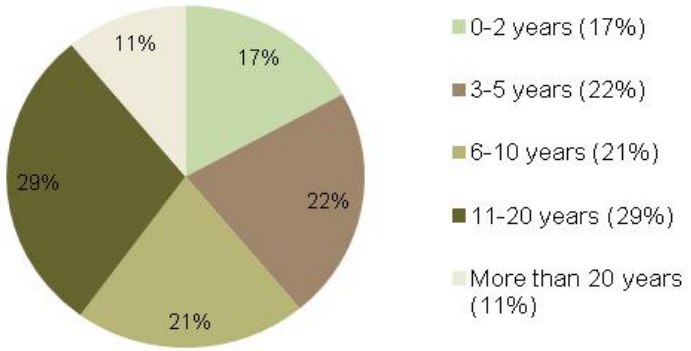
Exhibit 24. Education Field of PFA Lead Teachers' Highest Degree



Source: Teacher surveys.

PFA lead teachers had a range of years of experience teaching. Seventeen percent (17%) of PFA lead teachers had two years or less experience, while 40% had 11 or more years of experience, and 11% had more than 20 years of experience (Exhibit 25).

Exhibit 25. Years of Preschool Teaching Experience of PFA Lead Teachers

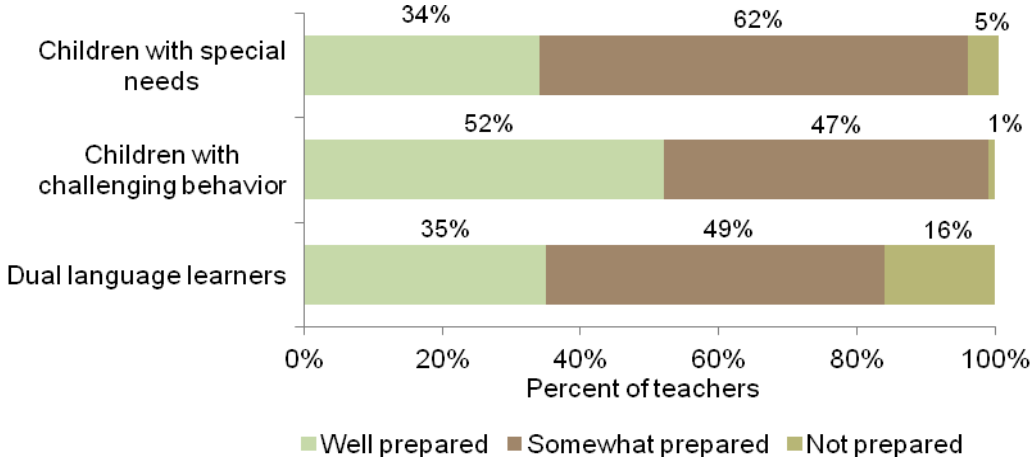


Source: Teacher surveys.

Teacher Perceptions

Many PFA lead teachers indicated that they were not well prepared to work with diverse populations of children. As shown in Exhibit 26, when asked how prepared they were to work with specific populations of children, over half of the teachers believed they were well prepared to work with children with challenging behavior (52%), but only 34% believed they were well prepared to work with children with special needs. Whereas 35% believed they were well prepared to work with dual language learners, 49% believed they were somewhat prepared, and 16% of teachers believed they were not prepared *at all* to work with dual language learners.

Exhibit 26. PFA Lead Teacher Perceptions of Preparation to Work with Various Populations



Source: Teacher surveys.

PFA lead teachers reported being generally satisfied with their jobs, but some reported wanting more support (13%) and professional development (11%). Most PFA lead teachers enjoy their job (93%) and believe they are "making a difference" (97%). Most teachers (78%) believe the school provides them enough assistance, while 13% would like more support to do their job, and 9% were neutral about having more support.

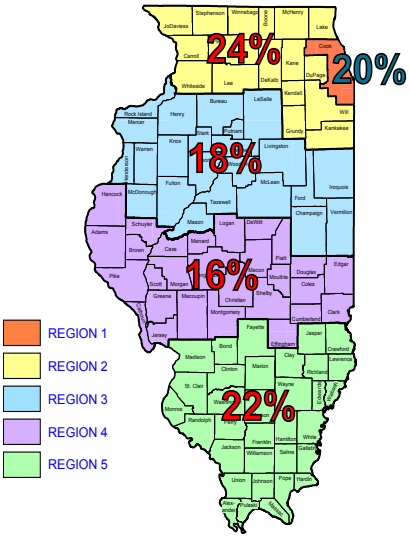
PFA PROGRAM CHARACTERISTICS

Data from web-based surveys collected in 2008 and from interviews with program administrators in 2009 provided information about some of the overall characteristics of PFA programs and the children and families they served.

Location and Program Size

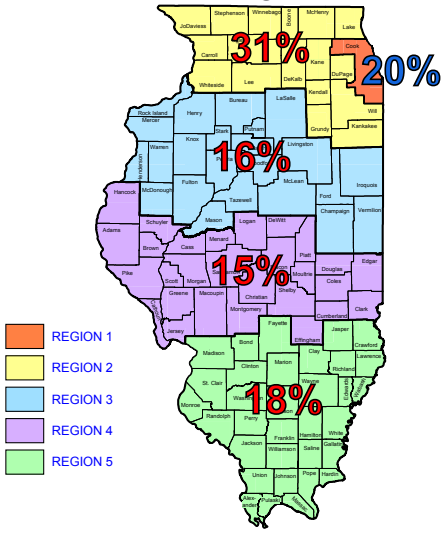
PFA programs served children in all regions of the state. About half of the children served (51%) lived in the northern part of the state in Regions 1 (excluding Chicago) and Exhibits 27 and 28 show the distribution of PFA programs and children across Illinois. (Programs in Chicago were not included because the city conducts its own program evaluation.)

Exhibit 27. Percentage of PFA *Programs* by Region of Illinois (Excludes Chicago)



Source: Web surveys.

Exhibit 28. Percentage of PFA *Children* Served in Different Regions of Illinois (Excludes Chicago)



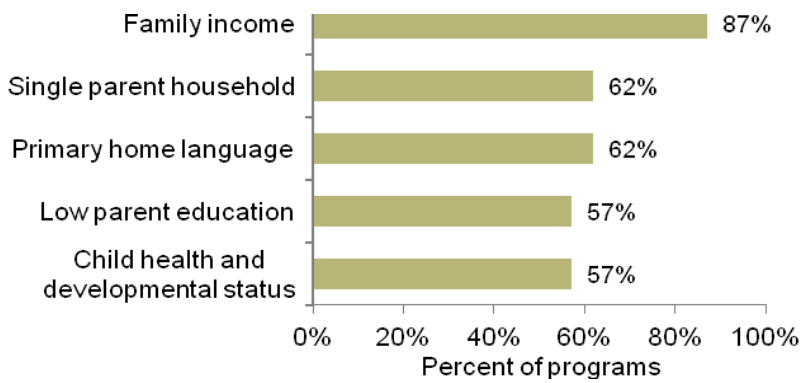
Source: Web surveys.

At the time of data collection, most grantees were located in school districts or regional offices of education (80%) and offered PFA at one site in one to three classrooms (86%). On average, PFA classrooms served 18 children, with a range of 9 to 22 children. All PFA programs served children for the recommended 2.5 hours per day. About half of the programs (45%) provided programming for more than 2.5 hours for some children by supplementing their PFA funding with other sources.

Enrollment Criteria

At the time of the study, PFA programs were required to have at least 51% of the children enrolled be considered "at risk." Program administrators identified a range of risk criteria that they used to screen children and families. The criterion most often used was family income (87%); however, home language, single parenthood, low parent education, and the child's health and developmental status were all identified as other primary risk criteria that administrators considered. Exhibit 29 shows the use of risk criteria for PFA programs.

Exhibit 29. Primary Risk Criteria Used for PFA Eligibility

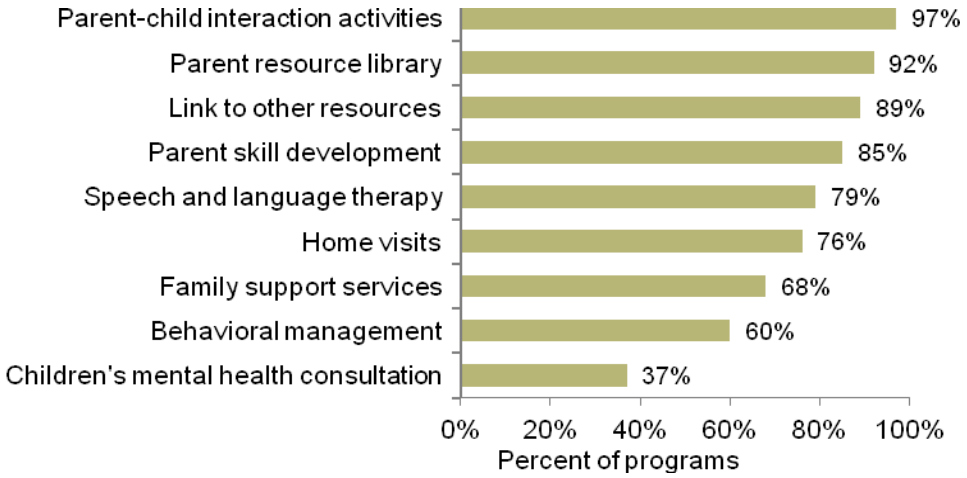


Source: Administrator interviews.

Family Support Services

PFA programs are required by ISBE to provide a strong parent involvement component, and most programs offered multiple types of family support services. Almost all PFA programs provided parent-child interaction activities (97%), had parent resource libraries (92%), linked parents with community resources (89%), and offered parenting skills development activities (85%). Many also reported having speech and language therapy services available (79%), and over three-fourths (76%) provided home visits, which were typically aimed at strengthening the home-school relationship and supporting the use of home literacy activities. Exhibit 30 shows the family support services provided by PFA programs, as reported by PFA administrators.

Exhibit 30. Family Support Services Provided by PFA Programs

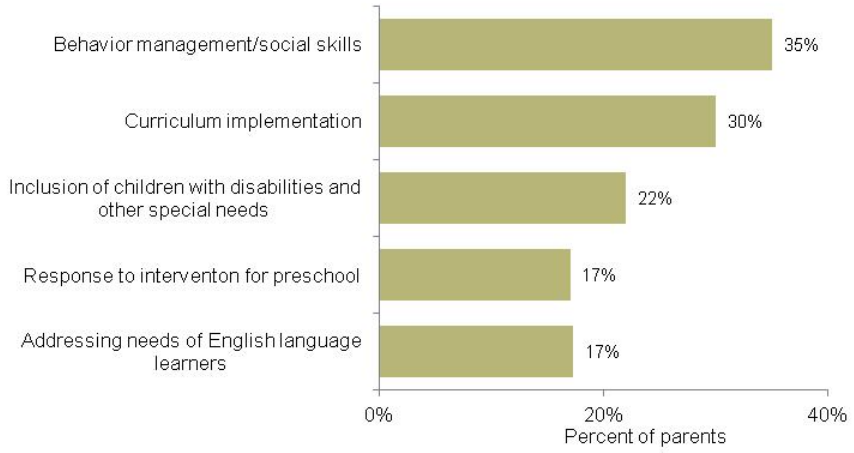


Source: Web surveys.

Professional Development Needs of Staff

PFA program administrators identified several areas where they believed teachers in their programs would benefit from additional professional development (Exhibit 31). The most common training needs identified by administrators included how to manage children's behavior (35%), implement curriculum (30%), and effectively include and serve children with disabilities and other special needs (22%).

Exhibit 31. Professional Development Needs of Staff in PFA Programs, As Reported by Administrators

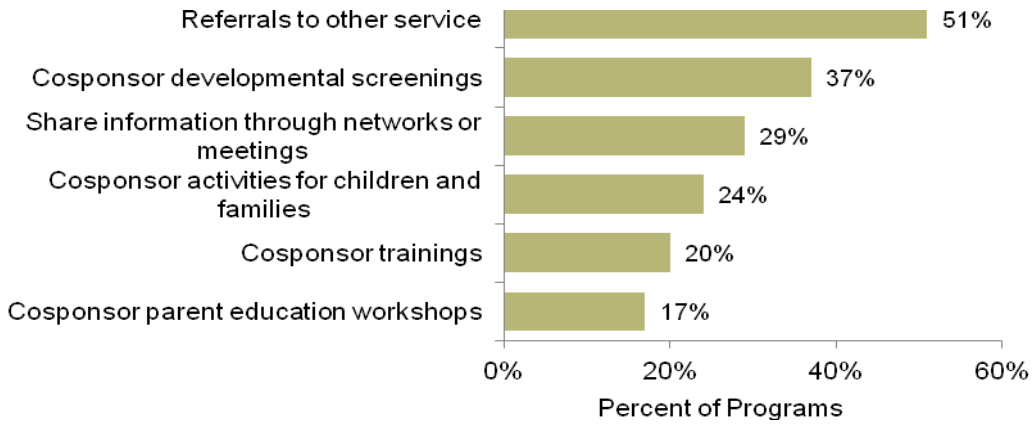


Source: Administrator interviews.

Collaboration with Other Programs

Many PFA program administrators reported that they collaborate with other early childhood programs in their communities. The most common types of collaboration activities identified were making referrals of families to other services in their communities (51%), co-sponsoring developmental screenings (37%), and sharing information through local networks or meetings (29%). Exhibit 32 shows the types of collaboration that administrators indicated they engage in with other programs in their communities.

Exhibit 32. Types of Collaboration between PFA and Other Early Childhood Programs



Source: Administrator interviews.

CHARACTERISTICS OF CHILDREN AND FAMILIES SERVED BY PFA PROGRAMS

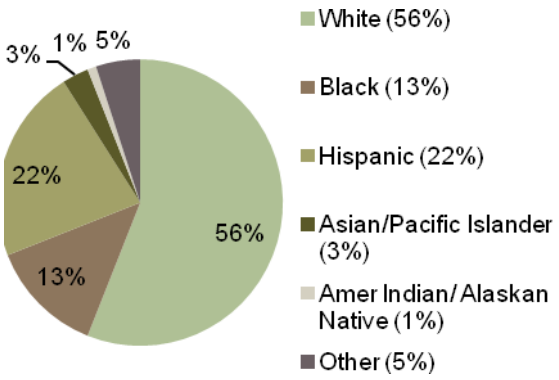
Information about the children and families served by PFA programs was obtained from the web-survey completed in 2008 and parent interviews completed in 2009 and 2010. The web-survey contained questions about the demographics of children served by PFA programs and their school attendance. The parent interviews included questions about the ways parents participated in their child's PFA program.

Demographic Information of Participating Children

Age. Whereas the majority of children in PFA programs were 4-year-olds (55%), 31% were age 3, and 12% were age 5.

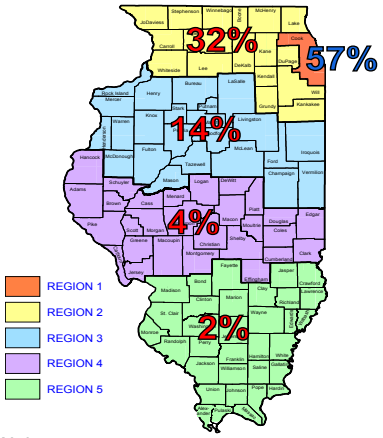
Ethnicity. While slightly more than half of the children in PFA programs were white (56%), approximately 22% were Hispanic, and 13% were black (Exhibit 33). Across the state, almost one fourth of PFA programs (23%) were comprised of 75% or more minority children. As shown in Exhibit 34, those figures are highest in the northern regions of the state. In Region 1 (excluding Chicago), approximately 57% of the programs reported that at least 75% of the children served were minorities. Those percentages are considerably smaller in central and southern Illinois.

Exhibit 33. Race/Ethnicities of Children Served in PFA Programs



Source: Web surveys.

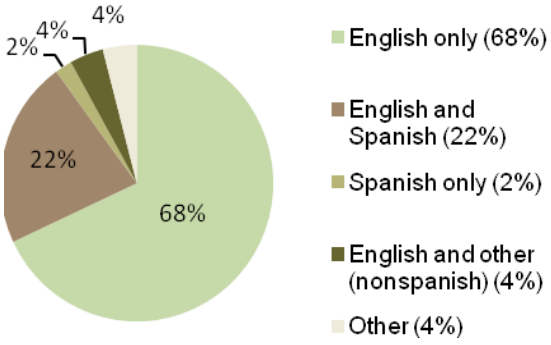
Exhibit 34. Percentage of PFA Programs Serving Mainly Minority Children*



Source: Web surveys.
*At least 75% of those served in these programs were minority children.

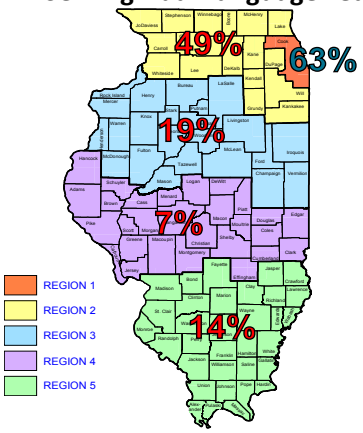
Dual Language Learners. Approximately one third (32%) of the PFA programs served one or more children whose primary language was not English. Programs serving dual language learners were found in all regions of the state, with greater concentrations in Regions 1 (excluding Chicago) and 2. Exhibits 35 and 36 show information about percentages of dual language learners served by PFA programs.

Exhibit 35. Percentage of PFA Programs with Different Languages Spoken by Children



Source: Web surveys.

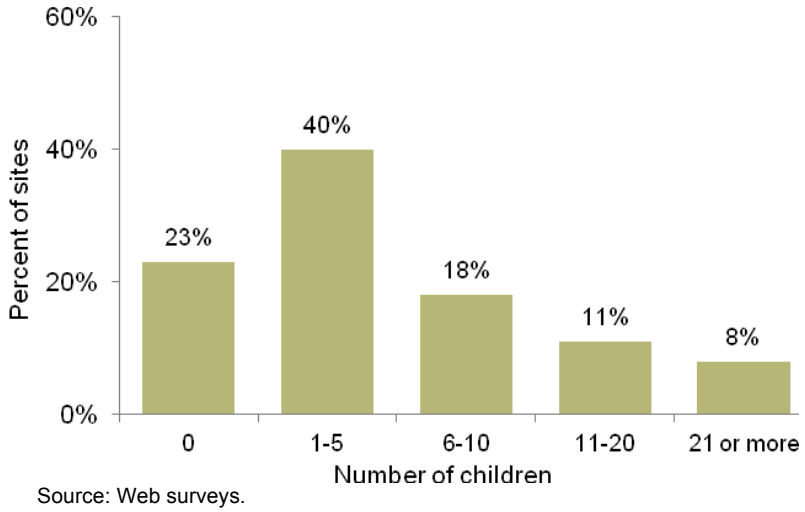
Exhibit 36. Percentage of PFA Programs Serving Dual Language Learners



Source: Web surveys.

Children with Disabilities. Approximately three quarters of the PFA programs (77%) served at least one child with a diagnosed disability. Exhibit 37 shows the percentage of programs with children with a diagnosed disability.

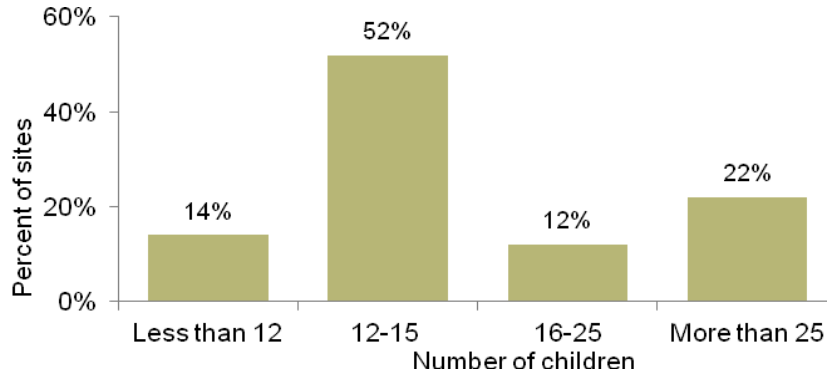
Exhibit 37. Percentage of PFA Programs Serving Children with a Diagnosed Disability



Source: Web surveys.

Attendance. Parent interviews contained questions about children's past and current school attendance. Almost two-thirds of the children (63%) had attended a center-based program before the fall of 2009. Of those children with prior preschool experience, 74% had been enrolled in the same program. Most children (66%) attended the PFA program for fewer than 16 hours per week. Exhibit 38 shows children's attendance per week.

Exhibit 38. Number of Hours Children Attend the PFA Program per Week

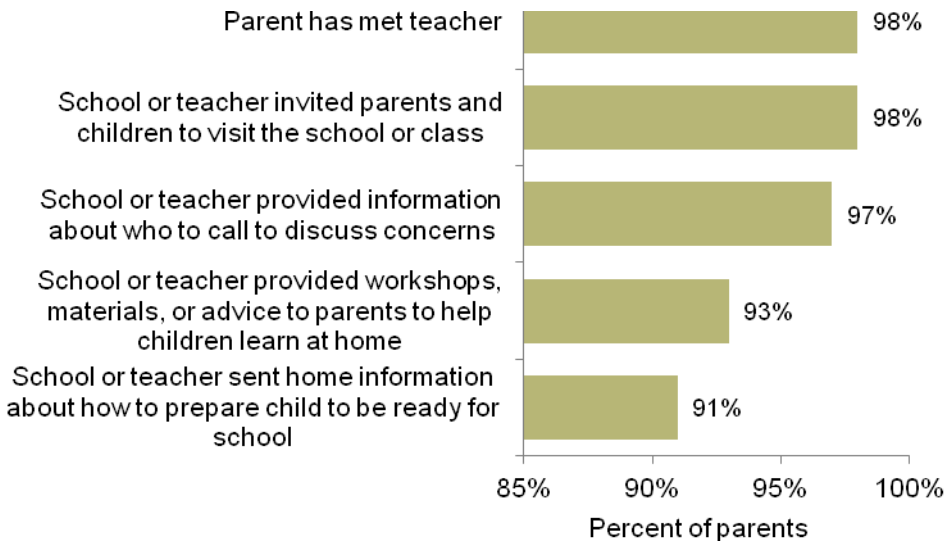


Source: Parent interviews.

Parent Involvement

Parents reported having strong connections to their child's PFA program (Exhibit 39). Almost all parents had met the child's teacher (98%), had been invited to visit the child's classroom (98%), and had been sent information from the school or teacher (97%). Approximately 93% also reported that the school provided workshops or other resources aimed at helping their child learn at home.

Exhibit 39. Parents' Involvement in Their Children's PFA Programs



Source: Parent interviews.

STUDY LIMITATIONS

The research team took great care in designing the survey and interview protocols used in this study, selecting appropriate standardized measures to assess children, and training data collectors to a high level of reliability; nevertheless, the findings and conclusions that can be drawn from the PFA evaluation are limited in some important ways.

First, this evaluation of the PFA program did not include the city of Chicago because, as mentioned previously, the city conducts its own PFA program evaluation. When considering the characteristics of the children, families, and programs participating in the evaluation, it is important to note that the study represents the state of Illinois with the exception of the largest city in the state.

Second, the pre-post design limits our ability to make causal inferences about the impact of the PFA program on children and families. Because we do not have a comparison sample of data collected at the same time for children who did not attend PFA programs, our conclusions are limited to the sample of children included in the study. However, the use of standardized measures of children's skills does allow us to make some conclusions about the developmental trajectories of children had they not attended PFA programs.

Finally, we attempted to recruit a representative sample of children participating in PFA programs throughout the state of Illinois. However, there could be unknown selection bias in that parents who are more likely to agree to participate in a study of their children's development may be different in some way than parents participating in the PFA program in general. While it is important to keep these limitations in mind, we believe the study findings present objective evidence of the quality and implementation of Illinois's PFA program.

SUMMARY OF FINDINGS AND IMPLICATIONS FOR POLICY AND PRACTICE

The findings from the evaluation of Illinois's PFA program provide important information about how the program is impacting children's school readiness skills, the quality of classrooms, staff characteristics, and who is being served. Key findings and implications are highlighted below.

Global quality of Illinois's PFA classrooms was in the moderate range. The quality of emotional support and classroom organization in PFA classrooms was high, while the quality of instructional support was moderate and the quality of personal care routines was low.

On average, PFA classrooms in Illinois scored a 4.4 on the ECERS-R, which is considered moderate quality. Though a quarter of classrooms were rated as high-quality, the majority of classrooms fell within the medium or moderate range. Programs tended to fair better in the areas of classroom interactions and program structure, with lower ratings in personal care routines. This "moderate" rating is similar to that found in separate evaluations of several other large, state-funded pre-kindergarten programs across the U.S.

Classrooms tended to score in the high range on the CLASS emotional support (79%) and classroom organization (67%) scales. Classrooms tended to fair worse on the CLASS instructional support scale, with nearly half (48%) of classrooms scoring in the low range and just over half (52%) scoring in the moderate or high range. This relatively low score on instructional support is similar to findings from other state pre-kindergarten evaluations.

Implications:

As a result of the state's ongoing investment in early childhood, the majority of PFA classrooms are emotionally supportive environments for young children and are warm, well-organized places where children are engaged in learning tasks. Very few provide poor-quality experiences. However, Illinois PFA programs still have room to grow. PFA teachers would benefit from additional training and professional development in areas that can directly impact classroom quality. One such area is personal care routines, which includes activities such as meals, hand washing, and toileting. Another area is instructional support, which is concerned with how teachers promote analysis and reasoning and engage children in a way that expands their understanding of concepts. Such improvements are critical because research shows that high quality teacher-child interactions are a critical predictor of a child's school readiness skills.

Overall, children made academic and social-emotional gains; however, there was a decline in math skills.

Data from child assessments showed that PFA contributes to an improvement in children's school readiness in all but two areas. Overall, PFA children improved significantly in vocabulary, social skills, problem behaviors, and attention/task persistence. Children had no change in early literacy skills, and they had a slight but significant decline in early math skills.

Implications:

Children in PFA programs generally improved in areas related to social-emotional development, which is an important indicator of school readiness. However, they did not consistently improve in

academic skills, and they declined in math skills. PFA students would benefit from increased participation in activities aimed at developing early math skills. Teachers should be offered training and professional development on ways to provide children with rigorous and developmentally appropriate experiences and engagement in math concepts.

PFA programs serve a diverse population of children across the state.

Though the majority of the children in the study were four years old, white, and spoke English as their primary language, approximately a quarter of PFA programs across the state serve 75% or more minority children. Additionally, approximately one third of programs serve at least one child whose primary language is not English. At the time of the study, the state required that at least 51% of the children enrolled in a PFA program be considered at risk of academic failure. Programs cited income level, employment status, home language, parent education, and single parenting as common criterion for screening children for at-risk status.

Implications:

As of 2011, Illinois requires that at least 80% of children enrolled in each PFA program be considered at risk. The state is to be commended for this change and for encouraging programs to direct limited resources to children and families who need them most. The new requirement may also result in more three year olds participating in PFA, which could provide an extended pre-kindergarten experience for children with higher risk factors. The increase in percentage of at-risk children served is important to the overall well-being of the state because research shows that early childhood education helps reduce the negative effects of poverty on children's cognitive, social, and physical development and benefits communities overall.[25]

PFA teachers are satisfied with their jobs, but many believe they could be better prepared to teach children with diverse needs.

Teachers are generally satisfied with their jobs, believe they are making a difference, and would choose teaching as a career if they had it to do all over again. In general, PFA lead teachers believe they receive enough professional development and support. However, many teachers believe they could be better prepared to teach children with diverse needs, including children with special needs, those with challenging behavior, and those who are dual language learners.

Implications:

Teachers tend to feel supported in their work environments, and programs should be applauded for establishing positive work settings and providing development opportunities for staff. Teacher education programs may want to consider providing pre-service teachers with more extensive and practical training in working with children with diverse needs. Current PFA teachers would benefit from additional training and technical assistance in this area as well.

PFA teachers are well-educated, predominantly white, and mono-lingual.

Consistent with state law, all PFA teachers hold a Bachelor's degree and Type 04 certificate. Approximately one-third also hold an advanced degree in early childhood education. Teachers in PFA programs are predominantly white, female, and English-speaking, with many approaching retirement age.

Implications:

The state has done a good job requiring that teachers in PFA programs meet basic education and training standards, which is an important step toward ensuring that classroom practices are high quality. It is critical that the state be proactive in taking steps to maintain a strong pipeline of PFA teachers, especially given the aging population of teachers. Additional work is also needed to increase the diversity of the teaching workforce. Given the diverse ethnic and linguistic characteristics of the children being served in PFA programs across the state, and with recent census data indicating that state's population is growing increasingly diverse, Illinois should aim to recruit, train, and support a more heterogeneous PFA workforce.

PFA programs involve families in program activities.

Administrators report that their PFA programs have a strong parent involvement component and provide a range of family support services, such as parent-child interaction activities (92%), parenting skills development activities (85%), and parent resource libraries (92%). Most parents report having strong connections to their child's PFA programs and having been encouraged to visit their child's school.

Implications:

PFA programs should be commended for involving parents in activities related to their children's care and development. Programs should continue forging these strong relationships to ensure that parents and programs work as partners to support optimal development of children enrolled in PFA.

CONCLUSIONS

Overall, the findings from this study of Illinois's PFA programs indicate that the programs are largely meeting their goals and objectives to serve children at risk for academic failure and prepare them for success in school. ***The study shows that PFA programs are serving at-risk children across the state and that the programs are associated with improvements in children's school readiness skills.*** The findings also suggest that the continued success of the program requires enhanced training and technical assistance for teachers to support high-quality practices, especially those related to developing children's understanding of math concepts, increasing instructional support, and enhancing teachers' ability to work effectively with children who have diverse needs.

Illinois has a long history of providing pre-kindergarten for children who are most at risk for academic failure. While the state is to be commended for its long-term commitment, it is important to recognize that PFA is not currently serving all eligible children; therefore, we strongly encourage the state to increase its investment in PFA to ensure all children at risk of academic failure are able to participate. We believe the study findings provide ample evidence that Illinois's PFA program is having a positive impact, as well as information that can be used to inform the future development of early childhood policy to both improve the program and broaden its impact.

APPENDIX A. SUMMARY OF METHODOLOGY

INITIAL DATA COLLECTION WITH WEB-BASED SURVEYS

In fiscal year 2009, two activities were conducted to learn more about the landscape of Illinois's PFA programs in order to inform the ECBG evaluation design: (1) web-based surveys were distributed to all ECBG programs (at the grantee and individual site levels in November and December of 2008); and (2) a pilot study of five PFA programs was conducted from December 2008-February 2009. The main purpose of the web-based surveys was to gain a more detailed descriptive picture of the PFA programs than is currently available from administrative data reported to ISBE. The main purpose of the pilot study was to develop a data collection protocol to be used in the full implementation study. The pilot included testing program observation measures and protocols for administrator and parent interviews.

For the PFA programs, the web-based surveys included questions about the following program characteristics:

- Number and demographic characteristics of children and families served.
- Number of sites, classrooms, sessions, and teachers by grantee.
- Structural and management characteristics of the program (e.g., number of children served, types of services provided, staff turnover, program models and curricula used, developmental screening and assessment tools used, etc.).
- Educational background, experience, training, professional development, and salaries of staff.
- Participation of parents in programs and services provided by programs.

The information collected through the surveys and the pilot site visits informed the evaluation team's approach to sampling and final decisions about data collection procedures and the selection of measures, each of which is described below in detail.

OVERVIEW OF PFA OUTCOME EVALUATION

To examine the child outcomes and PFA program quality, the evaluation team designed and implemented the following one group pre-post design:

1. Selected a representative sample of PFA programs outside the city of Chicago, and conducted site visits in spring 2009 to collect data on program quality and implementation.
2. As a pre-test in October-November 2009, conducted child assessments with a randomly selected sample of four-year-old children attending those same PFA programs.
3. As a post-test in October-November 2010, conducted child assessments with the same sample of children when they were 5 years old and attending kindergarten.

SAMPLING

Power Analysis for Sample for Outcome Evaluation

In order to collect program quality and child outcomes data on a representative sample of PFA programs and participating children, a power analysis was conducted using the following assumptions about the universe of PFA programs and children, the sampling parameters and weighting factors,

expected effect sizes, expected variance in outcomes due to sites, classrooms and children, and attrition.

- We wanted to detect an effect size of .20 (i.e., an increase from baseline to posttest of .20 times the posttest standard deviation).
- The distribution of variance was estimated to be 25% (between sites), 25% (between classrooms within sites), and 50% (between students within classrooms).
- Use of baseline test scores and covariates (including the quality of classroom instruction) was estimated to reduce all sources of variance by 30%.
- We estimated sampling two classrooms per site and four students per classroom.
- We estimated that we would lose 20% of the children to attrition (but projected that we would not lose sites or classrooms).[xix]
- We estimated that weighting decreases the effective sample size by 33%.
- We planned to utilize a one-sided 5% test of statistical significance versus a hypothesis of zero growth in the pre-post analyses.

Using these assumptions, we estimated that the following sample sizes would be needed:

- **77 individual programs** (or sites) across the state
- 2 classrooms per site—a total of **154 classrooms**
- 4 children per classroom—8 children per site—a total of **616 children**

We conducted a power analysis of available administrative data from ISBE for fiscal year 2008 (from the Illinois Early Childhood Asset Map [IECAM]), to determine the number of program sites and children needed for the evaluation. We determined the number of sites that would be needed in order for our sample to be reflective of the number of programs and children in each region of the state. Our goal was to select enough sites so that we would have 154 classrooms, with at least 4 children per classroom, to yield at least 616 children in the sample. Exhibit A-1 shows the number of sites and children anticipated and the final numbers included in the outcome evaluation. The final number of classrooms with completed observations in spring of 2009 was 157, and by fall 2009, it was 179.

[xix] We lost a few classrooms between spring 2009 when we conducted the classroom observations and fall 2009 when we conducted the baseline child outcome assessments. Additional classrooms were added to replace these classrooms and select children for the outcome evaluation. To the extent possible, new classrooms in the same program site were selected, but if this selection was not possible, replacement classrooms at nearby PFA sites in the same region were selected. We also conducted the classroom observations and teacher surveys in these replacement classrooms.

Exhibit A-1. Samples of Program Sites and Children for PFA Evaluation

Illinois Department of Human Services (DHS) Regions*	Number of existing sites**	Proposed capacity– number of 3-5 children	Number of anticipated sites selected	Number of anticipated augmented sites	Number of sites anticipated /actual enrollment	Number of children selected actual enrollment***
State of Illinois *	1,161	56,034	77	43	120/120	616/684
Region 1	231	10,699	15	8	23/25	120/140
Region 2	254	16,894	17	10	27/26	136/149
Region 3	236	9,537	16	9	25/24	128/136
Region 4	171	8,130	11	6	17/15	88/104
Region 5	269	10,774	18	10	28/30	144/155

Source: Illinois Early Childhood Asset Map [IECAM]; ISBE PFA data for FY 2008.

* These numbers do not include Chicago Public Schools programs. We estimate that there are 235 ISBE funded CPS programs in the city of Chicago serving an estimated 9,492 children.

** A total of 77 sites were selected randomly within each of the 5 regions, proportional to size (total number of children served in PFA programs). We estimated that an additional 43 sites, designated augmentation sites, would be needed because some of the original sites selected had only one classroom session, and the sampling plan called for selection of 2 classroom sessions per site, 4 children per classroom session, and 8 children per site.

***Children who had at least one completed assessment measure in fall 2009 were included in actual enrollment numbers in this exhibit.

We estimated that about half of the selected sites would have only one classroom session for inclusion in the evaluation. In order to achieve the required number of classrooms and children for our sample, we selected additional sites (referred to as augmentation sites) to be added to each of the sites that had only one classroom session. We used a multi-step sampling strategy and stratified a list of 1,145 programs generated from the Illinois Early Childhood Asset Map (IECAM) to select randomly 77 programs that were geographically representative of the state.

Recruiting the Sample of PFA Programs, Teachers, and Children

The evaluation team contacted the selected programs to determine if the following conditions were met:

- The program director or early childhood coordinator and the teacher agreed to participate in the study,
- The program had at least one classroom with at least four children receiving PFA funding,
- Each classroom had a minimum of 4 children who use English or Spanish as their primary home language, and
- The children would be entering kindergarten in fall 2010.

If the program met all four criteria, it was included in the sample. In the next step, we selected augmentation sites to replace programs that did not meet the inclusion criteria.[xx, xxi] This iterative

[xx] These augmentation sites were randomly selected (stratified by region) from the original list of 1,145 programs generated by IECAM. A total of 43 programs were selected as augmentation sites to replace those sites that declined participation, those that did not meet the inclusion criteria, and to supplement the sample to reach the necessary number of classrooms (the most common reason for adding augmentation sites).

[xxi] To be eligible for this evaluation the children needed to (1) be expected to enter kindergarten in fall 2010, (2) have a primary home language of English or Spanish (since the direct child assessments are available only in these two languages), and (3) have a completed consent form from a parent.

process continued until a final sample of 120 programs agreed to participate in the evaluation. Of the total of 141 programs that were initially asked to participate in the evaluation, 21 programs (15%) did not, including 9 (6%) that declined and 12 (9%) that lacked classrooms with a sufficient number of children that met the criteria for inclusion.

The selection of classrooms and teachers within these programs depended on how many eligible classrooms were located at the site. If the program had only one or two eligible classrooms that met the above criteria, then one or both of the teachers were included in the sample. If a program had more than two eligible classrooms, we randomly selected two teachers to include in the sample.

Once the teachers were selected for the evaluation, they were sent a letter explaining the consent process and provided with enough consent forms for all the children in their classroom. The teachers were asked to distribute the consent forms to parents and to collect returned consent forms or ask the parents to mail them back in a prepaid postage envelope. For classrooms with four or fewer eligible children, we included all the children in the sample. For classrooms with more than four eligible children, we selected four or more children based on random number assignment.[xxii] The final outcome evaluation sample included 683 children.[xxiii] The child assessors attended a two-day training in Chicago, where they were trained on the data collection protocol and how to administer the direct assessment measures. All assessors met reliability requirements.

Between September and December 2009, assessors completed the child assessments, and the evaluation team collected the Teacher Report checklists from teachers. The assessments lasted approximately 30 minutes. Children with Spanish as their home language were first tested with the English version of the PPVT-4. If they did not meet the established criteria for being tested in English, the assessor then tested the child using the Spanish version of the assessment measures (child assessment measures are described below). In fall 2009, we collected PPVT-4 and WJ-III data from 683 children and Child Behavior Forms on 678 children.

INFORMATION ABOUT MEASURES

Program Quality and Implementation Measures

Classroom Observations. Trained observers hired by the evaluation team observed classrooms in selected PFA programs using two standard program quality measures, the Early Childhood Environment Rating Scale–Revised (ECERS-R)[26] and Classroom Assessment Scoring System (CLASS).[27] The ECERS-R was used to assess several dimensions associated with program quality and included the following subscales:

- Space and furnishing
- Personal care routines
- Language-reasoning
- Activities
- Interactions

[xxii] In the initial sampling plan, SRI planned to select only four children per classroom, but, due to a lack of eligible children in some programs, the team decided to take up to six eligible children per classroom if available and consented.

[xxiii] There were 689 children in the sampling pool, but six children were excluded for the following reasons: (1) three children were excluded because they had been mistakenly sampled and were not old enough for the study, (2) two were too shy to be tested, and (3) one child moved prior to the assessment.

- Program structure

The CLASS includes items to assess the following domains of the teacher-child interactions,[xxiv] which have been found to be powerful predictors of child outcomes:[28]

- Emotional support
- Classroom organization
- Instructional support

Observations were conducted in 179 classrooms across the state. The final sample for the outcome evaluation included 157 classrooms.[xxv] The site visits occurred primarily in the spring of 2009, with 19 programs being observed in the fall of 2009 and winter of 2010. The ECERS-R and CLASS were conducted during the PFA-funded portion of the program day. The class sessions observed ranged from 2.5 to 3.5 hours long and most often occurred during the morning session. Two observers visited the classroom together at the same time; one observer was responsible for conducting the ECERS-R, and the other observer was responsible for conducting the CLASS.

Scoring and Analyzing the ECERS-R and CLASS Data. The ECERS-R measures content, structure and processes (interactions) in the child's classroom. The total score ranges from 1 to 7 (low to high quality) and is the sum of 37 observed items. Classrooms also receive a score for each of six subscales. We also analyzed to composites of indicators, known as the teaching and learning and provisions for learning composites. These composites have been widely used in national studies that employ the ECERS-R.[xxvi] The CLASS scores range from 1 to 7 (low to high quality) for each subscale. Both the CLASS and ECERS-R scores were collapsed into the following categories:

- <3
- 3.0 - 3.9
- 4.0 - 4.9
- ≥5

These categories have been used to examine the percentage of classrooms scoring in the low range of quality (<3), a medium or moderate range of quality (3 to 4.99), and a high range of quality (5 to 7). Categorizing the scores in this way was helpful to compare to other studies of program quality in preschool classrooms in other states.

[xxiv] Teacher-child interaction is a factor shown in a number of recent studies to be a more powerful predictor of child outcomes than other quality indicators.

[xxv] Some programs closed or discontinued participation after the initial spring 2009 data collection and prior to child assessment data being collected in fall 2009. Because of these changes, additional classrooms and programs needed to be recruited to replace these programs.

[xxvi] Provisions for Learning is derived from 12 items and includes: room arrangement for play, space for privacy, gross motor equipment, fine motor, art, blocks, sand/water, dramatic play, nature/science, schedule, free play, and group time. Teaching and Interactions is derived from 11 items and includes: greeting/departing, encouraging children to communicate, using language to develop reasoning skills, informal use of language, supervision of gross motor activities, general supervision of children, discipline, staff child interactions, interactions among children, free play, and group time. For an example study using the composite, see Clifford, R.M., Barbarin, O., Chang, F., Diane M., Early, D., Howes, C., Burchinal, M. & Pianta, R. (2005). What Is Pre-Kindergarten? Characteristics of Public Pre-Kindergarten Programs. *Applied Developmental Science,* vol. 9, no. 3, 2005, pp. 126–143.

Teacher Survey. Within a few weeks of the classroom observations, the lead teachers in each of the 157 classrooms were mailed or e-mailed an 8-page survey that included questions about classroom composition, curriculum use, frequency of instructional practices used in the classroom, and the teacher's demographic background and early childhood teaching experience. Almost all of the teachers (150, 96%) completed the survey.

Program Administrator Interview. The semi-structured program administrator interviews collected in-depth information about program implementation and quality and included questions to verify the administrative data that PFA programs provide to ISBE. The interview included 34 questions covering the following topics:

- Recruitment, screening, and enrollment information and procedures
- Features of the educational programming, including use of curriculum and structure of the environment
- Parent-family involvement
- Professional development activities
- Program self-assessment procedures
- Experience, education, and demographics of the staff, including the program director.

In spring and fall of 2009, interviews were conducted with 99 program administrators representing the 120[xxvii] programs with sites, classrooms, and children in the outcome evaluation. Interviews generally lasted between 45 and 60 minutes. Most program administrators (84%) responded for one of the sampled sites, however some administered more than one site and responded accordingly.[xxviii] During the interview, the respondent was asked to answer questions for each of the programs they administered. It was sometimes the case for the respondents who administered more than one program that the same information applied to all of their programs. In particular, information about job title, experience, and education applied to all the programs for that respondent. Since the data were analyzed at the program level, questions about the respondents' job title, experience, education and other demographic characteristics are duplicated for programs with the same leadership.

Both the program administrator interview and the teacher survey provided information about indicators of program quality; they also provided descriptive data about program implementation and contextual factors that influence program operations and quality and solutions that programs implemented to address challenges they faced in implementing their programs.

Child Assessment Measures

Assessments of children's academic and social skills were conducted in the fall of the prekindergarten year (2009) and again in the fall of the kindergarten year (2010).

Direct Child Assessments. The evaluation team assessed children using a variety of direct child assessments in both the fall of 2009 and in the fall of 2010. In the next paragraph, we provide a brief description of each instrument, as well as the number of children for which we conducted assessments

---

[xxvii] The evaluation team interviewed some directors in spring 2009 whose programs were discontinued by fall 2009, so there are more programs represented in the director interviews than in the total program (site) sample of 118 in the outcome evaluation.

[xxviii] One program director was responsible for four of the sampled sites; 3 program directors each were responsible for three of the sampled sites; and 12 program directors each were responsible for two of the sampled sites.

in 2009 and 2010. The Peabody Picture Vocabulary Test–Fourth Edition (PPVT-4) scale is a norm-referenced, widely used instrument for measuring children's receptive language, such as the vocabulary children understand (669/637).[29] The Woodcock-Johnson Tests of Achievement (WJ-III) were designed to assess academic achievement.[30] The evaluation team used two subtests from this measure—Letter-Word Identification (683/636) and Applied Problems (682/636). The Letter-Word Identification subtest is short and measures children's ability to recognize letters and words. The Applied Problems subtest measures children's ability to count and to perform other mathematical reasoning (e.g., children are asked to count objects on a page or asked to fill-in the missing number in a series).

Teacher Report Checklist. The evaluation team combined the items from the Preschool and Kindergarten Behavior Scale (PKBS)[31] and the Preschool Learning and Behavior Scale (PLBS) [32] into an 8-page Child Behavior Form that the child assessors handed to all teachers when they visited the classroom to conduct the child assessments. The PKBS is a norm-referenced behavior rating scale that asks about children's social skills and problem behaviors. The PLBS subscale measures a child's attention and task persistence. The teachers were asked to complete one form for each child and to mail the forms back in the postage-paid envelope. Preschool teachers completed forms for 576 children in the fall of 2009 and kindergarten teachers completed form for 446 children in the fall of 2010.

Parent Interview

To better understand family characteristics and risk conditions of the children participating in PFA programs, we conducted a phone interview with parents of participating children in fall 2009. This 48-item interview included standard interview items about risk conditions, home literacy practices, and use of other family and child services and supports included in other studies of preschool programs, particularly in the Chicago Program Evaluation Project (C-PEP) study conducted in 2006. Parents were also asked about their participation in the child's PFA program.

In September through December 2009, all parents were called and asked whether they would be willing to participate in a 20-minute telephone interview. At that time, a total of 485 (71% of the final sample of 683 families) parents completed the interview. Parents were interviewed again in fall 2010 at the beginning of the child's kindergarten year. Of the original sample (683), a total of 334 (49%) completed the kindergarten interview. A total of 532 of the 684 families (78%) completed either one or both interviews.

INCENTIVES FOR PROGRAMS AND FAMILIES

The following incentives were provided for those who participated in the evaluation:

- Teachers who complete the survey and checklists were entered into a drawing to receive a $50 Amazon gift card.
- Program directors were given a $50 gift card for use in purchasing program supplies.
- The assessors who visited programs in spring 2009 and fall 2009 brought a breakfast snack for the program staff.
- Parents who completed the telephone interview were given a $10 gift card and a children's book for their child and were entered into a drawing to receive a $50 Target gift card.

ANALYSIS OF CHILD ASSESSMENT DATA

Sample Attrition

For the direct child assessments, a total of 637 of the original sample of 683 children (93%) completed one or more of the direct child assessments at kindergarten entry. For the teacher report measures (three measures contained on the Child Behavior Form), teachers for 446 of the original sample of 683 children (65%) completed one or more of the three measures at kindergarten entry. The kindergarten sample with assessment data was comparable to the original preschool sample in terms of several child characteristics (e.g., gender, ethnicity, primary home language).

Statistical Analyses

To test for the magnitude of the effect of PFA attendance on children's kindergarten school readiness outcomes (pre-post comparisons on standard scores on the six outcome measures), hierarchical linear modeling (HLM)[33], adjusting for important covariates (e.g., pretest scores at preschool at age 4), was used. HLM takes into account the dependence among teachers (classrooms) within schools and among children within classrooms, and it adjusts the standard errors, thus avoiding overestimation of statistical significance of the effect size.[34] HLM is appropriate to examine the relationship between teacher-level measures and children's gains in school readiness skills from entry to preschool in fall of 2009 to entry to kindergarten in fall of 2010, after taking into account the nesting of children within classrooms.

For each of the six child outcomes, we estimated child kindergarten outcomes using a two-level HLM. Level 1 is the child level and level 2 is the teacher level.

$$Y_{is}^{posttest} = \beta 00_{\square} + \beta 01_{\square} Y_{is}^{pretest} + \beta_{02} COV_{is} + r_{is} + \mu_{0s}$$

Where *i* represents child, *s* represents teacher; $\mathbf{Y_{is}^{posttest}}$ is the kindergarten score; $\mathbf{Y_{is}^{pretest}}$ is the preschool score on the same measure; $\mathbf{COV_{is}}$ is teacher-level covariates, which includes class observation scores and teacher experience (which was used in subsequent follow up analyses that are not presented in this report); $\mathbf{r_{is}}$ and μ_{0s} are individual and teacher random effects.

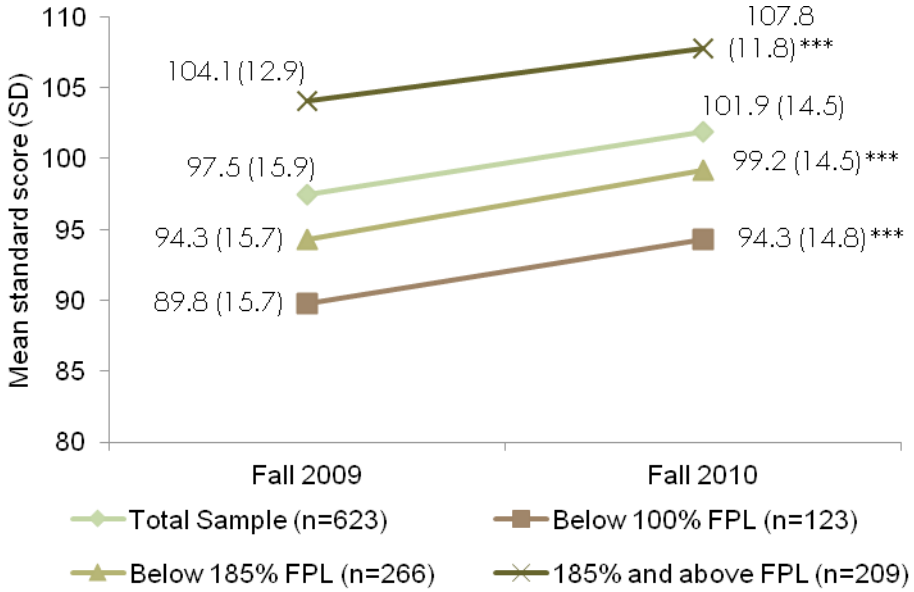
Centering the continuous predictors by their means to make the interpretation of the estimates more meaningful is recommended by researchers.[35] Therefore, we centered preschool (fall 2009) standard scores by their means, representing the estimated performance for an average achieving child instead of a child who scored zero at preschool.

APPENDIX B. SCHOOL READINESS OUTCOMES BY POVERTY AND RISK STATUS

VOCABULARY SKILLS

Children showed significant improvement from preschool to kindergarten in their vocabulary skills in the overall sample, as well as for each income subgroup and for children classified as both high and low risk. ExhibitsB-1 and B-2 show average vocabulary scores for children by household poverty and risk status for assessments in preschool and kindergarten.

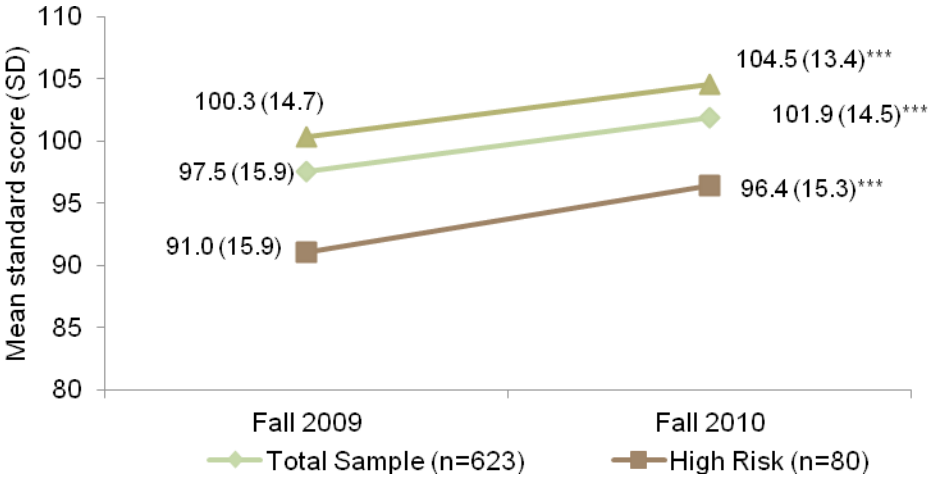
Exhibit B-1. Vocabulary Skills, Overall and by Poverty Status



***p<.01, ***p<.001*

Source: Child assessments, Peabody Picture Vocabulary Test-Fourth Edition (PPVT-4); parent interview, income data.

Exhibit B-2. Vocabulary Skills, Overall and by Risk Status



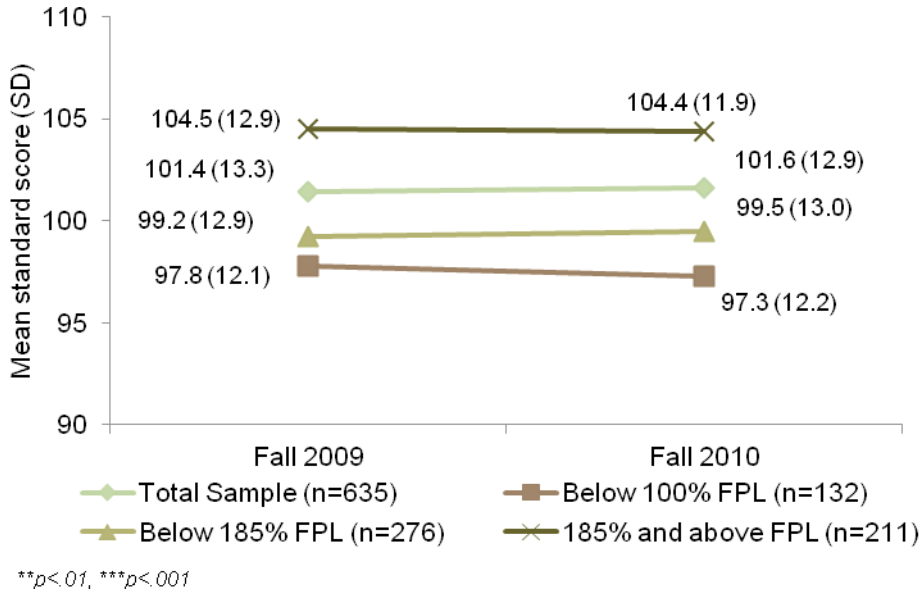
***p<.01, ***p<.001*

Source: Child assessments, Peabody Picture Vocabulary Test-Fourth Edition (PPVT-4); parent interview data.

EARLY LITERACY SKILLS IDENTIFICATION SKILLS

Similar to the overall sample, children in household poverty status groups and risk status groups showed no difference in their early literacy skills. Exhibits B-3 and B-4 show children's early literacy skills by poverty and risk status for assessments in preschool and kindergarten.

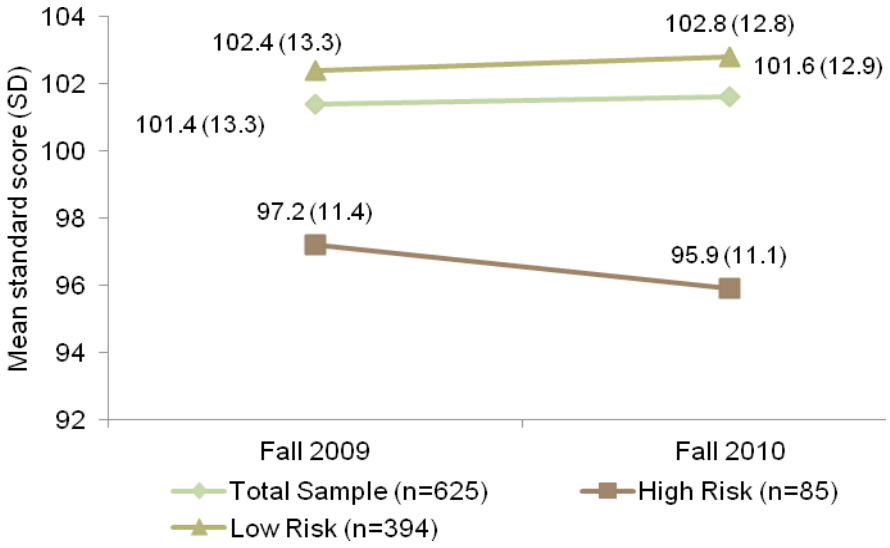
Exhibit B-3. Early Literacy Skills, Overall and by Poverty Status



***p<.01, ***p<.001*

Source: Child assessments, Woodcock-Johnson III Achievement Battery, Letter-Word Identification (WJ-III); parent interview, income data.

Exhibit B-4. Early Literacy Skills, Overall and by Risk Status



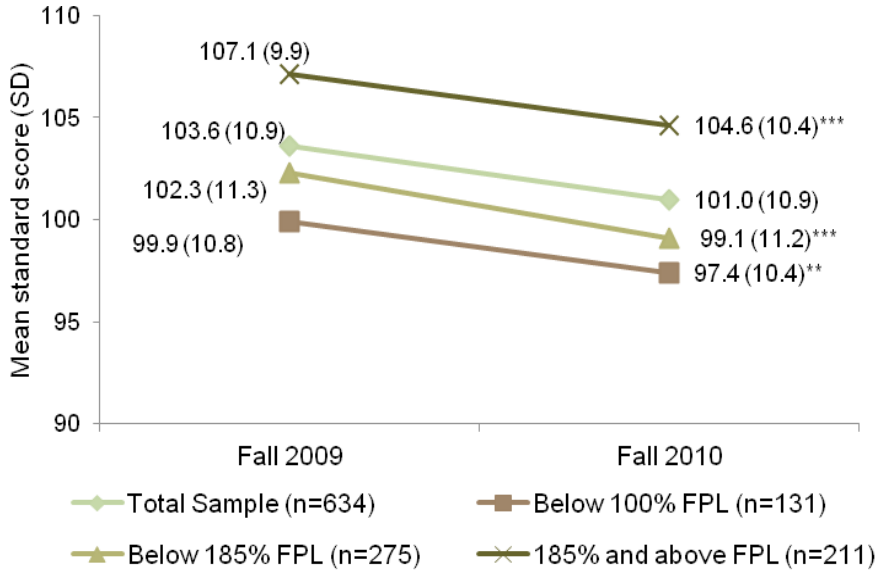
***p<.01, ***p<.001*

Source: Child assessments, Woodcock-Johnson III Achievement Battery, Letter-Word Identification (WJ-III); parent interview data.

EARLY MATH SKILLS

From the initial assessment in preschool to kindergarten entry, PFA children overall showed declines in early math skills. Similar declines in early math skills were found for all income subgroups and for low-risk children. Children in the high-risk category showed no change in their math skills. Exhibits B-5 and B-6 show children's early math skills by poverty and risk status for assessments in preschool and kindergarten

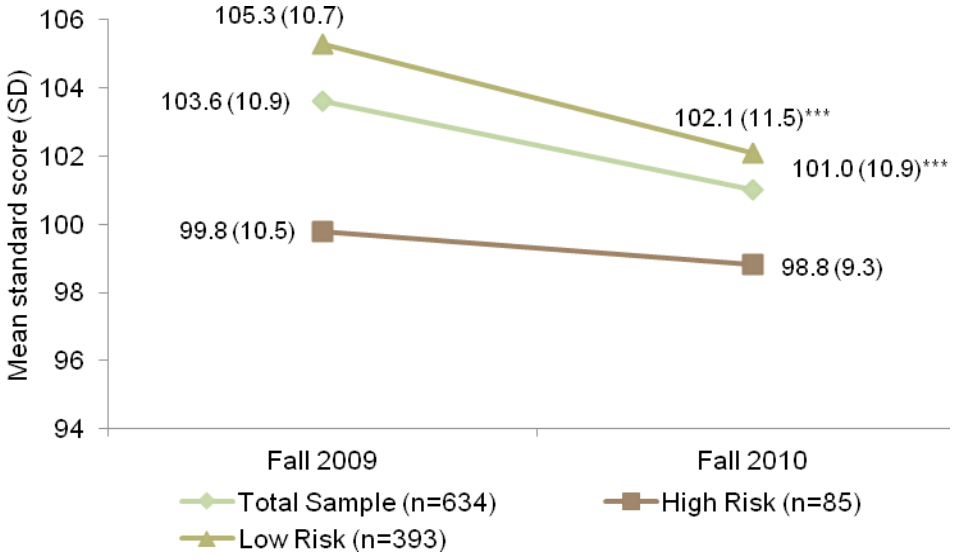
Exhibit B-5. Early Math Skills, Overall and by Poverty Status



***p<.01, ***p<.001*

Source: Child assessments, WJ-III, Applied Problems; parent interview, income data.

Exhibit B-6. Early Math Skills, Overall and by Risk Status



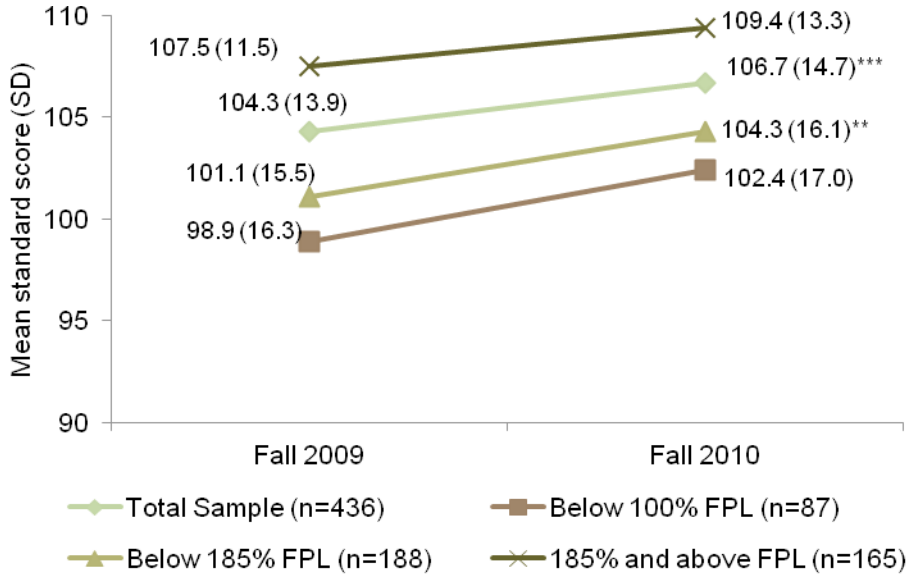
***p<.01, ***p<.001*

Source: Child assessments, WJ-III, Applied Problems; parent interview data.

SOCIAL SKILLS

Children in the overall sample, in the income group below 185%, and in both low- and high-risk groups saw significant improvement in social skills. Children with household income levels above 185% and below 100% saw no change in their social skills. Exhibits B-7 and B-8 children's social skills by poverty and risk status for assessments in preschool and kindergarten.

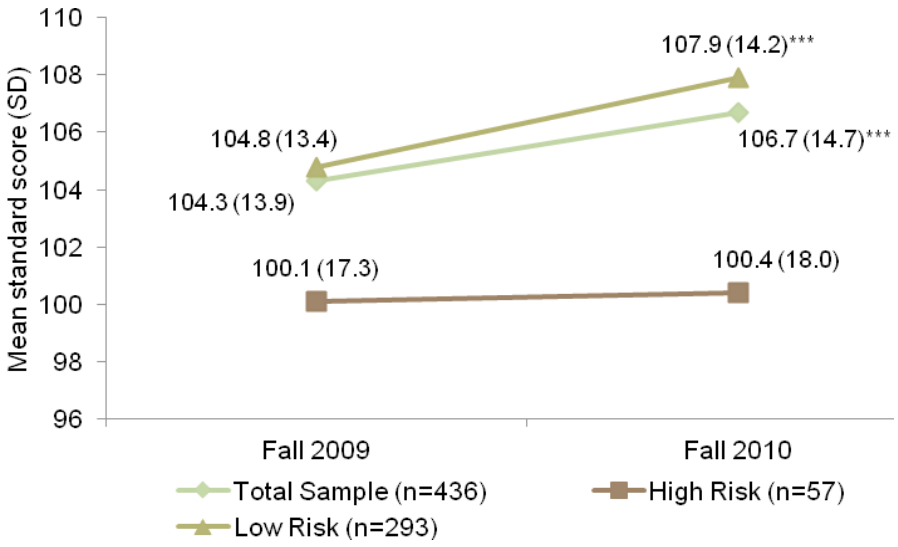
Exhibit B-7. Social Skills, Overall and by Poverty Status



***p< 01, ***p< 001*

Source: Teacher report checklist, Preschool and Kindergarten Behavior Scales–Second Edition; parent interview, income data.

Exhibit B-8. Social Skills, Overall and by Risk Status



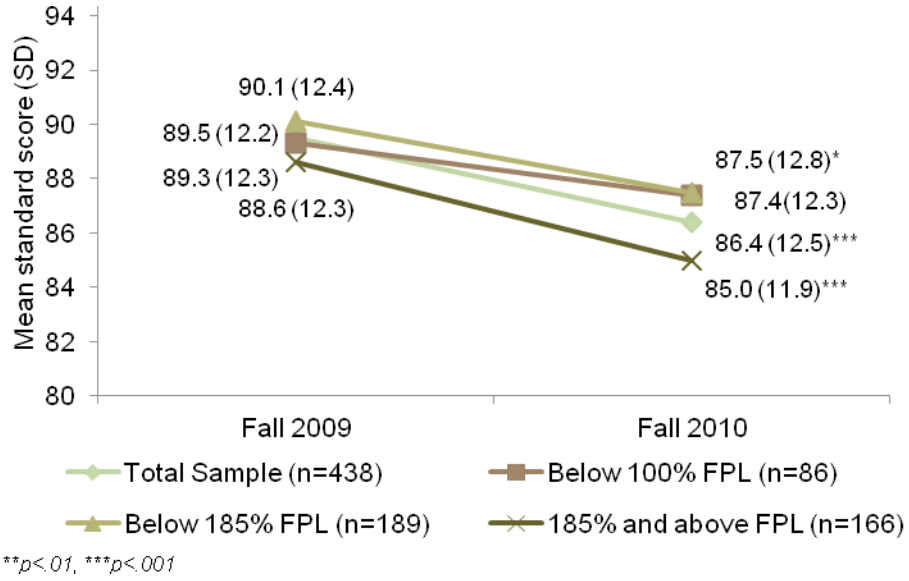
***p<.01, ***p<.001*

Source: Teacher report checklist, Preschool and Kindergarten Behavior Scales -Second Edition; parent interview data.

PROBLEM BEHAVIORS

Children in the overall sample and children with household incomes below 185% and above 185% had a significant decline from preschool to kindergarten in problem behaviors, as did children in the low-risk group. Children with household incomes below 100%, and children in the high risk group had no change in problem behaviors. Exhibits B-9 and B-10 show children's problem behaviors by poverty and risk status for assessments in preschool and kindergarten.

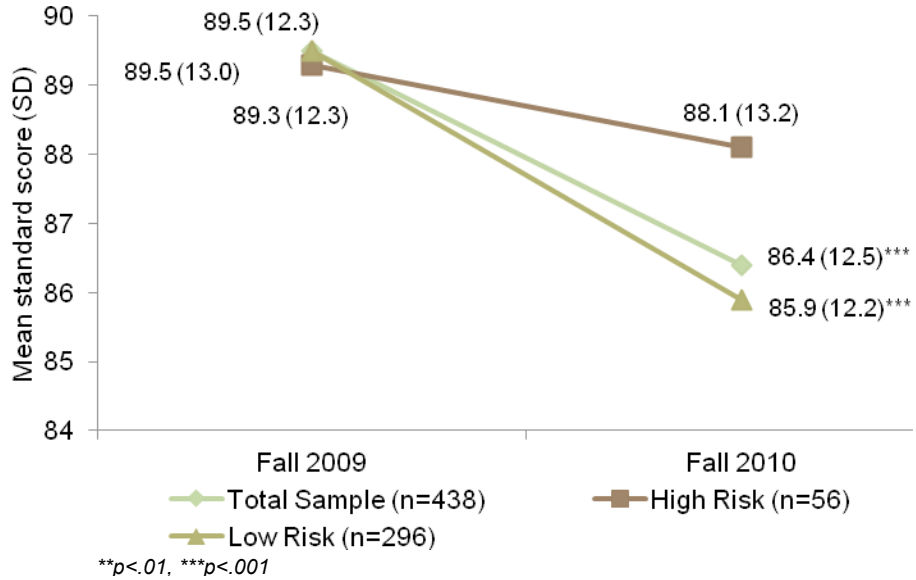
Exhibit B-9. Problem Behaviors, Overall and by Poverty Status



***p<.01, ***p<.001*

Source: Teacher report checklist, Preschool and Kindergarten Behavior Scales–Second Edition; parent interview, income data.

Exhibit B-10. Problem Behavior, Overall and by Risk Status



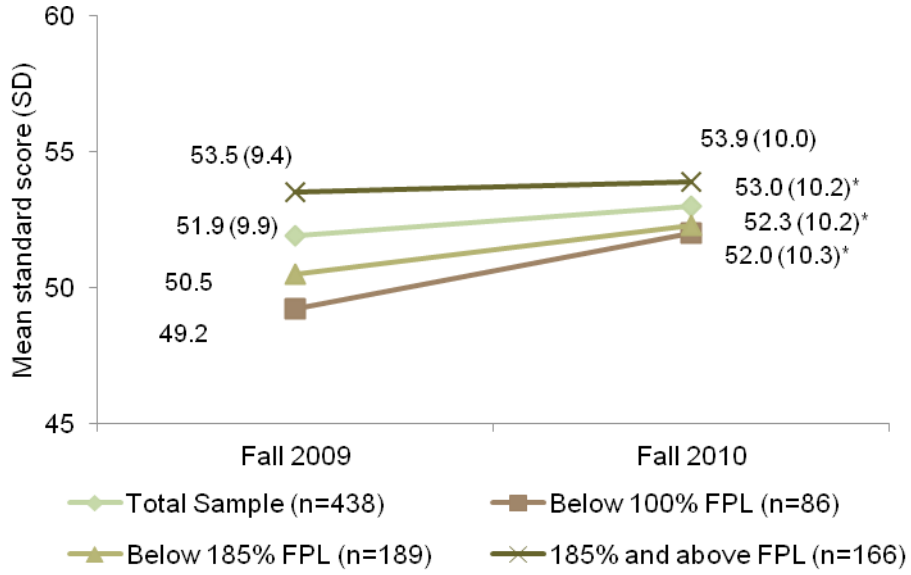
***p<.01, ***p<.001*

Source: Teacher report checklist, Preschool and Kindergarten Behavior Scales Second Edition; parent interview data.

ATTENTION/PERSISTENCE SKILLS

Children in the overall sample and children with incomes below 100% and below 185% had a significant increase from preschool to kindergarten in their attention and persistence skills. Children with household incomes above 185% and children in both the low and high risk groups had no change in these skills. Exhibits B-11 and B-12 show children's attention/persistence skills by poverty and risk status for assessments in preschool and kindergarten.

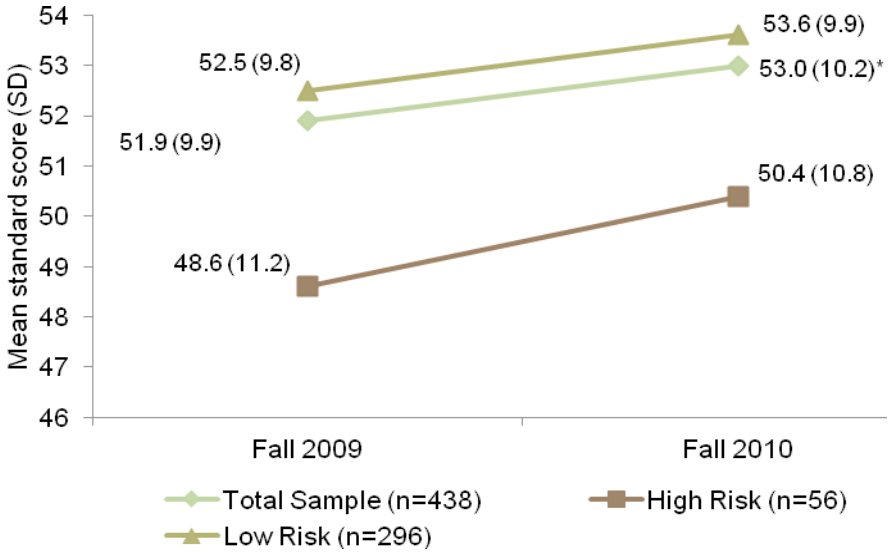
Exhibit B-11. Attention/Persistence, Overall and by Poverty Status



*p<05

Source: Teacher report checklist, Preschool Learning Behaviors Scale (PLBS); parent interview, income data.

Exhibit B-12. Attention/Persistence, Overall and by Risk Status



*p<.05

Source: Teacher report checklist, Preschool Learning Behaviors Scale (PLBS); parent interview data.

ENDNOTES

[1] Heckman, J. J., Masterov (2007). The productivity argument for investing in young children. Review of Agricultural Economics, 29(3), 446-493; Heckman, J.J., (2000). Policies to foster human capital. Research in Economics, 54(1), 3-56.

[2] Barnett, S.W. & Boocock, S.S. (Eds.) (1998). Early care and education for children in poverty: promises, programs, and long-term results. Albany, NY: State University of New York Press; Brooks-Gunn, J. (2003). Do you believe in magic? What we can expect from early childhood intervention programs. In L. Sherrod (Ed.), Social Policy Report (Vol. 17, pp. 1-16). New York, NY: Society for Research in Child Development.

[3] Barnett, S., Epstein, D. J., Carolan, M.E., Fitzgerald, J., Ackerman, D.J., & Friedman, A. H. (2010). The state of preschool 2010: State preschool yearbook. New Brunswick, NJ: National Institute for Early Education Research.

[4] Barnett, S., Epstein, D. J., Carolan, M.E., Fitzgerald, J., Ackerman, D.J., & Friedman, A. H. (2010). The state of preschool 2010: State preschool yearbook. New Brunswick, NJ: National Institute for Early Education Research; Illinois State Board of Education (2010). Illinois prekindergarten program report, 2008–2009. Accessed at http://www.isbe.net/research/pdfs/prek_evaluation09.pdf.

[5] Illinois State Board of Education (2011). Preschool for All: Implementation manual. Accessed at http://www.isbe.net/earlychi/pdf/ec_implementation.pdf.

[6] Dunn, L. M., & Dunn, D. M. (2007). Peabody Picture Vocabulary Test IV (4th ed.). Circle Pines, MN: American Guidance Service.

[7] Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). Woodcock-Johnson III. Itasca, IL: Riverside Publishing. For Spanish-speaking children, the Bateria III Woodcock-Muñoz, Letter-Word Identification was used. Woodcock, R.W., Muñoz-Sandoval, A.F., McGrew, K.S., & Mather, N. (2005).Bateria III Woodcock- Muñoz. Itasca, IL: Riverside Publishing.

[8] Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). Woodcock-Johnson III. Itasca, IL: Riverside Publishing. For Spanish-speaking children, the Bateria III Woodcock-Muñoz, Applied Problems was used. Woodcock, R.W., Muñoz-Sandoval, A.F., McGrew, K.S., & Mather, N. (2005).Bateria III Woodcock- Muñoz. Itasca, IL: Riverside Publishing.

[9] McDermott, P. A., Green, L. F., Francis, J. M., & Stott, D. H. (2000). Preschool Learning Behaviors Scale. Philadelphia, PA: Edumetric and Clinical Science.

[10] Merrell, K.W. (2002). Preschool and Kindergarten Behavior Scales, 2nd edition (PKBS-2). Austin, TX: PRO-ED, Inc.

[11] Merrell, K.W. (2002). Preschool and Kindergarten Behavior Scales, 2nd edition (PKBS-2). Austin, TX: PRO-ED, Inc.

[12] Clifford, R.M., Barbarin. O., Chang, F., Early, D.M., Bryant, D., Howes, C., Burchinal, M., & Pianta, R. (2005). What is pre-kindergarten? Characteristics of public pre-kindergarten programs. Applied Developmental Science (9)3, pp. 126–143.

[13] Clifford, R.M., Barbarin. O., Chang, F., Early, D.M., Bryant, D., Howes, C., Burchinal, M., & Pianta, R. (2005). What is pre-kindergarten? Characteristics of public pre-kindergarten programs. Applied Developmental Science (9)3, pp. 126–143.

[14] Harms, T., Clifford, R., & Cryer, D. (1998). Early Childhood Environmental Rating Scale: Revised Edition. New York, NY: Teachers College Press.

[15] Pianta, R. C., La Paro, K. M., & Hamre, B. (2008). Classroom Assessment Scoring System (CLASS). Pre-K, Baltimore, MD: Paul H. Brookes Publishing.

[16] Harms, T., Clifford, R., & Cryer, D. (1998). Early Childhood Environmental Rating Scale: Revised Edition. New York, NY: Teachers College Press.

[17] Pianta, R. C., La Paro, K. M., & Hamre, B. (2008). Classroom Assessment Scoring System (CLASS). Pre-K, Baltimore, MD: Paul H. Brookes Publishing.

[18] Early, D., Barbarin, O., Bryant, D., Burchinal, M., Chang, F., Clifford, R., Crawford, G., & Weaver, W. (2005). Pre-kindergarten in eleven states: NCEDL's Multi-State study of pre-kindergarten & study of state-wide early education programs (SWEEP). Preliminary Descriptive report. NCEDL working paper. Chapel Hill, NC: University of North Carolina, FPG Child Development Institute, NCEDL.

[19] Ross, C., Moiduddin, E., Meagher, C., & Carlson, B. (2008). The Chicago Program Evaluation Project: A picture of early childhood programs, teachers, and preschool-age children in Chicago. Princeton, NJ: Mathematica Policy Research, Inc.

[20] Frede, E., Jung, K., Barnett, W. S., Esposito Lamy, C., & Figueras, A. (2007). The Abbott Preschool Program Longitudinal Effects Study (APPLES). New Brunswick, NJ: National Institute for Early Education Research.

[21] Maxwell, K. L., Early, D. M., Bryant, D., Kraus, S., Hume, K., & Crawford, G. (2009). Georgia study of early care and education: Findings from Georgia's pre-k program. Chapel Hill: NC: The University of North Carolina at Chapel Hill, FPG Child Development Institute.

[22] Rotz, R. B., Bearse, A. W., Rest, G. J., & Sarte, K. M. (2007). Virginia Preschool Initiative (VPI): Current implementation and potential changes. Richmond, VA: Joint Legislative Audit and Review Commission.

[23] Phillips, Deborah A., Gormley, William T., & Lowenstein, Amy E. (2009). Inside the pre-kindergarten door: Classroom climate and instructional time allocation in Tulsa's pre-k programs. Early Childhood Research Quarterly, 24, 213–228.

[24] Hustedt, J. T., Barnett, W. S., & Jung, K. (2008). Longitudinal effects of the Arkansas Better Chance Program: Findings from kindergarten and first grade. New Brunswick, NJ: National Institute for Early Education Research.

[25] Heckman, J. J., Masterov (2007). The productivity argument for investing in young children. Review of Agricultural Economics, 29(3), 446-493; Heckman, J.J., (2000). Policies to foster human capital. Research in Economics, 54(1), 3-56.

[26] Harms, T., Clifford, R., & Cryer, D. (1998). Early Childhood Environmental Rating Scale: Revised Edition. New York, NY: Teachers College Press.

[27] Pianta, R. C., La Paro, K. M., & Hamre, B. (2008). Classroom Assessment Scoring System (CLASS). Pre-K, Baltimore, MD: Paul H. Brookes Publishing.

[28] Early, D., Barbarin, O., Bryant, D., Burchinal, M., Chang, F., Clifford, R., Crawford, G., & Weaver, W. (2005). Pre-kindergarten in eleven states: NCEDL's multi-state study of pre-kindergarten & study of state-wide early education programs (SWEEP): Preliminary descriptive report (NCEDL Working Paper). Chapel Hill, NC: NCEDL. Early, D., Bryant, D., Pianta, R., Clifford, R., Burchinal, M., Ritchie, S., Howes, C. & Barbarin, O. (2006). Are teachers' education, major, and credentials related to classroom quality and children's academic gains in pre-kindergarten? Early Childhood Research Quarterly, 21(2), 174-199. Early, D. M., Maxwell, K. L., Burchinal, M., Alva, S., Bender, R. H., Bryant, D., Clifford, R., Ebanks, C., Griffin, J., Henry, G., Howes, C., Iriondo-Perez, J., Jeon, H., Mashburn, A., Peisner-Feinberg, E., Pianta, R., & Vandergrift, N. (2007). Teachers' education, classroom quality,

and young children's academic skills: Results from seven studies of preschool programs. Child Development, 78(2), 558-580.

[29] Dunn, L. M., & Dunn, D. M. (2007). Peabody Picture Vocabulary Test IV (4th ed.). Circle Pines, MN: American Guidance Service.

[30] Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). Woodcock-Johnson III. Itasca, IL: Riverside Publishing. For Spanish-speaking children, the Bateria III Woodcock-Muñoz, Letter-Word Identification (Bateria III; Woodcock et al., 2005) was used.

[31] Merrell, K.W. (2002). Preschool and Kindergarten Behavior Scales, 2nd edition (PKBS-2). Austin, TX: PRO-ED, Inc.

[32] McDermott, P. A., Green, L. F., Francis, J. M., & Stott, D. H. (2000). Preschool Learning Behaviors Scale. Philadelphia, PA: Edumetric and Clinical Science.

[33] Raudenbush, S. W., & Bryk, A. S. (2002). Hierarchical linear models: Applications and data analysis methods (2nd ed.). Thousand Oaks, CA: Sage.

[34] Hedeker, D., & Gibbons, R. D. (2006). Longitudinal data analysis. New York, NY: Wiley.

[35] Raudenbush, S. W., & Bryk, A. S. (2002). Hierarchical linear models: Applications and data analysis methods (2nd ed.). Thousand Oaks, CA: Sage.