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**A Profile of Kindergarten
Readiness in East
Yakima: Fall 2007**

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EXECUTIVE SUMMARY

In 2006, the Bill & Melinda Gates Foundation (BMGF) launched the Early Learning Initiative (ELI), a 10-year strategy for improving the school readiness of Washington State’s children. To achieve this goal, BMGF is engaged in a statewide public-private partnership to implement the initiative’s three main components:

1. Development of in-depth, high-quality, community-wide early learning initiatives in two demonstration communities in Washington State
2. Enhancement of statewide systems that support early learning
3. Support for implementation of promising practices in Washington State communities

As momentum for supporting early learning was building throughout the state, BMGF joined with other private funders and state officials to form Thrive by Five Washington: The Washington Early Learning Fund (Thrive). In tandem with the formation of Thrive, BMGF identified two Washington communities to serve as demonstration sites—White Center, an unincorporated area just outside Seattle, and East Yakima, a community in central Washington. After BMGF made its selection, groups of community stakeholders in each location chose the Educational Service Districts (ESDs) that serve these communities—Puget Sound ESD in White Center and ESD 105 in East Yakima—to serve as intermediaries for ELI planning and implementation. In January 2007, Thrive took on the lead role in overseeing and supporting the planning process in each demonstration community.

THE EARLY LEARNING INITIATIVE EVALUATION

Mathematica Policy Research, Inc. (MPR), along with its partner, the University of Washington (UW) College of Education, is conducting the ELI evaluation under contract with BMGF. The evaluation includes four main components: (1) an implementation study, (2) a kindergarten readiness study, (3) a series of short-term impact studies, and (4) a long-term impact study.

The Kindergarten Readiness Study

This report, the first in this series of analyses of kindergarten readiness in the demonstration communities, describes the school readiness and family circumstances of a representative sample of 150 entering kindergarten children residing in the East Yakima community in the fall of 2007. A companion report presents results from White Center.

The analyses are based on three main data sources: (1) an in-home interview conducted with the parent or guardian of each child selected for the study, as well as home observation ratings, conducted by an MPR interviewer; (2) an in-school direct child assessment and child ratings conducted by an MPR interviewer; and (3) a teacher-completed report on each child's skills and behavior.

Main Findings

- **Parents reported on a range of strengths and needs that East Yakima families brought to the start of the children's formal education experience.**
 - About 60 percent of kindergartners in East Yakima lived with both parents; 42 percent of parents were married.
 - Nearly two-thirds of kindergartners lived in households with incomes below the federal poverty level.
 - Seventy-five percent of mothers and 90 percent of fathers had less than a high school education or GED.
 - Nearly two-thirds of parents were immigrants, but most children were born in the United States. More than half of mothers did not speak English well or at all.
 - Almost all children had health insurance; more than 90 percent had a medical checkup and more than 80 percent had a dental checkup in the past year.
 - Fifty-nine percent of children attended Head Start or the Early Childhood Education and Assistance Program (ECEAP).
 - More than 70 percent of parents attended a school orientation event prior to the start of the school year.
- **Children's performance on standardized measures of kindergarten readiness was generally below national norms but was consistent with findings from studies of children from low-income families.**
 - Children scored considerably below national norms on measures of vocabulary, letter and word identification, early writing, and early mathematics skills.
 - Assessor ratings of children's cognitive and social skills based on their behavior during the assessment indicated ratings below national norms.

- While most parents rated their child's health as excellent or very good, half of East Yakima kindergartners were overweight or at risk for overweight.
- **Children's home environments provided support for their development, but daily reading to the children was below national levels.**
 - About 27 percent of East Yakima parents reported reading daily to their children, compared to 45 percent as reported in national studies.
 - Parents reported that East Yakima kindergartners watched less TV than reported in national studies; only 30 percent had access to a computer at home.
 - East Yakima parents reported eating dinner together as a family more than five days a week.

CHAPTER I

INTRODUCTION

As the nation focuses increasingly on educational accountability and the performance of public schools, policymakers, educators, and concerned parents are taking stock of the developmental milestones children must reach before they enter kindergarten and are seeking ways to ensure that children come to school ready to succeed. In the state of Washington, public and private partners have come together to increase early learning opportunities for young children and support systems that can improve children’s readiness for school.

THE EARLY LEARNING INITIATIVE

In 2006, the Bill & Melinda Gates Foundation (BMGF) launched the Early Learning Initiative (ELI), a 10-year strategy for improving the school readiness of Washington State’s children. To achieve this goal, BMGF is engaged in a statewide public-private partnership to implement the initiative’s three main components:

1. Development of in-depth, high-quality, community-wide early learning initiatives in two demonstration communities in Washington State
2. Enhancement of statewide systems that support early learning
3. Support for implementation of promising practices in Washington State communities

As momentum for supporting early learning was building throughout the state, BMGF joined with other private funders and state officials to form Thrive by Five Washington: The Washington Early Learning Fund (Thrive). In tandem with the formation of Thrive, BMGF identified two Washington communities to serve as demonstration sites—White Center, an unincorporated area just outside Seattle, and East Yakima, a community in central Washington. After BMGF made its selection, groups of community stakeholders in each location chose the Educational Service Districts (ESDs) that serve these communities—Puget Sound in White Center and ESD 105 in East Yakima—to serve as intermediaries for ELI planning and implementation. In East Yakima, the ELI planning process culminated in the formation of a non-profit organization, Ready by Five, to implement the initiative with

ESD 105 serving as fiscal intermediary. In January 2007, Thrive took on the lead role in overseeing and supporting the planning process in each demonstration community.

THE EARLY LEARNING INITIATIVE EVALUATION

Mathematica Policy Research, Inc. (MPR), along with its partner, the University of Washington (UW) College of Education, is conducting the ELI evaluation under contract with BMGF. We have designed the evaluation to meet three overarching goals established by BMGF:

1. Provide information for continuous improvement in the demonstration communities
2. Provide information to inform state policy and the development of best practices
3. Assess the effects of long-term investment in early learning systems

The ELI evaluation is designed to accomplish these goals through a combination of four main analytic components:

1. ***An in-depth implementation study*** to examine the characteristics of the ELI communities at baseline and after 1, 3, and 7 years of implementation. The analyses will draw on multiple data sources—site visit interviews and focus groups, assessments of child care quality, network surveys, and service use data collected by service providers as available.
2. ***A kindergarten readiness study*** to track communities' progress in preparing children for kindergarten. The study will assess the readiness of a representative sample of entering kindergartners who reside in East Yakima at baseline and after 1, 3, and 7 years of implementation. Data sources will include direct child assessments, teacher and assessor ratings, and parent interviews.
3. ***Short-term impact studies*** to measure rigorously the impact of the most intensive, core ELI components—such as home visiting, community child care, and hub child care—on children's developmental outcomes. Specific ELI components will be selected for these studies once the demonstration communities finalize their ELI business plans.
4. ***A long-term impact study*** to measure rigorously the impact of ELI on children's school readiness and their progress in elementary school. We will compare the outcomes—at ages 2 and 5, as well as into early elementary school—of children born in the ELI communities and a matched sample of children born elsewhere in Washington State.

THE KINDERGARTEN READINESS STUDY

The purpose of the descriptive study of kindergarten readiness is to assess the readiness outcomes of representative samples of children who enter kindergarten in the two demonstration communities. We have designed the study to describe children's

I. Introduction

development, their school readiness outcomes, and the communities' progress toward ELI's overarching goal of preparing children for school and life. The study is designed as a series of four cross-sectional snapshots of the developmental status of children residing in the demonstration communities who are entering kindergarten. The analysis will focus on four main research questions.

1. How are kindergartners faring at baseline?
2. What are children's levels of kindergarten readiness?
3. How do readiness levels change over time?
4. Are children's school readiness outcomes associated with the extent and nature of their participation in ELI programs and services?

This report, the first in this series of analyses of kindergarten readiness in the demonstration communities, focuses on the first two research questions. In addition, in-home parent interviews conducted at baseline provide rich contextual information about the families and children that allows us to address two related research questions¹:

1. How are families of kindergarten children faring at baseline?
2. What parenting and home experiences do parents provide that might facilitate or impede their children's success in school?

In this report, we describe the school readiness and family circumstances of a representative sample of kindergartners residing in the East Yakima community in the fall of 2007. A companion report presents results from White Center. The analyses are based on three main data sources: (1) an in-home interview, including home observation ratings, conducted by an MPR interviewer with the parent or guardian of each child selected for the study; (2) an in-school direct child assessment and child ratings conducted by an MPR interviewer; and (3) a teacher-completed report on each child's skills and behavior. In the rest of this section, we describe our approach to design and sampling, data collection and response rates, and weighting and analysis.

Design and Sampling. Sampling and weighting approaches ensured that the sample of kindergarten children was representative of all children attending public school-based kindergarten and residing in the East Yakima community.² The sample design called for a representative sample of 150 kindergarten children. Staff at ESD 105 prepared the way for gaining cooperation from staff at the Yakima Public Schools, which serves the East Yakima community, by informing them about the study.

¹As originally planned, the kindergarten readiness study did not include an in-home parent interview. We added this component to provide additional baseline information about parents, the family home environment, and the services families have received. It has not been decided whether subsequent rounds of data collection will include in-home parent interviews.

²If any children living in the East Yakima geographic boundaries were attending public schools operated by a district other than the Yakima Public Schools, they were not included in our sample frame.

In October 2007, we obtained child-level data for sampling about every registered kindergartner from the Yakima Public Schools. To ensure that only children who resided within the geographic boundaries of East Yakima were included in our study, we geocoded each child's home address and developed an algorithm to determine whether it fell within the boundaries. Children on the district's list who resided in East Yakima but attended kindergarten in a school outside the community boundaries were included in the study. Children whose home addresses were not within the boundaries were deleted from our sampling frame. Only 500 out of a total of 1,138 kindergartners in the Yakima Public Schools were coded as living in East Yakima.

All classrooms in schools attended by children living in East Yakima were included in the sample. Before sampling, we sorted the sampling frame of children by school, teacher, age, race/ethnicity, and home language. We estimated that to achieve our target response rate of 80 percent, we would need to select 188 children to complete 150 interviews and assessments. To reach 188, we randomly selected a fixed 38 percent of children per classroom.

After drawing the sample, MPR sent Yakima Public Schools their original list with sample selection status clearly identified by child. The district then informed principals as to which children were selected, and also sent letters to parents of these children informing them about the study.

Data Collection and Response Rates. The MPR survey director held a four-day training for the 12 data collectors who conducted the kindergarten readiness interviews and assessments in both White Center and East Yakima. During the sessions, the data collectors learned (1) how to approach study families and interact with young children, (2) how to explain "informed consent" to parents and teachers, (3) how to conduct child assessments and parent surveys, (4) how to conduct child and home observations, (5) how to encourage parents and teachers to participate, and (6) how to transmit the data back to MPR. Data collectors were observed conducting practice administrations with children of kindergarten age, and all became certified at the training to collect study data. Data collection began in mid-October 2007 and ended in late December.

The study plan called for interviewers to conduct the in-home parent interview first and obtain consent for the study and for the child's participation. After the parent provided consent, the child would be assessed in school and the teacher would be asked to report on the student's skills and behavior. In most cases, if a parent provided consent, we were able to complete the parent interview, conduct the child assessment and interviewer ratings, and gather the teacher report. Six selected children were coded as ineligible for the study because they moved out of East Yakima. In 32 cases, we were unable to contact parents or obtain their consent to do the parent interview or the child assessment; we counted these children as eligible nonrespondents. We completed parent interviews with 82 percent of the sample, direct child assessments with 82 percent, and teacher reports with 75 percent (Table I.1). The response rate for those completing the parent interview, child assessment and interviewer ratings, and teacher report was 74 percent, very close to our 80 percent target.

Table I.1. East Yakima Response Rates to Fall 2007 ELI Kindergarten Readiness Data Sources

Data Source	Percentage
Parent Interviews (PI)	82.4
Direct Child Assessments (CA) (all have PI)	81.9
Teacher-Child Report (TCR) (all have PI)	74.7
PI, CA, and TCR	74.2
Eligible Sample Size	182
Total Sample Size	188

Weighting and Analysis Approach. We calculated nonresponse and sampling weights to ensure that the sample represents the overall kindergarten population residing in East Yakima. In addition, adjusted standard errors take into account stratification of children by classrooms. Since almost every analysis includes information obtained from more than one of the three main data sources (parent interview, child assessment, teacher child report), we created and used one weight that takes all three sources into account.

The analyses presented in this memo are descriptive and provide a snapshot of kindergarten readiness in East Yakima in fall 2007. We created summary scores according to the recommendations of authors and publishers of the tests and questionnaires or following best practices documented in the literature.³ When possible, we created two threshold scores, one that documents the proportion of children performing at a level of concern on a given outcome (for example, more than one standard deviation below the norming sample mean on a standardized test), and another that documents the proportion of children performing at or above the norming sample mean. Our measurement approach is summarized in Appendix A.

We present the data in tables that display an overall total percentage or mean for each measure. We also discuss a key set of outcomes by subgroup. The subgroups include child's home language (children who spoke English and English language learners who spoke another language at home) and number of family risks (marital status, household poverty, and mother's education). Demographic information collected through the parent interview provides the source data for constructing these subgroups. Given the small sample sizes in the subgroups, we recommend caution when using information about group differences.

ROAD MAP TO THE REPORT

This report provides a rich description of school readiness outcomes for entering kindergartners residing in East Yakima, as well as contextual information about their families and households. Chapter II provides a profile of the families and children. Chapter III

³We documented the origin and composition of each item and constructed variable, and we proposed creating threshold scores in our kindergarten readiness study design memo.

describes the kindergarten readiness status of the children. Chapter IV presents additional contextual information about parent and family well-being, parent-child activities, family routines, and parent approaches to discipline/guidance. Chapter V concludes the report with a discussion of the implications for program and policy development in the East Yakima community and next steps for the evaluation.

CHAPTER II

A PROFILE OF EAST YAKIMA FAMILIES WITH CHILDREN ENTERING KINDERGARTEN IN 2007

As part of the kindergarten readiness study, the parent interview provided us with an opportunity to learn directly about the characteristics of a representative sample of families of kindergartners in East Yakima at baseline. This information updates the various needs assessments and community profiles prepared as part of business plan development process of ESD 105 and complements the community profile from the East Yakima implementation study baseline report (Del Grosso et al. 2008). We also learned about the types of community services these families received and their experiences with the transition to kindergarten. This baseline assessment of service use as reported directly by community parents will be a valuable reference point for determining whether access to services increases after Ready by Five implementation begins.

In this chapter, we describe the household and family demographic characteristics of a representative sample of East Yakima kindergartners. We also present demographic information about the children. Next, we summarize the social, health, early education, and kindergarten transition services that families and children have received from community providers. We also describe children's kindergarten attendance during the initial months of the school year and participation in concurrent child care arrangements. The chapter concludes with key findings for two sets of subgroup variables: (1) child's home language and (2) number of family risks.¹

HOUSEHOLD AND FAMILY DEMOGRAPHIC CHARACTERISTICS

The family is the child's primary learning environment. Early learning experiences lay the foundation for later learning and act as the lens through which a child views and

¹As described in Chapter I, we defined child's home language as English or other languages spoken by English language learners. Sample sizes were too small to permit detailed breakdowns of the other languages. We summed three family risk variables to determine the number of risks: (1) unmarried single parent, (2) family income below the federal poverty line, and (3) low maternal education (defined as less than a high school diploma or GED). The family risk analyses are presented as 0 to 1 risk and 2 to 3 risks.

interprets the world. Information about family risks, resources, and practices provides a comprehensive understanding of critical intervening and mediating variables on child outcomes. In this section, we present important information reported by parents about the children's family and household characteristics. We also include parent reports on family income, housing, and food security.

Household composition and the presence of parents, siblings, and other adults in the home shape children's early experiences. On average, East Yakima kindergartners lived in homes with 3 children and 2 adults (Table II.1). Almost 60 percent of the children lived with both biological parents, and the parents of 42 percent were married. Thirty-eight percent lived with only their mothers, and 2 percent lived with neither parent. Of those fathers not living with their children, 17 percent provided some type of financial support.

Families' economic well-being also shapes children's experiences and can be an important mediator of children's school readiness outcomes. Just over 25 percent of East Yakima kindergartners lived in households with incomes below 50 percent of the federal poverty level.² Nearly 65 percent lived in households at or below the poverty line, and more than 90 percent in households below 185 percent of the line. Nearly one-third of East Yakima kindergarten families owned their homes; 58 percent rented; and about 12 percent lived in public, subsidized, or transitional housing. In terms of food security, 31 percent of families said that it was sometimes true that the food they bought did not last long enough and that they could not afford to buy more; 8 percent said that this was often true.

Mothers of East Yakima kindergartners were 35 years old, on average; the average age of fathers was 31 (Table II.2). East Yakima parents come from diverse racial/ethnic backgrounds. The largest racial/ethnic group was Hispanic (81 percent of mothers and 86 percent of fathers); followed by white, non-Hispanic (14 percent of mothers and 10 percent of fathers); and multiple or another race (4 percent of mothers and 2 percent of fathers). On average, parents of kindergartners had low levels of education. Three-quarters of mothers had less than a high school diploma or GED; 39 percent had completed eighth grade or less, 33 percent had completed 9 to 11 years of schooling, and 3 percent had completed twelfth grade but not obtained a degree. Ninety percent of fathers had less than a high school degree or GED; 48 percent completed eighth grade or less, 36 percent completed between 9 and 11 years of schooling, and 6 percent had completed twelfth grade but not obtained a degree. Four percent of mothers and none of the fathers had a college or higher degree. In terms of employment, 54 percent of mothers were employed at least part time, 10 percent were looking for work, and 36 percent were not participating in the labor market. Among the fathers, 80 percent were employed, 14 percent were looking for work, and 6 percent were not in the labor market.

Most parents of East Yakima kindergartners were immigrants—63 percent of mothers and fathers were not born in the United States. Moreover, a substantial proportion were relatively recent immigrants. More than half of mothers and 41 percent of fathers had been

²The preliminary federal poverty threshold for 2007 used in this analysis is \$21,201 for a family of four (U.S. Census 2008).

Table II.1. Family and Household Characteristics in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Characteristics	Weighted Percentage/Mean (Standard Error)
Number of Adults in Household (Mean)	2.0 (0.07)
Number of Children in Household (Mean)	3.1 (0.13)
Household Dependency Ratio	1.8 (0.11)
Child Is Living with	
Both parents	59.5 (4.55)
Mother only	38.1 (4.51)
Father only	0 (n.a.)
Other	2.4 (1.37)
Child's Parents Are	
Married	41.9 (4.48)
Divorced/separated	17.5 (3.32)
Not married	40.6 (4.57)
Child Is Living with Married Parents	37.9 (4.15)
If Not Living with Child, Father Pays Child Support ^a	16.5 (5.04)
Household Income as Percentage of Federal Poverty Level	
Below 50 percent	25.3 (4.18)
50 to 99 percent	39.4 (4.35)
100 to 129 percent	14.9 (3.25)
130 to 184 percent	11.8 (3.07)
185 percent or more	8.6 (3.08)
Family Housing	
Owns home	31.2 (4.09)
Rents	57.5 (4.38)
Public/subsidized	7.0 (2.38)
Transitional/other	4.3 (1.60)
Food Did Not Last and Could Not Afford to Get More	
Often true	8.4 (2.60)
Sometimes true	30.5 (4.28)
Never true	61.1 (4.37)
Sample Size	145-150

Source: Fall 2007 Parent Interview.

^aChild support asked only if father was nonresident (N = 51).

n.a. = not available for mean of zero.

Table II.2. Mother and Father Characteristics in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Characteristics	Weighted Percentage/Mean (Standard Error)	
	Mother	Father
Age (Mean) ^a	35.1 (1.30)	30.9 (0.86)
Race/Ethnicity		
African American, non-Hispanic	0.6 (0.58)	2.1 (1.25)
Asian	0.7 (0.72)	0 (n.a.)
Hispanic	81.0 (3.82)	85.9 (3.55)
White, non-Hispanic	14.0 (3.55)	9.7 (3.14)
Multiple race/other	3.7 (1.99)	2.3 (1.71)
Education ^b		
Less than high school diploma or GED	74.9 (3.50)	90.1 (3.07)
High school diploma or GED	16.9 (3.22)	8.9 (2.89)
Some college/associate's degree	4.7 (2.10)	1.0 (1.04)
Bachelor's degree or more	3.5 (1.93)	0 (n.a.)
Employment Status ^b		
Full-time	46.3 (4.86)	70.1 (5.74)
Part-time	7.7 (2.40)	9.5 (3.41)
Looking for work	9.9 (2.88)	13.9 (4.58)
Not employed	36.2 (4.34)	6.4 (2.92)
Born in the United States	37.4 (3.94)	36.7 (3.96)
Time in the United States if Born Elsewhere ^c		
5 years or fewer	13.2 (4.25)	10.4 (3.65)
6 to 10 years	38.7 (4.81)	30.8 (5.54)
More than 10 years	48.1 (5.46)	58.8 (6.05)
Mother Understands English ^d		
Not at all	17.9 (3.58)	NA
Not well	36.8 (4.37)	NA
Well	7.1 (2.21)	NA
Very well	38.2 (4.14)	NA
Sample Size	140-147	144-147

Source: Fall 2007 Parent Interview.

^aAge is based either on household roster, or if parent does not live in household, the respondent was asked to give the parent's birth date (N=136 for mothers and 44 for fathers).

^bFather's education and employment asked only if he lived in the household (N = 88).

^cTime in the United States asked only if parents were not born in the United States (N = 93 for mothers and 81 for fathers).

^dOnly mothers who indicated that a language other than English was spoken in the household were asked about their level of understanding (N=140).

n.a. = not available for mean of zero; NA = not applicable.

in the United States for 10 years or less. Moreover, nearly 55 percent of mothers said that they do not understand English well or do not understand it at all.³

CHILD CHARACTERISTICS

In this section, we present information reported by parents on the children's backgrounds and the presence of risk factors that could influence their school readiness and ultimate success in school. Patterns of risk among East Yakima families at baseline may be useful to Ready by Five and Thrive as they develop service delivery approaches and strategies to target families with children at highest risk for entering kindergarten at a disadvantage.

East Yakima kindergartners were about 5½ years old on average, and 53 percent were female (Table II.3). Eight percent of children were born at a low weight.⁴ The percentage of entering kindergartners in East Yakima born at a low birth weight is about the same as the national rate of 8.2 percent and slightly higher than the rate in Washington State of 6.2 percent (Menacker and Martin 2008; Martin et al. 2006). In terms of race/ethnicity, 84 percent of children were reported by their parents to be Hispanic; 10 percent white, non-Hispanic; and 5 percent multiple or another race. Unlike their parents, more than 90 percent of the children were born in the United States.

Many children, however, lived in homes in which a language other than English was spoken. Only 36 percent of parents reported that the child was usually spoken to in English at home, but 55 percent reported that the child spoke English most often at home. In addition, 63 percent of parents reported that the child's first language was other than English, and 5 percent reported that English and another language were spoken equally. Nearly 40 percent of parents reported that they usually read to the child in English, and 9 percent read to their children in English and another language equally.

Most East Yakima kindergartners entered school with one or more demographic risks, defined as unmarried single parent, family income below the federal poverty level, and low maternal education (less than a high school diploma or GED). About 23 percent of children had all three of these risks, 42 percent had two, 29 percent had one, and 6 percent had none.

RECEIPT OF SOCIAL AND HEALTH SERVICES

Collecting service use information directly from a representative sample of East Yakima parents at baseline provides a systematic assessment of families' access to needed services before implementation begins. In this section, we report on a wide range of service areas, including case management, government assistance, health and dental services, child care, Head Start, and the Early Childhood Education and Assistance Program (ECEAP). We also report on parents' satisfaction with services received.

³Questions about parental English skills were asked only of the respondent; 90 percent of the time this was the mother.

⁴Low birth weight is defined as less than 5.5 pounds (2.5 kilograms).

Table II.3. Child Characteristics in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Characteristics	Weighted Percentage/Mean (Standard Error)
Female	52.7 (4.58)
Low Birth Weight	8.3 (2.47)
Age (Months, Mean)	66.3 (0.41)
Race/Ethnicity	
African American, non-Hispanic	0.1 (0.57)
Asian	0 (n.a.)
Hispanic	84.4 (3.64)
White, non-Hispanic	10.4 (3.13)
Multiple race/other	4.6 (2.19)
Born in the United States	92.0 (2.60)
At Home, Child Is Usually Spoken to in English	36.2 (4.13)
At Home, Child Usually Speaks English	54.9 (4.33)
Child's First Language	
English	32.5 (4.05)
Another language	62.5 (4.13)
English and another language equally	5.0 (1.95)
When Parent Reads to Child, Language Is Usually	
English	39.5 (4.22)
Another language	51.9 (4.23)
English and another language equally	8.6 (2.48)
Number of Family/Child Risk Factors	
0	5.9 (2.37)
1	29.3 (3.85)
2	41.8 (4.65)
3	23.1 (4.01)
Sample Size	137-150

Source: Fall 2007 Parent Interview.

n.a. = not available for mean of zero.

More than half the parents of East Yakima kindergartners (57 percent) reported never having met with a case manager or social worker (Table II.4). About 32 percent reported meeting with a case manager from the Department of Social Services, and 27 percent reported meeting with staff from a health center or program. Among parents who reported meeting with a Department of Social Services case manager or social worker, 82 percent reported being satisfied or very satisfied with the assistance they received; 13 percent were very dissatisfied. Only 14 percent of parents reported ever completing a family needs assessment or family partnership agreement in which they were asked about their family's particular needs, interests, goals, and strengths.

We also asked parents about receipt of help from the government or community within the past 12 months. The most common types of assistance reported were dental or orthodontic care (17 percent), child care (13 percent), and English as a Second Language classes (11 percent). About 10 percent reported receiving mental health services or counseling and counseling or help with other family problems.

Nearly half of East Yakima parents reported that kindergartners received routine health care at a public health clinic or community health center (Table II.5). Twenty-six percent received care from a private doctor, clinic, or HMO, and 21 percent received care at a migrant health clinic. Nearly 95 percent of the children had health insurance coverage through a government plan; 13 percent had private insurance. Four percent of parents reported that their children had no health insurance at all. Almost all parents (94 percent) reported that their child had a medical checkup in the 12 months preceding the interview. About 84 percent of parents reported that their child had seen a dentist for a regular checkup in the past year. Six percent of parents reported that East Yakima kindergartners had an Individualized Education Plan or an Individualized Family Service Plan, which indicates that they were receiving services for a diagnosed disability or developmental delay.

EARLY CHILDHOOD SERVICES

Parents reported that 59 percent of all East Yakima kindergartners attended Head Start or ECEAP pre-kindergarten settings (Table II.6). In addition, 11 percent reported that their kindergartner attended Early Head Start. On average, parents reported that their children received 13 months of Head Start or ECEAP, which indicates that some children attended Head Start for two years or attended a full-year program.⁵ Parents reported that children who received Early Head Start services were enrolled for 11 months on average.⁶

⁵Most children attend Head Start during the academic school year of the year preceding kindergarten. However, Head Start programs can enroll children as young as age 3, and these children typically receive two years of services.

⁶Families can enroll in Early Head Start prenatally and continue participating until the child reaches age 3. Therefore, children can participate in Early Head Start for as long as 36 months.

Table II.4. Parent Use of Social Services and Satisfaction Level in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Services	Weighted Percentage (Standard Error)
Met with Case Manager or Social Worker	
Never	57.1 (0.45)
From Department of Social or Human Services	31.6 (4.24)
From a health center or health program	26.9 (4.24)
From another program or agency	9.3 (3.00)
Among Parents Ever Meeting with Social Service Staff, Satisfaction Level with Case Manager or Social Worker ^a	
At Department of Social or Human Services	
Very satisfied	29.1 (8.76)
Satisfied	52.9 (0.96)
Satisfied but would change something	5.5 (2.29)
Very dissatisfied	12.5 (5.75)
At a health center or health program	
Very satisfied	40.1 (9.62)
Satisfied	41.4 (10.21)
Satisfied but would change something	10.1 (6.16)
Very dissatisfied	8.5 (4.61)
At another program or agency	
Very satisfied	60.4 (20.36)
Satisfied	39.6 (20.36)
Satisfied but would change something	0 (n.a.)
Very dissatisfied	0 (n.a.)
Completed a Family Needs Assessment or Family Partnership Agreement	14.3 (3.61)
In Past 12 Months, Household Has Received Government or Community Help with	
Dental or orthodontic care	17.3 (3.79)
Child care	13.2 (3.26)
ESL classes	11.1 (2.77)
Mental health services or counseling	10.3 (3.21)
Counseling or help with other family problems	9.7 (3.07)
Housing	9.7 (2.65)
Going to school or college	6.1 (2.28)
Finding a job	5.2 (2.23)
Training for a job	4.3 (2.02)
Alcohol/Drug treatment or counseling	2.8 (1.72)
Dealing with family violence	2.1 (1.58)
Transportation to work or training	1.3 (0.92)
Legal advice	0.6 (0.58)
Sample Size	142-150

Source: Fall 2007 Parent Interview.

^aOnly parents who met with a staff member from a given community provider were asked about their satisfaction (N = 42 for Department of Social or Human Services; 36 for health center/program; 10 for another agency).

ESL = English as a second language; n.a. = not available for mean of zero.

Table II.5. Health Service Use in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Services	Weighted Percentage (Standard Error)
Usually Receives Routine Medical Care at	
Private doctor, clinic, or HMO	25.8 (4.16)
Outpatient clinic	3.3 (1.50)
Emergency room	0 (n.a.)
Public health/Community health center	48.2 (4.55)
Migrant health clinic	21.2 (3.72)
Other	1.5 (1.51)
Child's Health Is Insured by (multiple answers allowed)	
A private health insurance plan	13.0 (3.16)
A public/government insurance plan	94.7 (1.86)
No health insurance	4.0 (1.62)
Last Regular Doctor Checkup Was less than 1 Year ago	93.6 (2.04)
Last Time Child Saw Dentist for Regular Checkup	
6 months ago or less	68.9 (4.30)
Between 6 months and a year	14.7 (3.27)
More than 1 year ago	9.3 (2.85)
Never	7.1 (2.49)
Child Has IEP or IFSP	6.2 (2.47)
Sample Size	143-150

Source: Fall 2007 Parent Interview.

HMO = health maintenance organization; IEP = individualized education plan; IFSP = individualized family service plan; n.a. = not available for mean of zero.

Table II.6. Early Childhood Program and Kindergarten Transition Experiences in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Services	Weighted Percentage (Standard Error)
Early Childhood Program Participation	
Head Start or Early Childhood Education and Assistance Program	59.0 (4.64)
Early Head Start	11.4 (2.84)
Early Childhood Program Dosage (Mean Number of Months) ^a	
Head Start or Early Childhood and Education Program	12.8 (0.94)
Early Head Start	11.4 (1.06)
Kindergarten Transition Activities	
School phoned or sent home information about the kindergarten program to parents	77.4 (3.62)
Parent went to the school for orientation prior to the start of the school year	71.6 (3.89)
Parent and child visited kindergarten prior to the start of the school year	66.1 (4.38)
Preschooler spent some time in the kindergarten classroom	37.0 (4.64)
School days were shortened at the beginning of the school year	27.1 (4.18)
School staff visited the family home at the beginning of the school year	25.8 (3.89)
Sample Size	136-149

Source: Fall 2007 Parent Interview.

^aMonths of program participation was asked only if child participated in a given program (N = 79 for Head Start; 15 for Early Head Start; 4 for Early Childhood and Education Assistance Program).

Most parents reported having had multiple contacts with their child's elementary school during the transition to kindergarten. This might reflect outreach efforts by the Yakima Public Schools to ease the transition. In addition, this finding may reflect the high proportion of children enrolled in Head Start and ECEAP, as these programs have a kindergarten transition component. About 77 percent of East Yakima families reported that the school phoned or sent parents information about the kindergarten program (Table II.6). About 72 percent of parents reported attending a school orientation event. In addition, two-thirds reported visiting the kindergarten classroom with their child before the start of the school year. Thirty-seven percent of parents reported that their child spent some time in the kindergarten classroom before school started.

KINDERGARTEN ATTENDANCE AND USE OF CONCURRENT CHILD CARE ARRANGEMENTS

In addition to learning about families' use of early childhood services prior to kindergarten, we learned about children's school attendance during the initial months of kindergarten and their participation in concurrent child care arrangements before and after school. All East Yakima kindergartners attended full-day kindergarten (Table II.7). Twenty-seven percent of parents reported that their child had not missed any days during the initial months of the school year, and none reported missing more than three days. The majority of reported absences were due to illness (77 percent).

Some East Yakima kindergartners attended another child care arrangement either before or after kindergarten. Parents reported that 10 percent of the children attended a child care center or other formal program before or after school, 24 percent received care from relatives, and 11 percent received care from an unrelated caregiver. On average, parents who used concurrent child care arrangements reported using six hours of care per week in addition to the school day. Among parents who reported using child care before or after kindergarten, 24 percent reported that a fee was charged for their child care arrangement. Of those, about 41 percent received a government subsidy for some or all of the cost.

LANGUAGE AND DEMOGRAPHIC RISK SUBGROUP COMPARISONS

Many factors can be associated with families' well-being and access to services. In this section, we use families' demographic information to construct two sets of subgroup variables for analysis: (1) child's home language and (2) number of family demographic risk factors. Patterns of service use revealed by these comparisons may provide insight into which subgroups of families are most in need of outreach and assistance to eliminate barriers they face to accessing needed services.⁷ For subgroups based on child's language, we

⁷We also constructed two subgroups of East Yakima families: one in which children participated in early childhood programs (Head Start, ECEAP, Early Head Start) prior to kindergarten, and the other in which children did not participate but would have been income-eligible. No patterns of differences in key outcomes between these groups emerged from the analysis. However, we note that Head Start eligibility is not determined by family income alone. Head Start programs use a point system to prioritize children based on risk factors, and income eligibility requirements can be waived for children with special needs.

**Table II.7. Kindergarten and Current Child Care Experiences in East Yakima: Fall 2007
ELI Kindergarten Readiness Baseline**

Service Participation	Weighted Percentage/Mean (Standard Error)
Full-Day Kindergarten	100 (n.a.)
Frequency of Child Absence (Average Number of Days per Month Since September)	
None	27.2 (3.87)
Less than 1	35.7 (4.53)
1 to less than 3	33.1 (4.43)
3 or more	0 (n.a.)
Most Common Reason for Absence ^a	
Child is ill	77.1 (4.96)
Family member is ill	1.3 (1.25)
Schedule conflict	0.8 (0.79)
Child does not want to go	3.4 (2.03)
Parent's decision	0.8 (0.79)
Other	16.6 (4.55)
Current Child Care (Multiple Modes Possible)	
Attends child care center or formal program	9.5 (2.81)
Receives child care from relative	23.8 (3.96)
Child care from non-relative	10.8 (3.06)
Average Hours per Week in Child Care	6.1 (0.92)
Fee Is Charged for Child Care Arrangements ^b	24.4 (4.06)
Mean Weekly Fee Amount Paid for Child Care (Dollars Paid by Those Who Pay a Fee) ^b	55.2 (11.27)
Government Agency Pays for Some or All of Child Care (Percentage of Those Who Pay a Fee)	40.5 (8.25)
Sample Size	148-150

Source: Fall 2007 Parent Interview.

^aReason for kindergarten absence asked only for children with reported absences (N = 107).

^bWeekly fee and whether government agency pays asked only if a fee is charged (N = 36 for weekly fee and 35 for whether government agency pays).

n.a. = not available for mean of 0 or 100.

examined whether the child was born at a low birth weight, whether the child lived with both parents, whether the child's parents were married, household poverty status, family housing, and whether the child received medical and dental checkups. For subgroups based on number of family risks, we examined low birth weight, family housing, and the child's receipt of medical and dental checkups.⁸

Because of the small sample sizes of these subgroups, we recommend caution when using information about group differences. Overall, we found few differences across groups.

Child Language Comparisons. For this analysis, we constructed two subgroups based on the child's home language: (1) child who spoke English and (2) English language learners who spoke another language at home. The number of children who spoke specific other languages was too small to permit construction of additional groups. Children with a home language other than English were about twice as likely as children whose home language was English to be living with parents who were married. We did not find significant differences across language subgroups for any of the other variables.

Risk Factor Comparisons. We constructed two subgroups based on the number of demographic risk factors: (1) children with 0 to 1 risk, and (2) children with 2 to 3 risks. There were no statistically significant differences across these two risk groups.

⁸We did not include whether the child lived with both parents, whether the child's parents were married, and household poverty status, because we used these variables to construct the family risk subgroups.

CHAPTER III

CHILDREN'S SCHOOL READINESS

A primary focus of the descriptive study of kindergarten readiness is to measure the school readiness of a representative sample of entering kindergartners who reside in East Yakima; document how their readiness skills vary across developmental domains and in subsequent waves of data collection and reporting; and describe the trends in school readiness over time. Therefore, the kindergarten readiness battery uses a multi-method approach to gather data on a wide range of child abilities and characteristics and at baseline provides an in-depth description of parent and household characteristics. Data on children's developmental status and school readiness are obtained from a variety of sources including parent and teacher ratings, direct assessment, and observation.

Measurement selection for the kindergarten readiness direct child assessment, teacher report, and parent interview was informed by several sources, most notably the work of the National Education Goals Panel (Kagan et al. 1995) and subsequent frameworks (Love et al. 1994), including the measures currently in use in FACES 2006 (ACF 2006) and the First 5 Commission of Los Angeles County's universal pre-kindergarten program evaluation. The guiding framework identifies five dimensions of children's early development and learning: (1) cognition and general knowledge, (2) language development, (3) approaches toward learning, (4) social and emotional development, and (5) physical well-being and motor development. The Head Start program has adopted measures built on this framework, as have several other early childhood programs and state kindergarten readiness assessments. Among them are Washington State's Office of the Superintendent of Public Instruction (OSPI), New Jersey's Abbott school assessment program, and New York State's pre-kindergarten assessment.

Although the specific measures selected to assess each dimension of children's skills and abilities reflect the best that are currently available in the field, questions arise about the appropriateness of the measures for the kindergarten children living in the East Yakima and participating in the study. To address this, we conducted a number of checks on how the measures performed. For example, we analyzed descriptive statistics on each measure, looking for a normal distribution of scores, acceptable levels of skewness and kurtosis, and identifying and applying rules for the inclusion of outliers. We also applied rules about the number of missing items within a scale and only imputed values and created scores if there

were 25 percent or fewer items missing. We computed internal consistency reliability statistics for all of the constructed scales and summary scores and compared them to those found in the literature. As a result of these checks, we found that the measures behaved as expected and in ways similar to those reported in other studies. Appendix A describes the assessments and constructed variables in detail.

Several of the direct child assessments and a few of the parent/teacher ratings of the children included in the kindergarten readiness study yield standardized scores that permit comparison of the child's performance to that of a nationally representative population of the same age. Standardized scores are generally distributed with a mean of 100 and standard deviation of 15, so that a standardized score of 100 signifies that the child performed at the average level for his or her age group. One standard deviation below the mean, or a score of less than 85, is an important threshold for indicating delayed performance or a child who may be at educational risk. Given a normal distribution, about 16 percent of all children in the general population will score below this threshold. In addition, performing at or above 100 indicates average or better skill levels and has been used as a threshold for assessing whether a program like Head Start is meeting its goals of supporting children's school readiness (ACF 2005).¹

As noted in Chapter II, for about two-thirds of the kindergartners in East Yakima, English was not the first language. To begin the assessment, all children received an English-language screener consisting of two parts: (1) Simon Says, in which the child was prompted to follow instructions such as "Simon says touch your toes," and (2) an art show, in which children were asked to identify an object in a series of pictures or to explain the function of an object shown in the picture (Figure III.1). Each section of the screener has 10 items.

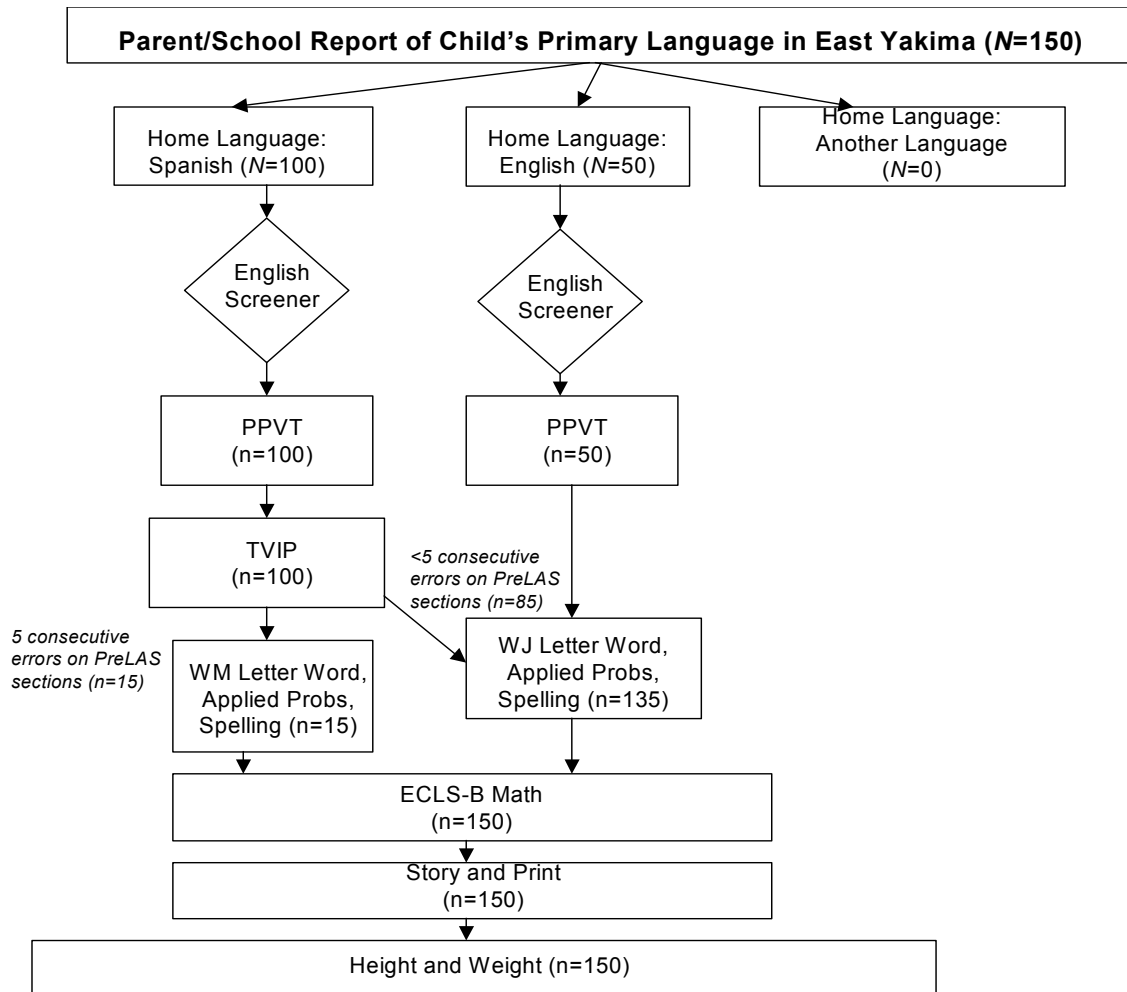
After the screener, all children received an English vocabulary test.² Spanish-speaking children are likely to be learning Spanish vocabulary and developing language skills in both Spanish and English. To measure children's language development in Spanish, we assessed all children whose home language was Spanish (as reported by the Yakima Public Schools based on parent report) by giving them a vocabulary test similar in administration to the English vocabulary test but that uses Spanish vocabulary.³ Therefore, all children identified as Spanish-speaking received the receptive vocabulary component of the battery in English and Spanish. One hundred children in East Yakima (67 percent) completed both of these assessments.

¹Although there is controversy among researchers and policymakers about whether these types of cutoff scores should be used as a benchmark for documenting program performance and school readiness trends, we believe that because East Yakima kindergartners are starting with kindergarten readiness scores that are low overall, and because the goal of ELI is to improve readiness generally rather than reach a specific benchmark, it is reasonable to use them.

²The was the Peabody Picture Vocabulary Test—Fourth Edition (PPVT-4; Dunn and Dunn 2007). Appendix A describes the measure in detail.

³The Spanish vocabulary test was the Test de Vocabulario en Imagenes Peabody (TVIP; Dunn et al 1986). Appendix A describes the measure in detail.

**Figure III.1. Language Routing for the Child Assessment in East Yakima: Fall 2007
ELI Kindergarten Readiness Baseline**



After the vocabulary test, children were routed according to home language and performance on the language screener as follows:

- **Children whose home language was English** were administered the cognitive assessment battery in English regardless of their performance on the language screener (50 children).
- **Children whose home language was Spanish** were administered the cognitive assessment battery in Spanish if they gave 5 or more incorrect responses on both parts of the language screener (15 children).⁴ Children whose home language was Spanish and passed the language screener were administered the cognitive assessment battery in English (85 children).⁵
- **Children whose home language was other than English or Spanish** were routed out of the cognitive assessment if they gave 5 or more incorrect responses on both parts of the language screener. There were no children in East Yakima in this category.

All children concluded the assessment with the height and weight procedures.

In the rest of this chapter, we describe the school readiness outcomes of East Yakima kindergartners in the domains of language and literacy, mathematics, social-emotional development and approaches to learning, and physical health. We conclude the chapter with a discussion of key findings for two sets of subgroup variables: (1) child's home language and (2) number of family risks.

LANGUAGE AND LITERACY

Kindergartners in East Yakima scored well below national norms on the measure of receptive vocabulary (PPVT-4), but closer to norms on other measures of language and literacy development (Figure III.2). Kindergartners have a mean standard score of 77 on the PPVT-4, with 60 percent scoring one standard deviation below the standardized mean, or below 85 (Table III.1). Children have mean standard scores of 93 on the Letter-Word Identification test and 95 on the Spelling test of the WJ III, which is one-third to one-half of a standard deviation below the national average of 100. Although children scored below national norms on average, considerable diversity exists in their readiness skills. For example, 8 percent of children scored at or above national averages in receptive vocabulary. About one-third of East Yakima kindergartners scored at or above the national mean in letter recognition (33 percent) and more than half in early writing skills (51 percent). The scores for kindergarten children living in East Yakima are approximately equivalent to those of children of the same age from low-income families. For example, by the end of

⁴Because of the small sample size for the Spanish cognitive assessment battery (5 children), we did not include the scores in this report.

⁵We sought to assess children in the best language of assessment based on their performance on the language screener. When language screener results indicated that children were able to complete the cognitive assessment battery in English, we used it rather than the Spanish version because most children in East Yakima receive instruction in English at school and are expected to perform academically in English.

Figure III.2
Primary Measures of Children’s Language, Literacy, and Mathematics Skills
Fall 2007 ELI Kindergarten Readiness Baseline

These measures yield standardized scores that compare children’s performance to that of a nationally representative population of the same age (the norming sample). Standardized scores are generally distributed with a mean of 100 and standard deviation of 15, so that a standardized score of 100 signifies that the child performed at the average level for his or her age group. One standard deviation below the mean, or a score of less than 85, indicates that a child may be at educational risk.

- **Peabody Picture Vocabulary Test–Fourth Edition (PPVT-4; Dunn and Dunn 2007) and Test de Vocabulario en Imagenes Peabody (TVIP; Dunn et al. 1986).** Children are shown a sequence of panels of four pictures. For each panel, they are asked to point to the picture of the word spoken by the assessor. All children received the PPVT-4 to measure their receptive vocabulary skills in English. All children whose home language was Spanish also received the TVIP.
- **Woodcock-Johnson III Achievement Battery (WJ III; Woodcock et al. 2001) and Bateria III Woodcock-Muñoz (Bateria III; Muñoz-Sandoval et al. 2005).** All children who passed the English-language screening procedures received the WJ III. Children who did not pass the English-language screener and spoke Spanish as their home language received the Bateria III.
 - **Letter-Word Identification test.** Items include letter recognition, linking letters to their sounds, and reading simple words.
 - **Spelling test.** Items assess fine-motor coordination, prewriting skills such as drawing and copying letters, writing specific upper- and lower-case letters, and writing specific words and phrases.
 - **Applied Problems test.** Items involve counting objects pictured on the page and performing simple addition and subtraction calculations.

Table III.1. Child Language and Literacy Skills in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Scales	Weighted Percentage/Mean (Standard Error)
PreLAS English ^{a,b}	15.2 (0.51)
PPVT-4 Standard Score ^b	77.2 (1.50)
Percentage one or more SD below national mean	59.5 (4.72)
Percentage at or above national mean	7.8 (2.58)
TVIP Standard Score ^b	65.2 (3.80)
Percentage one or more SD below national mean	61.0 (5.52)
Percentage at or above national mean	6.8 (3.00)
WJIII: Letter-Word Standard Score	93.2 (1.02)
Percentage one or more SD below national mean	20.6 (3.42)
Percentage at or above national mean	32.5 (4.39)
WJIII: Spelling Standard Score	95.3 (0.97)
Percentage one or more SD below national mean	17.9 (3.17)
Percentage at or above national mean	51.2 (4.79)
Story and Print Concepts: Book Knowledge Scale (Mean of a Possible 6)	3.2 (0.15)
Story and Print Concepts: Print Conventions Scale (Mean of a Possible 3)	1.3 (0.11)
Story and Print Concepts: Reading Comprehension Scale (Mean of a Possible 6) ^c	1.9 (0.18)
Child's Language and Literacy Skills Scale (Teacher Report, Mean of a Possible 7)	5.2 (0.13)
Emergent Literacy Scale (Parent Report, Mean of a Possible 5)	4.1 (0.10)
Sample Size	118–134

Source: Fall 2007 Direct Child Assessment, Teacher Child Report, Parent Interview.

^aThese scores are raw counts.

^bAfter the PreLAS and PPVT-4 administration, children were routed through the direct assessments based on child language as reported by parents, and performance on the PreLAS screener. All children whose primary language was Spanish were administered the TVIP (N = 90). This sample size reflects all children assessed and those subsequently dropped from the analyses because data required for computing the sample and nonresponse weights were missing. Children whose primary language was Spanish and who missed five or more items on each of the PreLAS activities received the rest of the assessment in Spanish (Spanish versions of the WJIII not shown given sample sizes ranging from 14 to 15). Children whose primary language was other than English or Spanish and who missed five or more items on each of the PreLAS activities received no other assessments except height and weight measurement.

^cMany children did not answer any Story and Print Concepts tasks correctly or often failed to respond to these items. Because of the pattern of missing data on the Reading Comprehension Scale, the number of valid scores was smaller (N = 112).

PPVT-4 = Peabody Picture Vocabulary Test, 4th Edition; SD = standard deviation; TVIP = Test de Vocabulario en Imagenes Peabody; WJIII = Woodcock-Johnson III Tests of Achievement.

kindergarten, children in the Family and Child Experiences Survey (FACES; Zill et al. 2005) scored close to national norms in letter identification and in early writing but lower in vocabulary.

Like other kindergartners in East Yakima, most Spanish-speaking children scored below national norms on measures of vocabulary (Table III.1). These children had a mean standard score of 65 on the TVIP (receptive vocabulary), and almost 60 percent scored below 85. Recent research indicates that children who are learning two languages may actually have more vocabulary overall than children who only know one language.⁶

In addition to standardized, norm-referenced scores, the ELI battery included a book-based assessment of children's emergent literacy skills: Story and Print Tasks (Clay 1979; Mason and Stewart 1989; Teale 1988, 1990). In these procedures, the assessor reads a story to the child and asks basic questions about the content (reading comprehension), the mechanics of reading (book knowledge), and print concepts (print conventions). Kindergartners in East Yakima scored in the middle range on Book Knowledge (3.2 of a possible 6), Reading Comprehension (1.3 of a possible 6), and Print Conventions (1.9 of a possible 3). Both teachers (5.2 of a possible 7) and parents (4.1 of a possible 5) reported that children have many emergent literacy skills, including recognizing letters of the alphabet, writing, and recognizing their own name in print (Table III.1).

MATHEMATICS

Children's early mathematics skills in numbers (counting) and simple operations (addition and subtraction) were measured with the WJ III Applied Problems test (Woodcock et al. 2001). East Yakima kindergartners did not score as close to the national mean on early mathematics as they did on early literacy, scoring an average of 85 on the Applied Problems test (Table III.2). About 14 percent of the children scored at or above the national average in early math skills (Applied Problems), and 44 percent scored one or more standard deviation below.

Table III.2. Child Mathematics Skills in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Scales	Weighted Percentage/Mean (Standard Error)
WJIII: Applied Problems Standard Score	85.2 (1.40)
Percentage one or more SD below national mean	44.2 (5.05)
Percentage at or above national mean	13.7 (3.65)
Sample Size	114–119

Source: Fall 2007 Direct Child Assessment.

SD = standard deviation; WJIII = Woodcock-Johnson III Tests of Achievement.

⁶Some studies have moved to assessing bilingual children using conceptual scoring approaches that allow children to respond in English or their other language. The field of bilingual language acquisition research is still in its infancy, and there is no consensus about the long-term implications of starting kindergarten with English or Spanish language skills that are below national norms (Abedi and Gándara 2006; Hair et al. 2006; Hammer et al. 2007).

SOCIAL-EMOTIONAL DEVELOPMENT AND APPROACHES TO LEARNING

MPR assessors used the Leiter-R Examiner Rating Scale (Roid and Miller 1997) to rate aspects of the children's behavior as observed during the assessments. Assessors rated children on the extent to which they attended to the assessment tasks, how well they controlled their impulses during the assessment, their activity level during the assessment, and their level of sociability. The Leiter-R Cognitive/Social Standard Score provides an overall measure of children's positive behaviors during the assessment, with higher scores indicating better behavior. This score is scaled to have a mean of 100 and a standard deviation of 15. The Leiter-R also yields four subscales: (1) attention, (2) organization/impulse control, (3) activity level, and (4) sociability. All four are coded such that higher scores reflect positive behavior.

Assessors rated children in the middle or high range on the Leiter-R subscales: 20.4 (of a possible 30) on attention, 15.3 (of a possible 24) on organization/impulse control, 8.6 (of a possible 12) on activity level, and 12.2 (of a possible 15) on sociability (Table III.3). Since these scales are all coded in the positive direction, this indicates that according to these ratings, the children are performing relatively well in the assessment situation. However, these subscale scores translate into an average score of 88 on the Leiter-R Cognitive/Social composite score, which indicates that compared to a nationally representative sample, the kindergartners residing in East Yakima are scoring almost one standard deviation below the norming sample mean of 100 in the positive skills demonstrated during the assessment.

Lead teachers of the selected sample of kindergartners were asked to rate children's social skills and behavior problems. In general, higher scores mean more of a given skill or behavior and the threshold scores describe the proportion of children at risk in a given area. The social skills scale is based on 12 items rated on a frequency ranging from the behavior happening never, sometimes, or very often, with higher scores indicating better social skills. This teacher report scale is drawn from FACES and assesses helpful and compliant behavior and the child's maturity and skill in interacting with other children. The Strengths and Difficulties Questionnaire (SDQ; Goodman 2001) was also included in the Teacher Child Report. These items yield a "total difficulties" score and five subscale scores: emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behavior.⁷ The last is the only scale from the SDQ that is coded positively, which means that higher scores indicate better behavior.

In addition to teacher ratings, parents of the selected sample of kindergartners were asked to rate the social skills and approaches to learning of their children.⁸ Higher scores on these scales indicate more positive behavior. Parents also rated their children's problem behavior on three scales—aggressive, hyperactive, and withdrawn—which are combined to create a total "problem behavior" score, with higher scores indicating more problem behaviors.

⁷The prosocial scale is not included in the total difficulties score.

⁸Items for these ratings were selected from the Personal Maturity Scale (Entwistle et al. 1997), the Social Skills Rating System (SSRS; Gresham and Elliott 1990; Elliott et al. 1988), and the Behavior Problems Index (Peterson and Zill 1985).

Table III.3. Child Social-Emotional Skills and Approaches to Learning in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline^a

Scales	Weighted Percentage/Mean (Standard Error)
Leiter Cognitive/Social Scale Standard Score (Assessor Rating)	88.4 (1.13)
Percentage one or more SD below mean	18.2 (3.47)
Leiter Attention Scale	20.4 (0.61)
Percentage one or more SD below mean	16.9 (3.27)
Leiter Organization/Impulse Control Scale	16.4 (0.53)
Percentage one or more SD below mean	21.6 (3.94)
Leiter Activity Level Scale	8.6 (0.26)
Percentage one or more SD below mean	18.9 (3.32)
Leiter Sociability Scale	12.2 (0.28)
Percentage one or more SD below mean	18.7 (3.24)
Social Skills (Teacher Report)	13.0 (0.33)
Percentage one or more SD below mean	22.8 (3.83)
Strengths and Difficulties Questionnaire (Teacher Report)	
Total Difficulties Scale	8.1 (0.58)
Percentage "borderline"	7.9 (2.60)
Conduct Problems Scale	1.2 (0.18)
Percentage "borderline"	4.5 (1.71)
Peer Problems Scale	1.6 (0.13)
Percentage "borderline"	7.1 (2.16)
Prosocial Scale	6.8 (0.23)
Percentage "borderline"	22.7 (3.90)
Emotional Symptoms Scale	1.4 (0.18)
Percentage "borderline"	2.5 (1.42)
Hyperactivity and Attention Scale	3.9 (0.29)
Percentage "borderline"	7.5 (2.46)
Social Skills/Positive Approaches to Learning (Parent Report)	12.5 (0.26)
Percentage one or more SD below mean	18.4 (3.82)
Total Behavior Problems (Parent Report)	6.4 (0.38)
Percentage one or more SD above mean	21.6 (3.75)
Hyperactive Behavior Problems (Parent Report)	2.8 (0.19)
Percentage one or more SD above mean	34.1 (4.27)
Aggressive Behavior Problems (Parent Report)	1.0 (0.09)
Percentage one or more SD above mean	2.7 (4.40)
Withdrawn Behavior Problems (Parent Report)	1.0 (0.10)
Percentage one or more SD above mean	31.9 (4.13)
Sample Size	132-134

Source: Fall 2007 Teacher Child Report, Parent Interview, Assessor Report.

Table III.3 (*continued*)

^aTeachers, parents, and assessors independently rated children's behavior. Within-rater correlations across summary scores were significant and in the modest to high range (above .50 and below .92) depending on the specific measure. Across-rater correlations of summary scores were not statistically significant, indicating that children may exhibit different levels of social and emotional skills depending on the observational setting and adult expectations.

SD = standard deviation.

As reported by both teachers and parents, kindergartners in East Yakima display more social skills than problem behaviors (Table III.3). For example, according to the parent report, children scored on average 12.5 (of a possible 16) on social skills/positive approaches to learning, and 6.4 (of a possible 24) on behavior problems. Teachers also rated children highly in the area of social skills, and highest on the prosocial subscale of the SDQ.

Although the incidence of problem behaviors is low, both parents and teachers rate hyperactivity highest among the problem behaviors they do report. In fact, based on parent reports, children scored on average 2.8 (of a possible 12) on hyperactive behavior problems (such as restlessness, fidgeting, or wandering concentration), 1.0 (of a possible 8) on aggressive behavior, and 1.0 (of a possible 6) on withdrawn behavior. Similar percentages of children, however, scored one or more standard deviations above the mean on parent reports of hyperactive and withdrawn behavior problems (34.1 and 31.9 percent, respectively). The SDQ publisher has established cutoff scores for assessing “borderline” and “abnormal” (high-risk) levels for social-emotional development. Using these criteria, very few children fall in the borderline risk category on the SDQ scales: 8 percent on total difficulties, 3 percent on emotional symptoms, 3 percent on conduct problems, 8 percent on hyperactivity/attention, and 7 percent on peer problems. Larger percentages meet “borderline” criteria on the prosocial subscale (23 percent).⁹ Similar percentages score in the “borderline” risk range across these scales in the publisher’s norming sample.

PHYSICAL HEALTH

Child health status can directly affect school readiness and, in turn, the ability to pay attention in the classroom, participate in classroom activities, and attend school regularly. Children’s height, weight, and the ratio of the two (body mass index [BMI]) are a reflection of children’s general health status and well-being. The growing health problem of childhood obesity is linked to other physical and psychological outcomes (Latner and Stunkard 2003; Ogden et al. 2002; Strauss and Pollack 2003).

On a scale of 1 (“poor”) to 5 (“excellent”), 11 percent of parents rated their children’s overall health as fair or poor; 59 percent rated it as excellent or very good (Table III.4). On average, East Yakima kindergartners are 45 inches tall and weigh 52 pounds. This is an average of 6 pounds heavier than first-time kindergartners in the Early Childhood Longitudinal Study–Kindergarten Cohort (ECLS-K; West et al. 2000). Children are considered to be overweight or at risk for overweight when their BMI is at or above the 85th percentile for their age and gender. Using these criteria, 50 percent of kindergartners in East Yakima are overweight or at risk for overweight. The average BMI for East Yakima kindergartners is 17.4. According to the Centers for Disease Control and Prevention (CDC), the 50th percentile for children aged 5 to 6 ranges from 42.5 to 45.5 inches for height; from 38 to 44 pounds for weight; and from 15.2 to 15.6 for BMI. Accordingly, East Yakima kindergartners tend to weigh more and have higher BMI on average than the 50th percentile nationally (Table III.4).

⁹Even for the prosocial scale, “borderline” means that the child is at risk for a negative outcome, in this case, poor prosocial skills.

Table III.4. Child Physical Health Status In East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Scales	Weighted Percentage/Mean (Standard Error)
Health Status "Excellent" or "Very Good" (Parent Report)	58.9 (4.54)
Health Status "Fair" or "Poor" (Parent Report)	10.9 (1.09)
Height (Mean, in Inches)	44.9 (0.19)
Weight (Mean, in Pounds)	51.7 (1.04)
Body Mass Index (BMI, Mean)	17.4 (0.23)
Percentage Overweight or at Risk for Overweight	49.5 (4.87)
Sample Size	122–134

Source: Fall 2007 Direct Child Assessment, Parent Interview.

LANGUAGE AND DEMOGRAPHIC RISK SUBGROUP COMPARISONS

Many different factors can be associated with the degree to which children are prepared to enter kindergarten. In this section we present the child data by two subgroups of interest to policymakers and educators: (1) child's home language and (2) number of family demographic risk factors. The patterns of school readiness revealed by these comparisons may also be useful for Ready by Five and Thrive as they finalize their service delivery approaches and consider how specific services may be targeted to families with children at the highest risk for entering kindergarten significantly behind their peers. For each subgroup, we examined mean scores for the PPVT-4, WJ III Letter-Word Standard Score, WJ III Spelling Standard Score, WJ III Applied Problems Standard Score, Leiter-R Cognitive/Social Scale Standard Score, child's health status, and percentage overweight or at risk for overweight.¹⁰

Overall, no clear patterns of differences across subgroups emerged. Because of the small sample sizes of these subgroups, we recommend caution when using information about group differences.

Child Language Comparisons.¹¹ Children who spoke English as a home language scored significantly higher on the PPVT-4, an English vocabulary test, than children whose home

¹⁰We also constructed two subgroups of East Yakima families: one in which children participated in early childhood programs (Head Start, ECEAP, Early Head Start) prior to kindergarten, and the other in which children did not participate but would have been income-eligible. No patterns of differences in key outcomes between these groups emerged from the analysis. However, we note that Head Start eligibility is not determined by family income alone. Head Start programs use a point system to prioritize children based on risk factors, and income eligibility requirements can be waived for children with special needs.

¹¹For this analysis, we constructed two subgroups based on the child's home language: (1) children who spoke English and (2) English language learners who spoke another language at home. Too few children spoke specific other languages to permit construction of additional groups.

language was not English. There were no significant differences across language groups on the three WJ III subscales. Children whose home language was not English scored significantly higher on the Leiter-R Cognitive/Social Scale than children whose home language was English. Children whose home language was not English were significantly more likely to be overweight or at risk of overweight than children whose home language was English.

Risk Factor Comparisons.¹² There were no significant differences on any of the school readiness outcomes across the two risk groups.

¹²We constructed two subgroups based on the number of demographic risk factors: (1) children with 0 to 1 risk and (2) children with 2 to 3 risks.

CHAPTER IV

PARENT AND FAMILY WELL-BEING, HOME ENVIRONMENT, AND PARENTING BEHAVIORS

In addition to measuring the school readiness of East Yakima kindergartners, another goal of the kindergarten readiness study in 2007 was to describe the children's family and home circumstances that have the potential to support or impede their well-being and success in school. To do this, the parent interview and the end-of-visit ratings conducted by MPR interviewers as part of the in-home parent interview and observation were designed to provide information on a range of measures in three main areas: (1) parent and family well-being, (2) the home environment and parenting activities, and (3) routines and discipline. Attachment A describes in detail the interview and observation scales and items as well as the constructed variables.

Parenting characteristics and behaviors have been found to influence (or moderate the effects of experiences on) the child's well-being and development, both directly and indirectly (Downey and Coyne 1990). The family is the child's primary learning environment. Early experiences in this environment lay the foundation for later learning and act as the lens through which a child views and interprets the world. Information about parenting practices and the home environment provides a more comprehensive understanding of critical intervening and mediating variables on child outcomes. In addition, Ready by Five may improve parent-level program outcomes, such as parenting skills and mental health (particularly depression), which are important influences on children's ultimate success in school. Data about the baseline levels of these parent characteristics and behaviors can also inform Ready by Five program development and implementation in East Yakima.

The home and neighborhood observations also provide data associated with children's developmental outcomes that may be sensitive to intervention if families access services that help them meet personal goals in, for example, the area of improving self-sufficiency. If the parent interview component of the study is continued in subsequent data collection rounds, data about the home and neighborhood environments in which children are raised and how they may change as Ready by Five services are offered will allow us to document how intermediate outcomes (parent behavior and the home and neighborhood environment) are

affected over time. These data will also allow us to determine how hypothesized changes in intermediate outcomes are associated with changes in children's school readiness.

In the rest of this chapter, we report the findings on parent and family well-being, the home environment, and parenting behaviors. We end with a brief discussion of findings for two key sets of subgroup variables: (1) child's home language and (2) number of family demographic risk factors.

PARENT AND FAMILY WELL-BEING

In the areas of parent and family well-being, parents reported on their perceptions of social supports available to them for help with various problems that might arise; their own feelings over the past week (a measure of depressive symptoms); the closeness and conflict in their relationship with their kindergarten child; and the child's exposure in the family home to dangerous or risky behaviors, such as violence, smoking, and substance use.

Parent Social Support. A supportive social network can mitigate the stress of life events, daily living, and parenting. Because the social support network of the family is so important for child outcomes, we asked parents a set of questions about their sources of support when faced with emotional problems, financial problems, parenting problems, and emergencies. A sum score was derived with a possible range of 0 to 12, with higher scores indicating greater sources of support (Table IV.1). Overall, the mean of the parents' scores on the Social Support Index was 5.¹

Parent Depression. The short version of the Center for Epidemiological Studies–Depression Short Form (CES-D; Radloff 1977; Ross et al. 1983) measures levels of symptoms that indicate the potential for risk for depression. Parents were asked the number of days in the past week they had a particular symptom, such as poor appetite, restless sleep, loneliness, sadness, or lack of energy. The scale does not provide a clinical diagnosis, but it can be used to group people by the severity of their symptoms. We created four threshold scores based on findings in the literature: (1) at no risk of depression, (2) at risk of mild depression, (3) at risk of moderate depression, and (4) at risk of severe depression.² We found that 52 percent of parents were at risk of at least mild depression; 29 percent were at risk of moderate to severe depression (Table IV.1). This rate of depression is somewhat higher than what was found in FACES 2000; about one-quarter were found to be at risk of moderate to severe depression (ACYF 2002). The rates of risk for depression in East Yakima have implications for how receptive parents may be to Ready by Five services, especially those targeted at parenting. Attachment A includes a summary of how the scale scores translate into the four levels of risk for depression.

¹Our scores are not comparable to currently available data from FACES.

²For this study, we used the same threshold scores as FACES (ACYF 2002), with a score of 5 or greater indicating risk of mild or more severe depression. The average CES-D score was 7.3 in East Yakima. It was 6.8 in FACES in fall 2000. Unlike FACES and other large-scale research projects, the Early Head Start Research and Evaluation Project used CES-D scores greater than or equal to 10 as the cutoff for depressive symptoms. Among control group parents in that study, 36 percent met this criterion at the prekindergarten followup (Chazan-Cohen et al. 2007). Because there is no consensus in the literature about which threshold score should be used, we used all four thresholds to allow for comparison with other studies using either threshold.

Table IV.1. Family and Parent Well-Being Characteristics in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Scales/Characteristics	Weighted Percentage/Mean (Standard Error)
Parent Social Support Index (Mean)	4.9 (0.13)
Parent's Risk of Depression	
No risk of depression	47.3 (4.63)
At risk of mild depression	23.3 (3.90)
At risk of moderate depression	13.7 (3.10)
At risk of severe depression	15.7 (3.51)
Parent Warmth (Mean)	35.5 (0.42)
Parent Punitiveness (Mean)	9.8 (0.26)
Child's Exposure to Crime and Violence Index (Mean)	0.4 (0.08)
Parent Has Smoked in the Past 30 Days	14.5 (3.55)
Other Household Member Has Smoked in the Past 30 Days	19.1 (3.91)
Frequency with Which Parent Drinks Alcohol per Week	
Never	88.4 (2.69)
Once a week or less	8.2 (2.28)
Once or twice a week	2.9 (1.49)
Three or four times a week	5.6 (0.56)
Five or six times, but not every day	0.0 (n.a.)
Every day	0.0 (n.a.)
Among Households Reporting Alcohol Use, Because of Alcohol, Parent or Household Member Has ^a	
Gotten into trouble with family or friends	8.4 (4.04)
Gotten into trouble with police	9.8 (3.98)
Missed work or school	8.0 (3.73)
Anyone in Household Currently Uses Drugs	0.0 (n.a.)
Sample Size	131-133

Source: Fall 2007 Parent Interview.

^aOnly respondents reporting alcohol use were asked about the consequences of substance use for themselves or other household members (N=38).

n.a. = not available for mean of zero.

Parent Warmth and Punitiveness. The parent's attitudes toward child-rearing and parenting practices can influence the child's well-being and development by affecting the relationship and interactions between the parent and the child, as well as the consistency and type of discipline used by the parent. We used the 13 items from the Child Rearing Practices Report (CRPR; Block 1965) that were used in FACES 2006. The short form assesses child-rearing approaches. Parents are asked to indicate whether, and to what extent, statements describe them (using a 5-point scale from "not at all" to "exactly"). Examples of the statements include, "I control my child by warning him/her about the bad things that can happen to him/her" and "My child and I have warm intimate moments together." Two subscales were formed using procedures adopted by FACES 2006 (see Attachment A). The first reflects a warm, supportive, consistent parenting model in which the parent shows warmth, encourages independence and curiosity, but is also consistent regarding rules and the consequences of misbehavior. The second is a punitive and inconsistent parenting style, in which the parent endorses physical punishment, does not allow the child to become angry at him/her, believes children should be seen and not heard, and has no energy to make the child behave. Higher scores on the scales reflect more warmth and more punitiveness, respectively (Table IV.1). From a possible 9 to 45 points on the warmth scale, the mean across sites was 36. On the punitiveness scale, the mean was 10 (possible range 4 to 20).³

Exposure to Dangerous or Risky Behaviors in the Home. Children's exposure to dangerous or potentially risky behaviors at home may create an environment that increases anxiety and impedes adults in the home from supporting the child's development. Exposure to chronic, low levels of violence in settings perceived as safe, such as school and home, have been shown to have deleterious consequences on social development (Richters and Martinez 1993). Parents reported very low rates of exposure of the child to violence in the home (Table IV.1; a mean of 0.4 on a scale from 0 to 6; the items ask parents to report on six different types of experiences, including whether the child was a witness to violent crime in the past year and whether a family member was arrested in the past year). Fifteen percent of parents reported that they had smoked in the past week, and 19 percent reported that another household member had. About 8 percent of parents reported drinking alcohol an average of at least once per week and less than 6 percent reported doing so three or four times per week or more. None of the parents reported that someone living in their home was using drugs at the time of the interview. Among households reporting alcohol use, only 8 percent reported some problems with family or friends, 10 percent reported getting in trouble with the police, and 8 percent reported missing work or school time as a result of alcohol use. These rates of exposure to smoking and alcohol use in the home are much lower than rates nationally (30 percent of children live in a household with someone who smokes [U.S. Department of Health and Human Services 2005], and 60 percent of adults identify themselves as current drinkers [National Center for Health Statistics 2007]).

HOME ENVIRONMENT, LANGUAGE AND LITERACY SUPPORTS, AND TELEVISION VIEWING

High-quality home environments, the availability of children's books in the home, and regular parent-child reading experiences are positively associated with children's school

³Because the 2006 data are not yet available, we cannot able to make comparisons with FACES.

readiness and school performance (Lee and Burkam 2002; Sénéchal and LeFevre 2002; West et al. 2000). However, excessive television viewing and computer use are negatively associated with school readiness and performance. MPR interviewers rated the quality of the internal and external environment of the children's homes, and parents reported on the number of children's books in the home and how often they read to their child. Parents also reported on how much time their child spends watching television and whether the child has access to a computer at home.

Home Environment Quality. Children's developmental outcomes are associated with the characteristics of the home environment, both the internal (Evans and Kantrowitz 2002) and external (Leventhal et al. 2004; Raudenbush and Sampson 1999). To rate these scales (adapted from the Homelife observational scales from the Project on Human Development in Chicago Neighborhoods [Leventhal et al. 2004]), the interviewer, at the end of the in-home parent interview, reported on aspects of the internal and external home environment. For both scales, higher scores reflect better environments. The internal home environment ratings included yes/no items such as whether the house was reasonably clean and whether the home was overly noisy. The summary scale for the eight internal environment items could range from 0 to 8. The scale mean was 5.4 (Table IV.2). The external environment rating scale included eight items focused on dimensions such as the condition of the houses/buildings, the street, the volume of traffic, whether there are children playing, and whether there are teenagers in the street behaving in a hostile manner. The summary score could range from 0 to 8. The scale mean was 5.1, which indicates that, on most of the items, interviewers found the external environments of the children's homes to be safe and in good repair.

Language and Literacy Development Supports. Based on parents' reports, on average East Yakima families have 25 children's books in their homes. About 27 percent of parents reported reading to their kindergarten child every day in the past week and, parents reported reading to their child 19 minutes per day, on average (Table IV.2). In the ECLS-K, 45 percent of parents read to their children every day (West et al. 2000). In addition, the ECLS-K found that parents of kindergartners reported having 25 children's books in the home, on average.

Television and Computer Access. Children's access to television in the United States is almost universal, with 99 percent of homes with children 6 years old or younger reporting that they have at least one television and 93 percent reporting that they have a VCR or DVD player (Rideout et al. 2006). National estimates of television viewing for children under 7 range from 2 to 2.5 hours per day (Rideout et al. 2003; Roberts et al. 1999). National estimates of computer access indicate that 78 percent of children 6 years old or younger live in a home with a computer. In East Yakima, 19 percent of parents reported that their kindergartner watched more than 2 hours of television on a typical day (Table IV.2). Thirty percent reported that the child had access to a computer in their home. These rates of television viewing and computer access are considerably lower than the national rates.

Table IV.2. Home Environment and Activities in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Scales/Activities	Weighted Percentage/Mean (Standard Error)
Home Internal Physical Environment (Mean)	5.4 (0.19)
Home External Physical Environment (Mean)	5.1 (0.15)
Number of Children's Books in Home (Mean)	24.7 (3.07)
Frequency of Reading to Child in Past Week	
Not at all	6.0 (2.23)
Once or twice	27.4 (4.17)
Three or more times, but not every day	40.0 (4.62)
Every day	26.7 (4.10)
Number of Minutes Spent Reading to Child Daily (Mean)	19.1 (1.02)
Amount of Time Child Spends Watching Television on a Typical Weekday	
Less than one hour	34.5 (4.65)
One to two hours	46.7 (4.70)
More than two hours	18.7 (3.93)
Child Has Access to a Computer in the Home	30.3 (4.26)
Sample Size	126-134

Source: Fall 2007 Parent Interview, Assessor Report.

ROUTINES AND DISCIPLINE

Adhering to a regular household schedule to provides daily structure for young children, eating meals together as a family, and using child guidance/discipline approaches that are less harsh than corporal punishment have been documented as positive ways for parents to support children's development (Shonkoff and Phillips 2000). Based on parents' reports, on average, East Yakima families eat dinner together 5.5 nights out of 7 (Table IV.3). About 24 percent of parents reported spanking their child in the past week and 63 percent reported using "time out" in the past week. Compared to a nationally representative sample of children in Head Start, parents in East Yakima have much lower rates of spanking and slightly lower rates of using time out (ACYF 2002; almost one-half of parents in FACES 1997 reported spanking their child in the past week, and over two-thirds reported using time out).

Table IV.3. Home Routines and Discipline in East Yakima: Fall 2007 ELI Kindergarten Readiness Baseline

Activities	Weighted Percentage/Mean (Standard Error)
Number of Days per Week Family Eats Dinner Together (Mean)	5.5 (0.18)
Parent Spanked Child in Past Week	24.0 (3.85)
Parent Used "Time Out" in Past Week	63.1 (4.34)
Sample Size	133-134

Source: Fall 2007 Parent Interview.

LANGUAGE AND DEMOGRAPHIC RISK SUBGROUP COMPARISONS

Parent well-being, the risks and supports for children's development present in the home, and parenting approach are associated with the demographic characteristics of young children and their families. Here we present the family, home, and parenting activities by the two subgroups: (1) child's home language, and (2) family demographic risk factors. For each subgroup, we examine parent's risk of depression, frequency of reading to the child in the past week, amount of time child spends watching TV on a typical weekday, child's access to a computer at home, whether parent spanked child in the past week, and parent's use of time out in the past week.⁴

⁴We also constructed two subgroups of East Yakima families: one in which children participated in early childhood programs (Head Start, ECEAP, Early Head Start) prior to kindergarten, and the other in which children did not participate but would have been income-eligible. No patterns of differences in key outcomes between these groups emerged from the analysis. However, we note that Head Start eligibility is not determined by family income alone. Head Start programs use a point system to prioritize children based on risk factors, and income eligibility requirements can be waived for children with special needs.

Overall, few differences across subgroups emerged. Because of the small sample sizes of these subgroups, we recommend caution when using information about group differences.

Child Language Comparisons.⁵ Parents of children whose home language was English were more likely to read to their kindergartner daily and to use time out as a discipline strategy than parents of children whose home language was other than English. There were no other significant differences across child home language subgroups.

Risk Factor Comparisons.⁶ Parents of children with multiple risk factors were more likely to be at risk of depression than were those with no or one risk factor. There were no other significant differences across demographic risk subgroups.

⁵For this analysis, we constructed two subgroups based on the child's home language: (1) children who spoke English and (2) English language learners who spoke another language at home. The number of children who spoke specific other languages was too small to permit construction of additional groups.

⁶We constructed two subgroups based on the number of demographic risk factors: (1) children with 0 to 1 risk and (2) children with 2 to 3 risks.

CHAPTER V

IMPLICATIONS AND NEXT STEPS

The fall 2007 baseline kindergarten readiness results for East Yakima can inform decisions about service planning and delivery by providing information about the strengths and needs of children and families residing in the community. The main lesson learned at baseline is that high-quality services have the potential to make a measurable difference in the kindergarten readiness outcomes of East Yakima children. Children's school readiness can be enhanced in all areas, with particular need in the areas of vocabulary, early mathematics skills, and physical health. Substantial proportions of entering kindergarteners are achieving at levels significantly below national norms, putting them at risk for school failure.

Services focused on the out-of-home experiences of children might enhance their school readiness by exposing them to environments designed to stimulate their development. Services targeted at parenting behaviors and the home environment can support parents as the first teachers of their children. However, baseline findings indicate that substantial proportions of parents face challenges in the areas of education and language skills that pose barriers for them to serve as the only catalysts for improving their children's school readiness in the short term. Thus, high-quality, intensive, center-based services may provide an important opportunity to enhance children's readiness for kindergarten.

Next Steps for the Kindergarten Readiness Study

Current plans are to repeat the direct child assessment and teacher rating portion of the kindergarten readiness study about one year after Ready by Five implementation, and then again at three and seven years after implementation. After Ready by Five implementation begins (and to the extent that service use data are available), we can examine associations with the extent and nature of families' participation in Ready by Five services in future rounds of analysis. After we collect multiple rounds of kindergarten readiness data, we can also examine and describe changes in kindergarten readiness outcomes over time. Other components of the ELI evaluation, including short- and long-term impact studies, will complement descriptive findings on kindergarten readiness by providing findings from rigorous evaluations of Ready by Five's effectiveness in improving children's outcomes during their preschool years, at kindergarten entry, and in early elementary school.

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APPENDIX A

ELI KINDERGARTEN READINESS BASELINE MEASURES DESCRIPTION

MEASURES OF CHILDREN'S LANGUAGE AND LITERACY SKILLS

Preschool Language Assessment Survey 2000 (PreLAS)—measures children's English language proficiency (Duncan and DeAvila 1998). The Simon Says and Art Show tasks are two subtests of the PreLAS. The Simon Says task assesses receptive language. The child is asked to follow the instructions that "Simon" says, such as "Simon says, 'Touch your toes.'" There are 10 requested actions that the child should perform. Possible scores range from 0 to 10, with higher scores indicating greater receptive language ability. The Art Show task assesses basic expressive language. The child is presented with a series of 10 pictures and asked to identify what is in each picture or explain the function of the object shown in the picture. Possible scores range from 0 to 10, with higher scores indicating greater expressive language ability. These two tasks are fun, game-like (particularly the Simon Says task), and effective in establishing rapport between the child and the assessor, providing an easy and enjoyable "warm-up" to the other assessment components. The PreLAS subtests are used as a screener to inform whether the child should be administered the Woodcock Johnson III Achievement tests and early mathematics assessment in English, be routed into Spanish assessments, or end the assessment with the measurement of height and weight if the child is unable to complete the remaining assessments in either English or Spanish.

Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4)—measures listening comprehension of spoken words in English for children and adults 2 ½ years and over (Dunn and Dunn 2007). The child is presented with four pictures and is asked to point to the picture that matches the word spoken by the assessor. A series of words is presented, ranging from easy to difficult for children of a given age, each accompanied by a picture plate consisting of four line drawings. When the level of difficulty becomes too great (as demonstrated by the child's incorrect responses to several items in a set), the test is ended. The PPVT-4 was recently normed on a nationally representative sample of children and adults. It includes more than 100 new words with better representation of word types across all difficulty levels and more easy items added to avoid floor problems. Raw scores can be converted to age-adjusted, standardized scores with a mean of 100 and a standard deviation of 15. Possible scores range from 20 to 160.

- The *percentage one or more SD below national mean* measures the proportion with scores of 85 or less, which is one or more standard deviations (15 or more points) below the mean of 100 for their age in the nationally representative, standardization sample.
- The *percentage at or above national mean* measures the proportion with scores of 100 or higher, which is at or above the mean of 100 for their age in the nationally representative, standardization sample.

Test de Vocabulario en Imagenes Peabody (TVIP)—measures the listening comprehension of spoken words in Spanish for Spanish-speaking and bilingual children from 2 ½ to 18 (Dunn, Padilla, Lugo, and Dunn 1986). The child is presented with four pictures and is asked to point to the picture that matches the word spoken by the assessor. The TVIP was normed on a sample of Mexican and Puerto Rican children of various ages so that raw scores can be converted to age-adjusted, standardized scores with a mean of 100 and a standard deviation of 15. Possible scores range from 55 to 145.

- The *percentage one or more SD below national mean* measures the proportion with scores of 85 or less, which is one or more standard deviations (15 or more points) below the mean of 100 for their age in the nationally representative, standardization sample.
- The *percentage at or above national mean* measures the proportion with scores of 100 or higher, which is at or above the mean of 100 for their age in the nationally representative, standardization sample.

Woodcock-Johnson III Achievement Battery (WJ III)—measures the oral language and academic achievement of English-speaking children and adults ages 2 and over (Woodcock et al. 2001). The WJ III tests were normed on a nationally representative sample of children and adults in the United States of various ages so that raw scores can be converted to age-adjusted, standardized scores with a mean of 100 and a standard deviation of 15. Possible scores range from 0 to 200. We used two literacy tests in this study:

- ***Letter-Word Identification***—the earliest items on the test require letter recognition, linking letters with their sounds, and reading simple words.
- ***Spelling***—the first six items in this test measure fine motor coordination and prewriting skills, such as drawing lines and copying letters. The remaining items measure the child’s skill in providing written responses when asked to write specific upper- or lower-case letters of the alphabet. Later parts of the test ask the child to write specific words and phrases, punctuation, and capitalization.
- The *percentage one or more SD below national mean* measures the proportion with scores of 85 or less, which is one or more standard deviations (15 or more points) below the mean of 100 for their age in the nationally representative, standardization sample.
- The *percentage at or above national mean* measures the proportion with scores of 100 or higher, which is at or above the mean of 100 for their age in the nationally representative, standardization sample.

Batería III Woodcock-Muñoz Pruebas de aprovechamiento (Batería III)—measures the oral language and academic achievement of Spanish-speaking children and adults ages 2 and over (Muñoz-Sandoval et al. 2005). The Batería III is the Spanish adaptation of the Woodcock-Johnson III. The Batería III subtests were normed on a nationally representative sample of children and adults in the United States of various ages so that raw scores can be converted to age-adjusted, standardized scores with a mean of 100 and a standard deviation of 15. Possible scores range from 0 to 200. We used the parallel literacy tests of the Batería III in ELI:

- **Letter-Word Identification**—the earliest items on the test require letter recognition, linking letters with their sounds, and reading simple words.
- **Spelling**—the first six items in this subtest measure fine motor coordination and prewriting skills, such as drawing lines and copying letters. The remaining items measure the child’s skill in providing written responses when asked to write specific upper- or lower-case letters of the alphabet. Later parts of the test ask the child to write specific words and phrases, punctuation, and capitalization.
- The **percentage one or more SD below national mean** measures the proportion with scores of 85 or less, which is one or more standard deviations (15 or more points) below the mean of 100 for their age in the nationally representative, standardization sample.
- The **percentage at or above national mean** measures the proportion with scores of 100 or higher, which is at or above the mean of 100 for their age in the nationally representative, standardization sample.

Story and Print Concepts—measures children’s book knowledge, concepts about print, and reading comprehension. The Story and Print Concepts task is an adaptation of earlier prereading assessment procedures developed by Clay (1979), Teale (1988, 1990), and Mason and Stewart (1989) and adapted for FACES. In these procedures, a child is handed a children’s storybook upside down and backwards. The assessor notes whether the child turns it around to put the book upright with the front cover on top. Then the child is asked to identify where the name of the book is written, where the material to be read begins, and in what direction the reading proceeds. The assessor reads the story to the child and asks basic questions about both the content of the story and the mechanics of reading. Three subscales are derived based on common usage in large-scale assessments, (1) book knowledge (possible response range of 0 to 6), (2) print conventions (possible response range of 0 to 3), and (3) reading comprehension (possible response range of 0 to 6).

Ratings of Child’s Accomplishments. Parents and teachers are asked to rate their child’s prereading, early math, early writing, and language skills by describing the children’s ability in these areas. Parents and teachers are asked 9 and 13 items respectively to assess children’s accomplishments in a variety of tasks (such as recognizing letters of the alphabet, counting, and speaking comprehensibly), but only a subset of those items is used in constructing the composite. Items were adapted for FACES from the 1993 National Household Education Survey on School Readiness, and by expert review from members of the Head Start Quality Research Consortium. Selected items from this set are combined to form a scale of parental (and teacher) perceptions of children’s early literacy skills.

MEASURES OF CHILDREN'S EARLY MATHEMATICS SKILLS

Woodcock-Johnson III Achievement Battery (WJ III)—measures the oral language and academic achievement of English-speaking children and adults ages 2 and over (Woodcock et al. 2001). The WJ III tests were normed on a nationally representative sample of children and adults of various ages so that raw scores can be converted to age-adjusted, standardized scores with a mean of 100 and a standard deviation of 15. Possible scores range from 0 to 200. We used one mathematics test in ELI:

- **Applied Problems**—the earliest items on this subtest involve counting objects pictured on the page and performing simple calculations.
- The **percentage one or more SD below national mean** measures the proportion with scores of 85 or less, which is one or more standard deviations (15 or more points) below the mean of 100 for their age in the nationally representative, standardization sample.
- The **percentage at or above national mean** measures the proportion with scores of 100 or higher, which is at or above the mean of 100 for their age in the nationally representative, standardization sample.

Batería III Woodcock- Muñoz Pruebas de aprovechamiento (Batería III)—measures the oral language and academic achievement of Spanish-speaking children and adults ages 2 and over (Muñoz-Sandoval et al. 2005). The Batería III is the Spanish adaptation of the Woodcock-Johnson III. The Batería III subtests were normed on a nationally representative sample of children and adults in the United States of various ages so that raw scores can be converted to age-adjusted, standardized scores with a mean of 100 and a standard deviation of 15. Possible scores range from 0 to 200. We used one mathematics test from the Batería III in ELI:

- **Applied Problems**—the earliest items on this subtest involve counting objects pictured on the page and performing simple calculations.
- The **percentage one or more SD below national mean** measures the proportion with scores of 85 or less, which is one or more standard deviations (15 or more points) below the mean of 100 for their age in the nationally representative, standardization sample.
- The **percentage at or above national mean** measures the proportion with scores of 100 or higher, which is at or above the mean of 100 for their age in the nationally representative, standardization sample.

MEASURES OF CHILDREN'S SOCIAL-EMOTIONAL DEVELOPMENT

Leiter Examiner Rating Scale—measures children's behavior in the context of a direct assessment task (including the child's approaches to learning and problem behaviors) and is completed by the person conducting direct assessments with the child (Roid and Miller 1997). At the end of the one-on-one testing sessions with the children, the assessor completes the set of ratings. Each item describes a behavior, which the examiner rates as

rarely/never, sometimes, often, or usually/always true of the child's behavior during the assessment relative to other children of a similar age.

- ***Cognitive/Social Scale***—measures children's social and cognitive behavior during the assessments. Scores can be converted to standardized scores with a mean of 100 and standard deviation of 15. Possible scores range from 50 to 126. This scale is a composite of the following subscales (which do not have standardized scores equivalents):
 - ***Attention***—measures children's ability to stay focused on the assessments, to persist, to pay attention to instructions, and to avoid distractions. Possible scores range from 0 to 30.
 - ***Organization/Impulse Control***—measures children's ability to think and plan while completing the assessment, to avoid impulsive actions and responses, and to avoid touching test materials that are not meant to be worked with at that time. Possible scores range from 0 to 24.
 - ***Activity Level***—measures children's ability to participate in the assessment without fidgety or restless behavior. Possible scores range from 0 to 12.
 - ***Sociability***—measures children's ability to show positive, friendly, and cooperative behavior rather than quarrelsome, angry, destructive, or withdrawn behavior. Possible scores range from 0 to 15.

Social Skills—Cooperative Classroom Behavior. There are 12 items with which the teacher indicates how often the child engages in cooperative classroom behaviors, such as following the teacher's directions, helping put things away, complimenting classmates, and following rules when playing games. The ratings include items drawn from the Personal Maturity Scale (Entwisle et al. 1987) and the Social Skills Rating System (Gresham and Elliott 1990) to assess positive behavior such as cooperation, sharing, and expression of feelings. In this section, the teacher is asked to indicate the extent to which a given statement (such as "follows the teacher's directions") is characteristic of the child, from 1 ("never") to 3 ("very often"). A summary score is created from the 3-point scale items; the summary score ranges from 0 to 24, with high numbers indicating more frequent cooperative behavior.

Strengths and Difficulties Questionnaire—measures social skills and problem behaviors of children (Goodman 2001). This measure has 25 items on which teachers rate the children using a 3-point scale ("not true," "somewhat true," or "certainly true"). The SDQ provides information on positive social-emotional development as well as child behaviors that may interfere with learning. The 25 items can be analyzed to yield a *total difficulties* score (possible response range of 0 to 40) and five subscale scores (each with a possible response range of 0 to 10): *conduct problems, peer problems, prosocial, emotional symptoms, and hyperactivity and attention.*

Parent Ratings of the Child's Behavior and Competencies. Several measures that are included in the parent interview are designed to measure the child's social behavior, including items taken from several well-known measures: the Entwisle Scale of Personal Maturity (Entwisle et al. 1987), the Social Skills Rating System (SSRS; Gresham and Elliott 1990), and the Behavior Problems Index (Peterson and Zill 1986). Parents are asked to rate

each child on a set of behaviors that permits assessment of basic social skills and behavior problems. The parent is asked to indicate the extent to which a given statement (such as “makes friends easily”) is characteristic of the child, from 1 (“not true”) to 3 (“very true or often true”). Scores from these items are combined to create the following scales: *social skills/positive approaches to learning* (possible range of 0 to 16), *total behavior problems* (possible range of 0 to 24), *hyperactive* (possible range of 0 to 8), *aggressive* (possible range of 0 to 6), and *withdrawn behavior problems* (possible response of 0 to 4).

MEASURES OF CHILDREN’S PHYSICAL HEALTH AND WELL-BEING

Parent reports of child health status. On a scale of 1 to 5 where 1 is “poor” and 5 is “excellent,” parents report on the status of the child’s health.

- The ***percentage of children with excellent or very good health*** measures the proportion rated by parents as having excellent or very good health status.
- The ***percentage of children with fair or poor health*** measures the proportion rated by parents as having fair or poor health status.

Height and Weight. Children’s height and weight are each measured twice following a protocol that has been used in the ECLS-K, ECLS-B, and other federal government surveys.

- The ratio of the child’s height and weight are combined with child gender and age to form a ***body mass index*** (BMI).
- Children are considered to be ***overweight or at risk for overweight*** when their BMI score is at or above the 85th percentile for their age and gender.

PARENT WELL-BEING, PARENTING, AND HOME ENVIRONMENT MEASURES

Parent Social Support—measures parents’ sources of support when faced with emotional problems, financial problems, parenting problems, and emergencies. A summary index score is derived from the former set of questions as an indicator of parent social support (ranging from 0 to 12). These questions have been used extensively in prior national studies, including ECLS-B, NHES, and NLSY.

Parent’s Risk of Depression—the 12-item short form of the *Center for Epidemiologic Studies-Depression Scale* (CES-D; Radloff 1977; Ross et al. 1983) measures levels of symptoms that indicate the potential for risk for depression and results in a scale score that has a possible range from 0 to 36. Parents are asked the number of days in the past week they had a particular symptom, for example, poor appetite, restless sleep, loneliness, sadness, and lack of energy. The scale does not provide a clinical diagnosis but it can be used to group individuals by the severity of their symptoms. Four threshold scores based on findings in the literature are formed:

- ***At no risk of depression*** (parent’s mean CES-D score is four or less)
- ***At risk of mild depression*** (parent’s mean CES-D score is between five and nine)

- ***At risk of moderate depression*** (parent’s mean CES-D score is between ten and fourteen)
- ***At risk of severe depression*** (parent’s mean CES-D score is fifteen or higher)

Child Rearing Practices Report (CRPR) (Block 1965)—assesses child-rearing patterns. From the original 91-item instrument, 13 items are included in the ELI parent interview. Questions present various statements that parents of young children might say about themselves, such as “I control my child by warning him/her about the bad things that can happen to him/her” or “My child and I have warm intimate moments together.” The parent is asked to indicate whether and to what extent they agree or disagree about the statement in 5-point Likert scale-type responses (1 = “exactly”; 5 = “not at all”). Three subscales are formed from these items: (1) Authoritarian Pattern, (2) Authoritative Pattern, and (3) Adherence to Rules. Subscales capturing similar dimensions of authoritative and authoritarian parenting are formed in ELI:

- ***Parent Warmth***—assesses emphasis on inductive methods, reasoning with the child, appreciation of the child’s accomplishments, fostering the child’s individuality, and encouraging open communication between parents and the child (possible range is 9 to 45). Higher scores indicate more warmth.
- ***Parent Punitiveness***—assesses frequent use of physical punishment, verbal reprimands, prohibitions, discouragement of child’s emotional expression, emphasis on fear of external consequences of transgression, and strict supervision of the child (possible range is 4 to 20). Higher scores indicate more punitiveness.

Exposure to crime and violence—measures exposure of the child to violence in the home. The items ask parents to report on six different types of experiences, including whether the child was a witness to violent crime in the past year and whether a family member was arrested in the past year. A summary score for the items ranges from 0 to 6.

Internal and External Environment Quality—adapts scales from the Homelife observational scales from the Project on Human Development in Chicago Neighborhoods (Leventhal et al. 2004). At the end of the in-home parent interview, the interviewer reported on aspects of the internal and external home environment. For both scales, higher scores reflect better quality environments. The internal home environment ratings included yes/no items such as whether the house was reasonably clean and whether the home was overly noisy. The summary scale for the eight internal environment items could range from zero to eight. The external environment rating scale included eight items focused on dimensions such as the condition of the houses/buildings, the street, the volume of traffic, whether there are children playing, and whether there are teenagers in the street behaving in a hostile manner. The summary score could range from 0 to 8.

Table A.1. Sources of Key Scales Used in the ELI Parent Kindergarten Readiness Interview and Home Observation

Instrument/Scale	Instrument Type	Internal Consistency Reliability	Use in Large-Scale Studies with Diverse Populations
Child Social-Emotional Development and Approaches to Learning			
21 items from Behavior Problems Index (Peterson and Zill 1986), Personal Maturity Scale (Entwisle et al. 1987), Social Skills Rating Scale (Gresham and Elliott 1990), and Preschool Learning Behavior Scale (McDermott et al. 2000); Total Behavior Problems, Social Skills/Positive Approaches to Learning	Parent Report	Cronbach $\alpha = .71, .66$	FACES
Strengths and Difficulties Questionnaire (SDQ) (Goodman 2001); Total Difficulties, Conduct Problems, Peer Problems, Prosocial, Emotional Symptoms, Hyperactivity and Attention.	Teacher Report	--	Not used in the United States
Parenting and Parent Knowledge of Child Development			
Child-rearing patterns (items from Child-Rearing Practices Report [Block et al. 1981])	Parent Report	Cronbach $\alpha = .83$	FACES, ECLS-B
Parent Well-Being			
CES-D Depression Scale - Short form (Radloff 1977)	Parent Report	Cronbach $\alpha = .85 - .90$	FACES, ECLS-K, ECLS-B, Early Head Start Evaluation (14, 24, 36, 48 mos)
Quality of the Home and Neighborhood Environments			
Internal Environment (Leventhal et al. 2004; Evans and Kantrowitz 2002)	Assessor Observation	Cronbach $\alpha = .74$	Early Head Start Evaluation (Fifth Grade), PHPCN
Neighborhood Quality/External Environment (Leventhal et al. 2004; Raudenbush and Sampson 1999)	Assessor Observation	Cronbach $\alpha = .77$	Early Head Start Evaluation (Fifth Grade), PHDCN

n.a. = not applicable; FACES = Family and Child Experiences Survey; ECLS-B = Early Childhood Longitudinal Study-Birth Cohort; ECLS-K = Early Childhood Longitudinal Study-Kindergarten Class of 1998-1999; Early Head Start Evaluation = Early Head Start Research and Evaluation Project; ECPHDCN = Project on Human Development in Chicago Neighborhoods.