A Year in Region XI Head Start: Children’s Growth and Development from the American Indian and Alaska Native Family and Child Experiences Survey 2015 (AI/AN FACES 2015)

Introduction

Using data from the American Indian and Alaska Native Head Start Family and Child Experiences Survey (AI/AN FACES 2015), this brief describes the developmental progress of Region XI Head Start children as they complete a program year (see “What is Region XI Head Start” box). AI/AN FACES 2015 is the first national study of Region XI Head Start children, families, and programs. Since 1997, the Head Start Family and Child Experiences Survey (FACES) has been a regular source of nationally representative data on Head Start programs, centers, classrooms, children, and families. Until the 2015–2016 program year, however, FACES had not been conducted in Region XI AI/AN Head Start programs. This was due in part to the time and resources required to engage in the intensive community-based planning and implementation process needed to successfully carry out the study in partnership with Region XI Head Start programs and communities. Head Start programs, researchers, and federal staff all identified the lack of data on Region XI Head Start children and their programs as a critical information gap.

Nearly two years of extensive planning preceded AI/AN FACES 2015. Planning was informed by principles of participatory research with AI/AN communities (see Fisher and Ball 2003, for example) and with advice from members of a workgroup composed of Region XI Head Start directors, researchers, and federal government officials. Members of the AI/AN FACES 2015 Workgroup discussed and provided input on the AI/AN FACES 2015 design, implementation, and dissemination of findings, and worked to ensure that Native voices were at the forefront.

What is Region XI Head Start?

There are 12 regions for federal management of Head Start, ten of which are geographically based. The other two are defined by the populations served: Region XI serves children and families in programs operated by federally recognized AI/AN tribes and Region XII serves migrant and seasonal workers and their families. AI/AN FACES 2015 is a descriptive study of the children, families, and programs in Region XI.

In 2015, Region XI comprised 146 Head Start programs across the United States. These programs served approximately 20,000 children, the majority of whom were AI/AN. It is important to note, however, that not all children served in Region XI are AI/AN.

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Head Start aims to promote school readiness for children under age 5 from primarily low-income families (Administration for Children and Families n.d.[a]). This brief uses data from AI/AN FACES 2015 to describe Region XI Head Start children’s development and growth in key areas of school readiness as they complete a program year (that is, fall 2015 to spring 2016), as well as opportunities for Head Start programs to support children’s development. The brief provides the first national picture of Region XI children over the course of a Head Start program year and addresses the following research questions:

What are the knowledge, skills, and physical health of Region XI Head Start children in the spring of the program year? How do these compare to the fall of the program year?

We describe children’s knowledge, skills, and physical health at the end of the program year and their progress during the year in four areas: (1) cognitive development, such as language, literacy, and math; (2) social-emotional development, such as social skills, approaches to learning, and problem behaviors; (3) executive function, using a measure that taps children’s attention (their ability to focus on the instructions provided by the assessor), working memory (their ability to remember the rules of the task), and inhibitory control (their ability to resist imitating the assessor); and (4) children’s physical health (their overall health status and weight status). The “AI/AN FACES 2015” and “Measures of Children’s Development” boxes at the end of this brief provide more information about study methods and measures. The data presented here do not isolate the impact of Head Start on children’s progress, since we know that child and family well-being are influenced by many factors.

Demographic characteristics of Region XI Head Start children and families in fall 2015

In the 2015–2016 program year, Region XI Head Start served a diverse group of children and families with a wide variety of strengths and needs.

- Eighty-one percent of children were American Indian or Alaska Native (either alone or in combination with another race or ethnicity).
- Seventy-four percent of children were attending Head Start for the first time. In the fall of 2015, 49 percent of children in Region XI Head Start programs were 3 years old, and 51 percent were 4 years old.
- Forty-three percent of children lived in households where a language other than English was spoken, with a Native language spoken in 38 percent of children’s homes. Ninety-four percent of children were primarily spoken to in English at home.
- In terms of family economic well-being, more than three-quarters (88 percent) of children lived with one or more parents who had at least a high school diploma or GED. Over half of children (64 percent) lived with at least one parent who was working full time. However, nearly half (44 percent) of children lived at or below the federal poverty threshold.²

More information on Region XI Head Start children and families in the fall of 2015 can be found in Region XI Head Start: Portrait of Children and Families (Barofsky et al. 2018).
Language, literacy, and math skills

Region XI Head Start children make gains in language, literacy, and math skills across the program year, although they lag behind other children of the same age nationally (Figure 1). These comparisons are based on standard scores.

- Over the course of the program year, children make progress toward national norms, gaining between 1.2 and 2.6 standard score points in English receptive and expressive vocabulary, letter-word knowledge, and early math.
- Children do not make gains in early writing skills (for example, prewriting skills such as copying letters, as well as writing specific upper- or lower-case letters).
- Children make progress in several areas, but do not reach the average score of 100 for same-age children nationally in English receptive vocabulary (93.2), English expressive vocabulary (95.4), letter-word knowledge (91.3), early writing (84.3), and early math (93.5).

What Are Standard Scores?

Standard scores allow us to examine how Region XI Head Start children are doing compared to children of the same age nationally. The average score for same-aged children in the general population is 100, and the majority of children have scores between 85 and 115. Scores above or below 100 mean that compared to children of the same age nationally, the child's skills are more or less advanced.

![Figure 1](image-url)

Source: Fall 2015 and Spring 2016 AI/AN FACES Direct Child Assessment
Note: Statistics are weighted to represent all children enrolled in Region XI Head Start in fall 2015 and who were still enrolled in spring 2016. Maximum possible scores vary by measure as follows: English receptive vocabulary (160), English expressive vocabulary (155), letter-word knowledge (200), early writing (200), early math (200). Nationally, the majority of children have standard scores between 85 and 115.
Asterisk indicates that the differences between the fall and spring scores are statistically significant at the \( p \leq .05 \) level.
----- The dotted line indicates national norms (or the average score for same-aged children).
Social skills, approaches to learning, and problem behaviors

On average, teachers report improvement in Region XI children's social skills and approaches to learning skills during the program year (Figure 2). Children’s social-emotional skills are measured with raw scores.

- According to teacher reports, Region XI Head Start children demonstrate better social skills on average by the spring of the Head Start year than they did in the fall (average score of 16.7 versus 15.4).
- Children also show more positive approaches to learning skills (such as attention, persistence, and ability to work independently) in the spring than in the fall (average score of 1.9 versus 1.7).  
- Region XI Head Start children do not change in the amount of teacher-reported total problem behaviors between the fall and spring (average score of 4.6 versus 4.5). Lower problem behavior scores indicate lower levels of problem behaviors (scores range from 0 to 28).

What Are Raw Scores?

Raw scores are counts or averages a child received on a measure. Raw scores on the social-emotional skills presented here reflect teacher report of children’s classroom behavior. Raw scores are not compared to other children of the same age nationally or converted to a standard scale. The range represents the highest and lowest possible score a child could receive based on the scale (for example, 0 to 3).

Figure 2. Teacher reports show that children have better social skills and more positive approaches to learning in the spring when compared to their scores in the fall

Source: Fall 2015 and Spring 2016 AI/AN FACES Teacher Child Report

Note: Statistics are weighted to represent all children enrolled in Region XI Head Start in fall 2015 and who were still enrolled in spring 2016.

*Asterisk indicates that the differences between the fall and spring scores are statistically significant at the $p \leq .05$ level.
Executive function skills

Region XI children improve their performance on a measure of executive function over the Head Start program year. Executive function is assessed using a pencil tapping task, where children are asked to do the opposite of what the assessor does (for example, tap one time when the assessor taps two times; tap two times when the assessor taps one time).

- Children respond correctly more times on this task by the spring of the Head Start year than in the fall. In fact, children are able to do so 54 percent of the time in the spring. In comparison, fewer than half (41 percent) were able to do so in the fall (Figure 3).

![Figure 3. Children’s performance on an executive function measure improves from fall to spring](image)

Physical health

At the end of the Head Start year, the majority of Region XI children are in excellent or very good health, and most children are normal weight – but 40 percent of children are overweight or obese. Based on their parents’ report, 88 percent of children are in excellent or very good health in the spring, with 10 percent in good health and 3 percent in fair or poor health. The percentages in each category do not change significantly between fall and spring. In the spring, the majority of children are normal weight (57 percent), but 40 percent are overweight or obese (Figure 4). Between fall and spring, there is a decrease in the percentage of children who are overweight (from 21 percent to 18 percent). The percentages of children who are underweight, normal weight, and obese each increase, but the increases are not significant.

![Figure 4. Forty percent of children are overweight or obese in the spring](image)

Source: Fall 2015 and Spring 2016 AI/AN FACES Direct Child Assessment

Note: Statistics are weighted to represent all children enrolled in Region XI Head Start in fall 2015 and who were still enrolled in spring 2016.

* Asterisk indicates that the differences between the fall and spring scores are statistically significant at the \( p \leq .05 \) level.

Source: Spring 2016 AI/AN FACES Direct Child Assessment

Note: Statistics are weighted to represent all children enrolled in Region XI Head Start in fall 2015 and who were still enrolled in spring 2016. Percentages may not sum to 100 due to rounding.
Conclusions

The purpose of this brief is to provide a description of Region XI children's health and development in key areas during the Head Start program year. Development is described using a relatively small and specific set of indicators of health, knowledge, and skills that are important markers of children's progress toward school readiness. Additionally, many measures reported here align with domains from the Head Start Early Learning Outcomes Framework (Administration for Children and Families n.d.[b]). The data presented here do not isolate the impact of Head Start on children's progress, since child and family well-being is influenced by many factors that we were not able to measure or do not discuss here, such as the intersection of Native culture with experiences in the community, Head Start, and home. More information about children's connections to Native culture and language in and out of Head Start can be found in other briefs (see for example Barnes-Najor et al. 2018; Sarche et al. 2019).

This brief focuses on the children and families served by Region XI Head Start during the 2015–2016 program year. It highlights the diverse skills and progress of children participating in Region XI Head Start programs. It also points to opportunities for programs to tailor services to further support children's development, keeping in mind the strengths and needs of their families.

Measurement of child outcomes allows for a fuller understanding of Head Start's efforts to prepare children and their parents for the school experience. Region XI Head Start children make progress during the program year in most areas of the cognitive assessment. In the spring of the program year, we see that they perform lower on language, literacy, and math skills assessments, on average, than others of the same age nationally. However, the fact that children make progress toward national norms is still notable given evidence that gaps between AI/AN children and their White peers grow in the first four years of elementary school (Marks and Garcia Coll 2007). As reported by teachers, children also show improvements in their social-emotional skills during the year. In terms of their physical health, most children's parents report they are in excellent or very good health, and although a majority of children are at a normal weight for their age and gender, over one-third are overweight or obese in the spring of the program year.

This brief provides insight on potential areas for supporting Region XI Head Start children's development—specifically, areas for improvement or where children do not make progress (for example, early writing skills)—as well as for continuing to support areas where children are making progress, such as language, literacy, math, social skills, approaches to learning, and executive function. Considering children's outcomes is important to provide an understanding of Region XI Head Start's role in preparing children for school. This brief may provide policy makers and program leaders with information to consider future opportunities or strategies to be responsive to children's needs for successful development.

- To learn more about AI/AN FACES, visit the AI/AN FACES website at http://www.acf.hhs.gov/opre/research/project/american-indian-and-alaska-native-head-start-family-and-child-experiences-survey-faces
- A restricted-use data set is available for additional analyses by qualified researchers in order to further provide critically needed information about Region XI Head Start programs and the children and families they serve. Information about the data set and how to apply for access is available at www.researchconnections.org.
Measures of children's development

To assess children's cognitive skills, AI/AN FACES 2015 directly administers measures of language, literacy, and mathematics to the children. The assessment battery measures English receptive and expressive vocabulary using the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4; Dunn and Dunn 2006) and the Expressive One-Word Picture Vocabulary Test–4th Edition (EOWPVT-4; Martin and Brownell 2010). Children's letter-word knowledge, early writing skills, and early math skills in English are measured using the Letter-Word Identification, Spelling, and Applied Problems subtests, respectively, from the Woodcock-Johnson Tests of Achievement, Third Edition (WJ III; Woodcock et al. 2001). These cognitive measures provide information in standard scores, which allow for comparisons of an individual child's performance to national norms for other children of the same age. Standard scores have a mean of 100 and standard deviation of 15. AI/AN FACES 2015 also directly measures children's height and weight to support analysis of overweight, obesity, or underweight status.

Teachers report on children's cooperative classroom behavior or social skills and their problem behaviors in the classroom using items from the Behavior Problems Index (Peterson and Zill 1986), the Personal Maturity Scale (Entwisle et al. 1997), and the Social Skills Rating Scale (Gresham and Elliott 1990). Teachers also rate children's approaches to learning with the Early Childhood Longitudinal Study–Kindergarten Approaches to Learning Scale (U.S. Department of Education 2002). A pencil tapping task (Blair 2002; Diamond and Taylor 1996; Smith-Donald et al. 2007) captures children's executive functioning in the direct child assessment. In the pencil tapping task, children are asked to inhibit the natural response to imitate the adult assessor exactly (or to tap repeatedly) and instead to keep in mind that the rule is to do the opposite of what the assessor does. Reported scores reflect the percentage of times the child tapped correctly. Scores can take on any value from zero to 100, with higher scores indicating better performance on the task. The task is only administered to children ages 4 and older at the time of the direct assessment.
The results of our analyses suggest no systematic bias; thus, it is appropriate to report on the AI/AN FACES 2015 child assessment scores. Malone and colleagues (2018) describe these analyses in more detail.

6 Generally, standard scores that are two or more standard deviations below the norm (or a score of 70 or less on these measures) suggest the need for referral or additional evaluation.

7 The difference in approaches to learning, although statistically significant, may not be considered practically meaningful. The effect size was smaller than .25 as measured by Hedges’ g.

8 According to the Centers for Disease Control and Prevention, children are considered overweight when their BMI is at or above the 85th percentile but below the 95th percentile for their age and gender, and obese if their BMI is at or above the 95th percentile for their age and gender.

9 This is consistent with findings on children in Head Start Regions I-X (Aikens et al. 2017). In fall 2015, 984 children participated in AI/AN FACES; by spring 2016, 914 of those children were still eligible for the study (some children left Head Start, left the selected center for another center that was not part of the study, or had a parent withdraw consent). The sample included in this research brief is smaller because it excludes children who did not have at least one completed parent survey and either one or both of the following: (1) a fall and spring child assessment or (2) a fall and spring Teacher Child Report.

References


