



Spring 2016

## Summative Assessment Report: VDOE

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This summative assessment report provides the Virginia Department of Education (VDOE) and the 11 school divisions participating in VPI+ with information on children’s development from fall 2015 to spring 2016. During the first year of data collection, fall assessments were collected in November and December. In future years, fall assessments will be collected in September and October. The fall summative assessment report can be used to better understand what skills and abilities children have at the beginning of the VPI+ program and also can be used to inform instruction and programming in the second half of the school year. The spring summative assessment report can be used to measure growth in children who were assessed in both the fall and spring. The report can also inform whether VDOE and the divisions are reaching their goals of increasing the kindergarten readiness of children in VPI+. The spring summative assessment report also can be used to identify areas of instruction that could be improved to support children’s development and learning in future years.

### Domains, Skills, and Measures

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The federal Preschool Development Grant award requires that all programs have an instructional focus on the Essential Domains of School Readiness.<sup>1</sup> As defined in the National Research Council report *Early Childhood Assessment: Why, What and How* (2008),<sup>2</sup> these domains are

- Language and literacy development
- Cognition and general knowledge (including early mathematics and early scientific development)
- Approaches toward learning (including the utilization of the arts)
- Physical well-being and motor development (including adaptive skills)
- Social and emotional development.

Below, for each **domain**, we describe the skills (or abilities) it encompasses, and the **measure** or measures used to assess those skills.<sup>3</sup> For each measure, we describe the types of **scores** used in this report (e.g., raw or standard scores, means and standard deviations). In the appendix, we include data on the percentage of children who met a pre-defined benchmark of children’s developmental range on the literacy measure and normative averages on those measures that have norm-referenced information.

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<sup>1</sup> From Preschool Development Grants –Expansion Grants, Application for Initial Funding, CFDA Number 84.419b.

<sup>2</sup> National Research Council (2008). *Early Childhood Assessment: Why, What, and How*. C.E. Snow and S.B. Van Hemel (Eds). The National Academies Press, Washington, D.C.

<sup>3</sup> For additional information about each measure, including reliability and validity, a technical report is available upon request.

## Language and Literacy Development

The language and literacy development domain includes several abilities and skills (e.g., receptive and expressive vocabulary, letter recognition). To assess children’s literacy skills, SRI used results from a measure already in use in VPI classrooms: the Phonological Awareness Literacy Screening for Preschoolers (PALS-PreK) to assess literacy skills. The evaluation does not have a measure for language development skills.

**PALS-PreK measure.** PALS-PreK assesses children’s knowledge of important emerging literacy skills used in preschool, kindergarten, and first grade. Teachers administer eight tasks: name writing, upper-case alphabet knowledge, lower-case alphabet knowledge, beginning sound awareness (beginning phonemic identity), letter sounds, print and word awareness, rhyme awareness, and nursery rhyme awareness. Many tasks include practice items to ensure the child understands what will be asked of him or her. We report the scores for the six tasks required for all children in preschool. We do not report lower-case alphabet knowledge or letter sounds because they are not required of all children. If interested in the additional tasks, divisions may want to refer to the data download reports they received from the University of Virginia PALS office.

**PALS-PreK scores.** The spring summative report presents the raw score for each task. The total score possible varies by task. The developers of the measure provide expected developmental ranges for children in the spring of their preschool year (prior to starting kindergarten). To help readers interpret the average scores, each chart has a footnote that describes the expected ranges for that task.

## Cognition and General Knowledge

The cognition and general knowledge domain includes several skills (e.g., general cognitive ability, early mathematics skills). We used two direct assessment measures of cognitive and general knowledge. SRI used the Woodcock-Johnson Applied Problems subtest (Applied Problems) to assess early math skills, and the Dimensional Change Card Sort (DCCS) task to assess general cognitive flexibility.

**Applied Problems measure.** The Applied Problems subtest is a widely used norm-referenced measure of a limited number of early math skills (e.g., counting, number sense) in which the assessor asks a child a series of questions and records the child’s answers until the child answers incorrectly for six items.

**Applied Problems score.** The spring summative report presents the raw score to allow divisions to examine the change in skill mastery from fall to spring.

**DCCS measure.** In the DCCS task, children are asked to sort picture cards in three phases of increasingly difficulty. Children sort the cards based first on one dimension (e.g., color, 6 items), then on another dimension (e.g., shape, 6 items), such that in the third phase they are asked to sort using two dimensions (shape/border, 12 items). These are referred to as the pre-switch, post-switch, and border phases.

**DCCS score.** The spring summative report presents the total raw score across items for fall and spring to examine the change in skill mastery from fall to spring. Total raw scores range from 0 to 24.

## Approaches Toward Learning

The approaches toward learning domain includes several ways in which children approach learning across different skills such as enjoying learning new tasks, demonstrating curiosity and initiative, and

showing persistence when confronted with new skills or tasks. Research has found that these attitudes and approaches are important for school readiness and success. SRI used the Teacher-Child Rating Scale (T-CRS-2)<sup>4</sup> to assess task orientation, a critical skill related to approaches to learning.

**T-CRS-2 measure.** SRI used T-CRS-2, a teacher-report measure of children’s behavior and skills that has 38 items and four subscales: task orientation, assertiveness, peer social skills, and behavior control. The task orientation subscale taps into the construct identified by the National Research Council’s definition of approaches to learning, including teachers’ ratings of students’ ability to work independently, participate in classroom discussions, and initiate work.

**T-CRS-2 score.** The spring summative report presents percentile ranks on each subscale based on guidelines provided in the T-CRS-2 manual using a child’s gender and grade-level (i.e., preschool as opposed to another grade-level). The percentile rank ranges from 1 to 99 for each subscale score. Higher percentiles indicate greater well-being and lower percentiles represent more problem behavior in that area. For example, a percentile rank score of 35 means that 35% of the norm group scored as well as or lower than the child and 65% of the norm group scored higher.

### Social and Emotional Development

The social and emotional development domain includes several interrelated skills, including getting along well with others and being able to express and regulate one’s emotions. SRI used the peer social skills and behavior control subscales of the T-CRS-2 to assess children’s skills and abilities in peer relations and behavior. Examples of social skill items include “has many friends” and “classmates like to sit near child.” Examples of behavior problem items include: “overly aggressive to peers” and “disruptive in class.” SRI also used a direct assessment of self-regulation – the Head Toes Knees Shoulders (HTKS) task to assess self-regulation.

**T-CRS-2 measure and score.** See description above in the Approaches Toward Learning domain.

**HTKS measure.** The HTKS task requires children to play a game in which they must do the opposite of what the assessor asks. The task has three parts, and children must demonstrate a certain number of items correct in each part to continue the task.

**HTKS score.** The spring summative report presents the total raw score across the task. Total raw scores range from 0 to 60.

### Physical Well-being and Motor Development (including adaptive skills)<sup>5</sup>

This domain includes children’s general physical health status and their fine and gross motor skills.

**Measures.** Teachers were asked to rate children’s gross and fine motor development skills (holding a pencil, running, jumping, kicking, throwing, catching, hopping, bouncing a ball) and asked to note whether a

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<sup>4</sup> The T-CRS-2 as well as questions about children’s motor skills and general health were asked of teachers using an online survey system.

<sup>5</sup> Teachers were also asked to rate the general physical health of children on the online survey. These ratings were used as a risk characteristic and are included below to create subgroups.

child could or could not perform these skills – yes vs no. Teachers could also provide a rating of “don’t know.”<sup>6</sup>

**Score.** The spring summative report presents whether a skill was absent or present in the fall and in the spring.

## Sample

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Below, we present the summative assessment results for fall 2015 and spring 2016 for those children with assessment data at both time points.<sup>7</sup> (One school division, Fairfax County Public Schools, did not participate in fall 2015 child assessments other than PALS-PreK. In all exhibits showing scores by division, Fairfax’s spring-only data is included as its own column, but these data are not reflected in the statewide sample size). The sample sizes are denoted as  $N$  to reflect the number of children with data for that measure and  $n$  to reflect the subgroup or the number of children with both demographic or risk data for the measure. Sample sizes will range across each division, measure, and subgroup. We did not report any subgroup scores if the group had fewer than 10 children. Data also may be missing if the division did not serve children in that category (e.g., a division may not serve children who have a home language other than English). Finally, data on subgroups may be missing if divisions did not include the needed student-level demographic data in their mid-December exports to SRI or in the follow-up exports in the Spring.

## How to Interpret and Use Results

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VPI+ coordinators and teachers can use the spring summative report to identify domains and skills where children may need additional support or where staff need additional professional development. The state report can identify common areas of strength and need. The division reports can identify division- and classroom-strengths and needs. To support using the summative results for program improvement, we present the data in two ways in the exhibits that follow. For each measure we present the mean scores for fall and spring by division in the state report and by classroom in the division reports. Secondly, for each measure we present the mean scores by different demographic groups: gender and race/ethnicity and risk factors: Individualized Education Program (IEP) or identified disability, poor or fair health as rated by teachers, dual language learners as defined by parent-reported home language, poverty (defined as less or

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<sup>6</sup> Approximately 10 to 20% of children were rated as “don’t know” on most of the gross motor skills in the fall. Thus, we reported on three skills where the majority of children were rated: running, jumping, and holding a pencil. We then reported the same information for children in the spring to allow for examination between fall and spring. Future reports may include the direct assessment of children’s motors skills once the data have been analyzed from spring 2016.

<sup>7</sup> The state sample size is larger for PALS-PreK scores because teachers administered the assessment to all children per the state requirement whereas SRI followed a sampling approach for the direct assessments and teacher ratings in one large division (Henrico) in the fall. At the beginning of SRI’s contract, there was confusion about whether all children in Henrico (i.e., children funded by VPI+, VPI improved, Head Start, and Title 1) were to be included in the SRI evaluation. During the spring assessment, all children were identified as VPI+ students per VDOE and the division so all children were assessed. As a reminder, to be included in the charts, children had to be assessed in the fall and spring.

equal to 100% of the federal poverty level – FPL<sup>8</sup>), and low maternal education (defined as having less than a high school degree or diploma).

Note, for all exhibits data provided only include children who have both fall and spring assessments. When examining the results, consider the following questions:

1. Is the growth in the average scores moving in the expected direction? For example, are spring scores higher than fall scores? Where are scores not increasing?
2. On average, is the growth in the average scores moving children into the average or above average range for those measures that have norm references or developmental expectations? Norm referenced scores or the expected developmental range of scores, if available, are included in a note below each chart for easy comparison.<sup>9</sup>
3. Are there particular domains, subgroups of children, divisions, or classrooms that might be targets for additional attention and support?

## Limitations

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There is considerable variability in children’s development, especially between the ages of 3 and 6 years. For example, the rate of children’s growth is not linear overtime but often occurs in spurts. Further, children may differ in their rate of growth across domains. These variations across children and across developmental domains for individual children are considered normal. Also, the results presented are a snapshot in time. Trained researchers, not clinicians, conducted the direct assessments and captured what they observed on a given day. The teacher-report ratings also reflect a point in time. Thus, we provide these cautions for examining and interpreting the assessment results and urge you to follow these guidelines:

- These data should not be used in decision-making about the retention or promotion of children to the next grade level.
- These data should not be used as a screener or for diagnostic purposes.
- These data should not be used for teacher evaluation.
- Division staff (VPI+ coordinators and teachers) should view only their division’s data, and should not have access to the reports for other divisions.

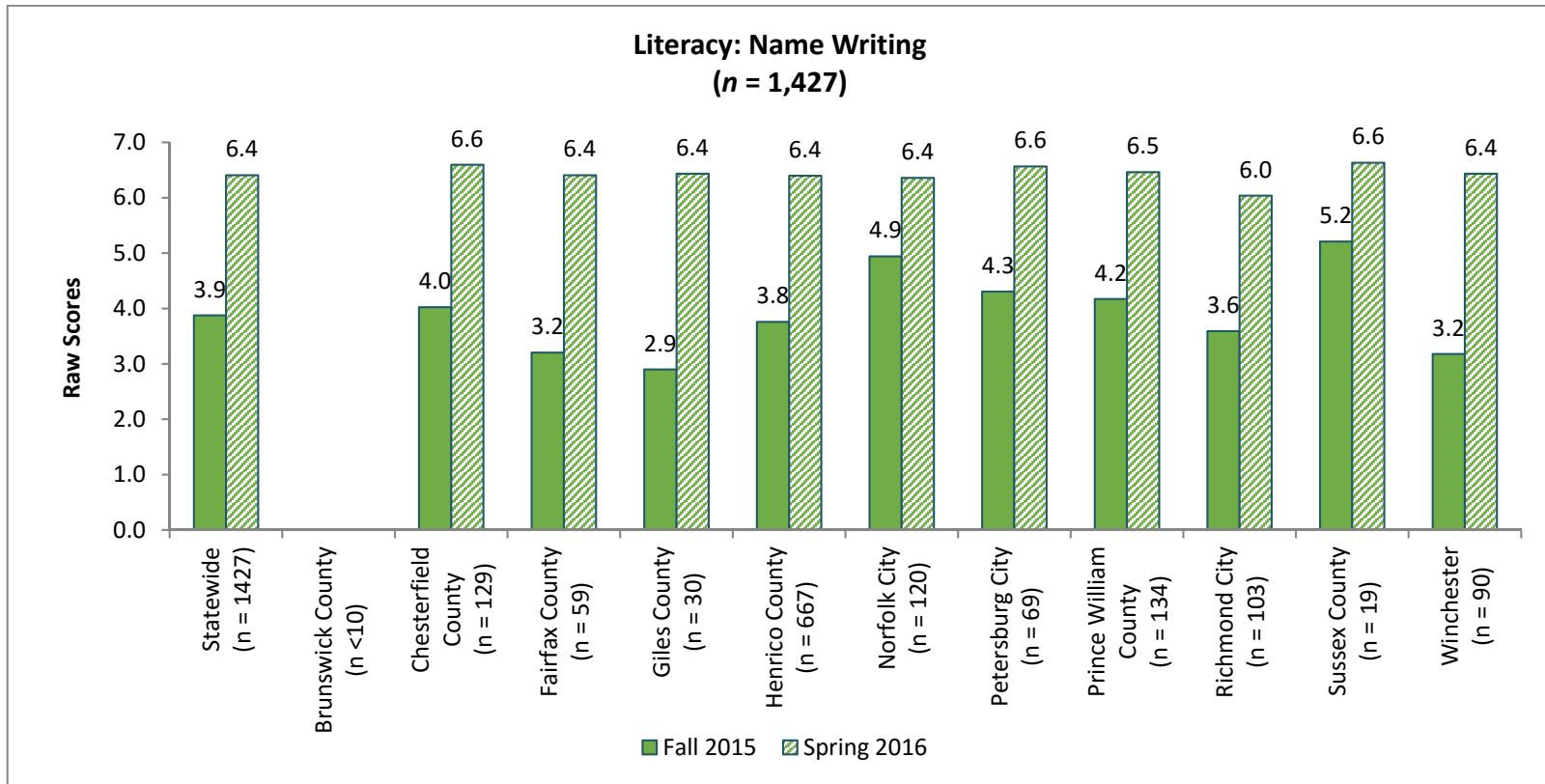
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<sup>8</sup> This is a subset of all eligible children defined as at or below 200% of the federal poverty level.

<sup>9</sup> Only the measure of early math skills (Applied Problems subtest) and the TCRS subscales are considered norm-referenced measures. The norm-referenced scores for each of these measures are listed below each chart.

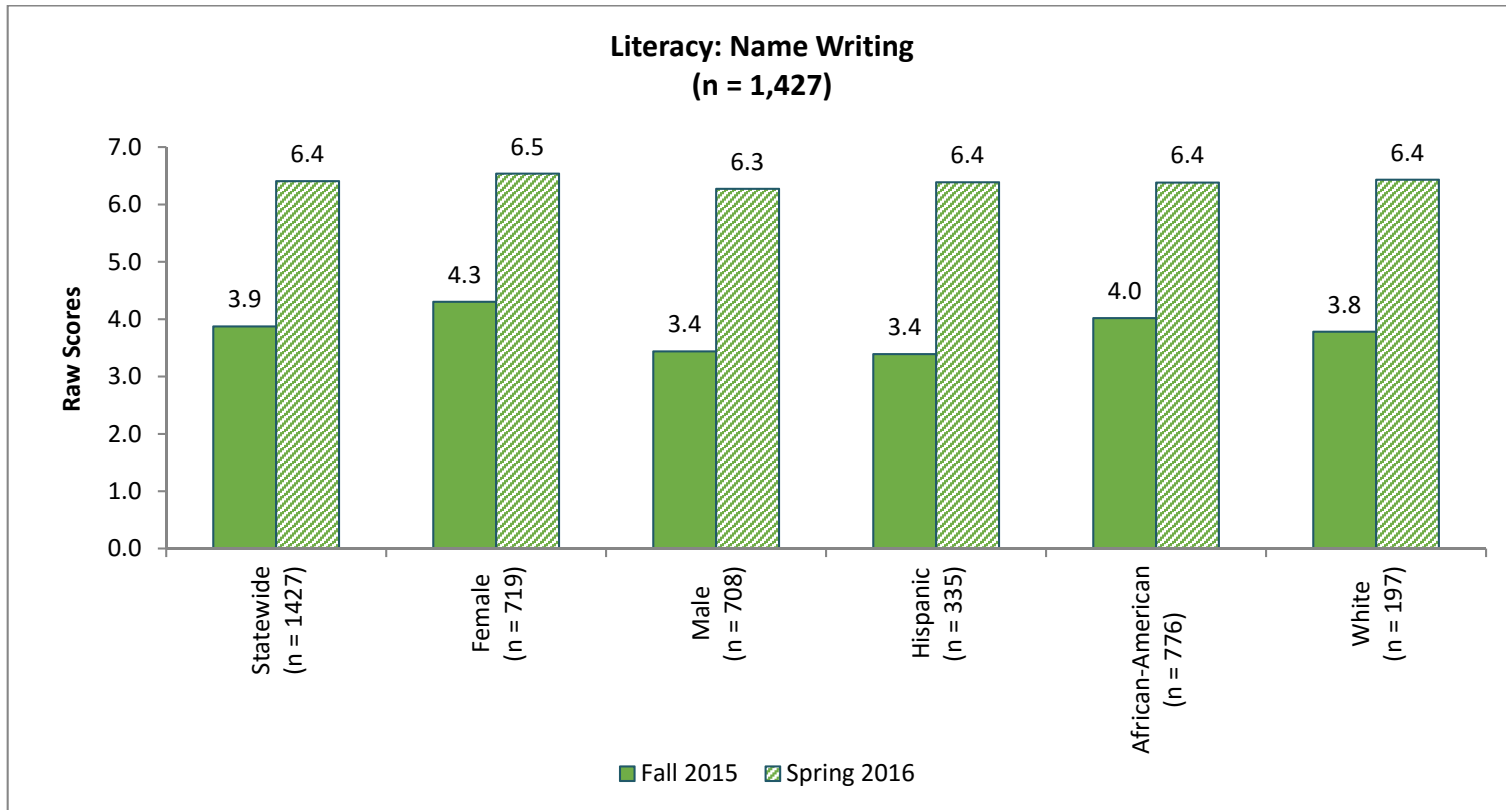
Fall 2015 and Spring 2016 Assessment Results

Exhibit 1. PALS-PreK: Average Scores by Division on Literacy: Name Writing



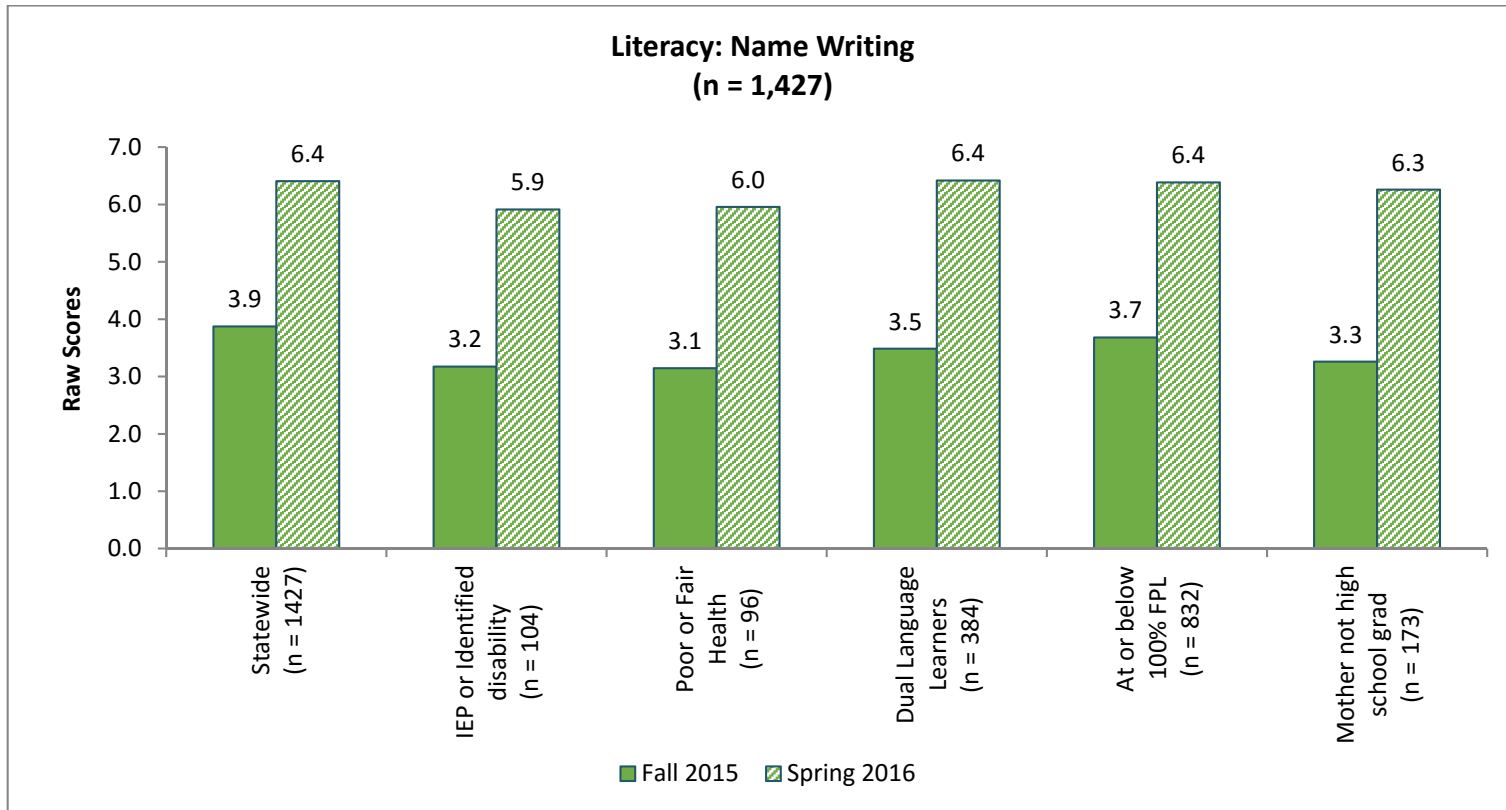
Note: The expected developmental range for spring of PreK is 5-7.

**Exhibit 2. PALS-PreK: Average Scores by Demographics on Literacy: Name Writing**



Note: The expected developmental range for spring of PreK is 5-7.

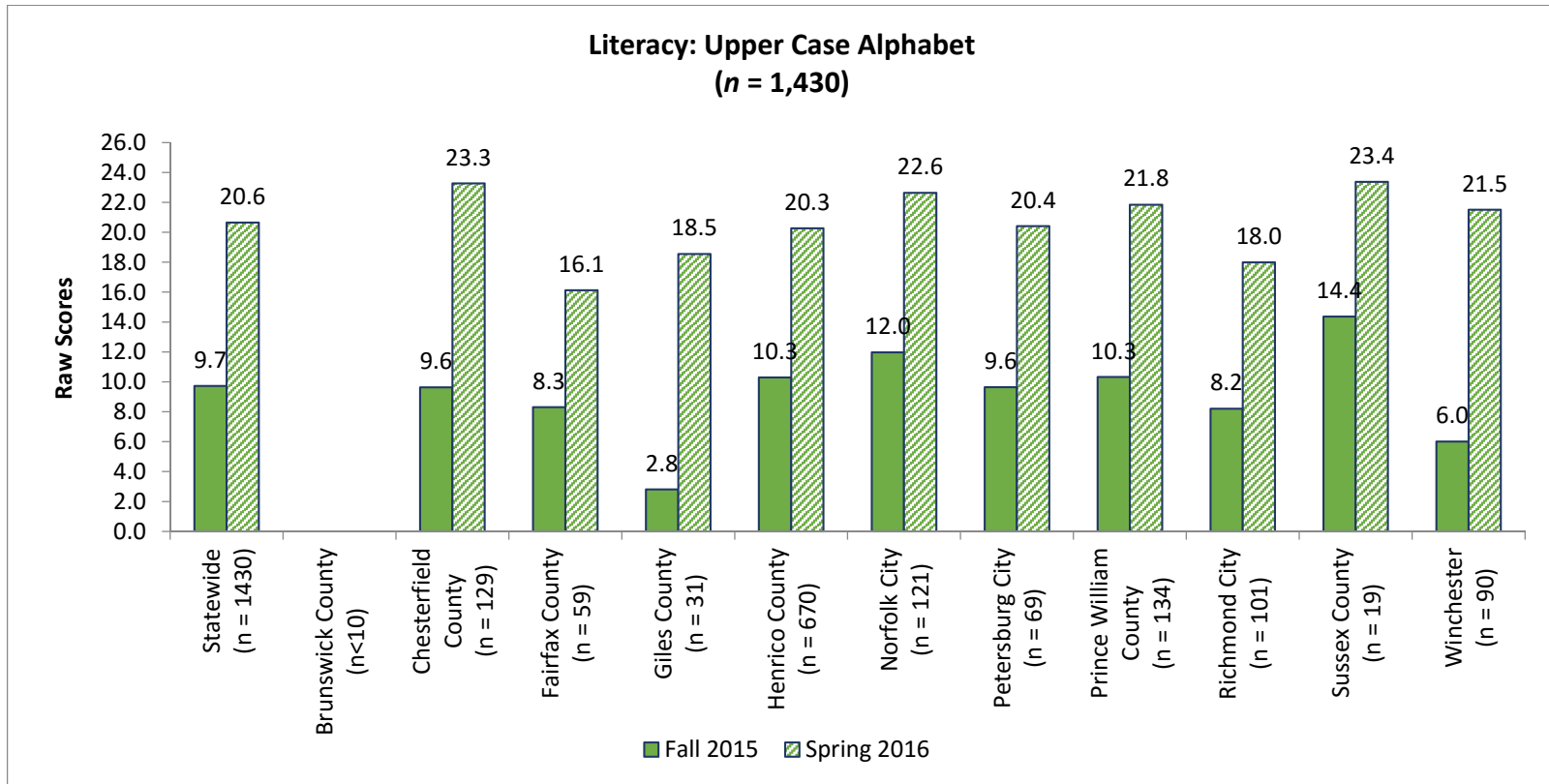
**Exhibit 3. PALS-PreK: Average Scores by Risk Factors on Literacy: Name Writing**



Note: The expected developmental range for spring of PreK is 5-7.

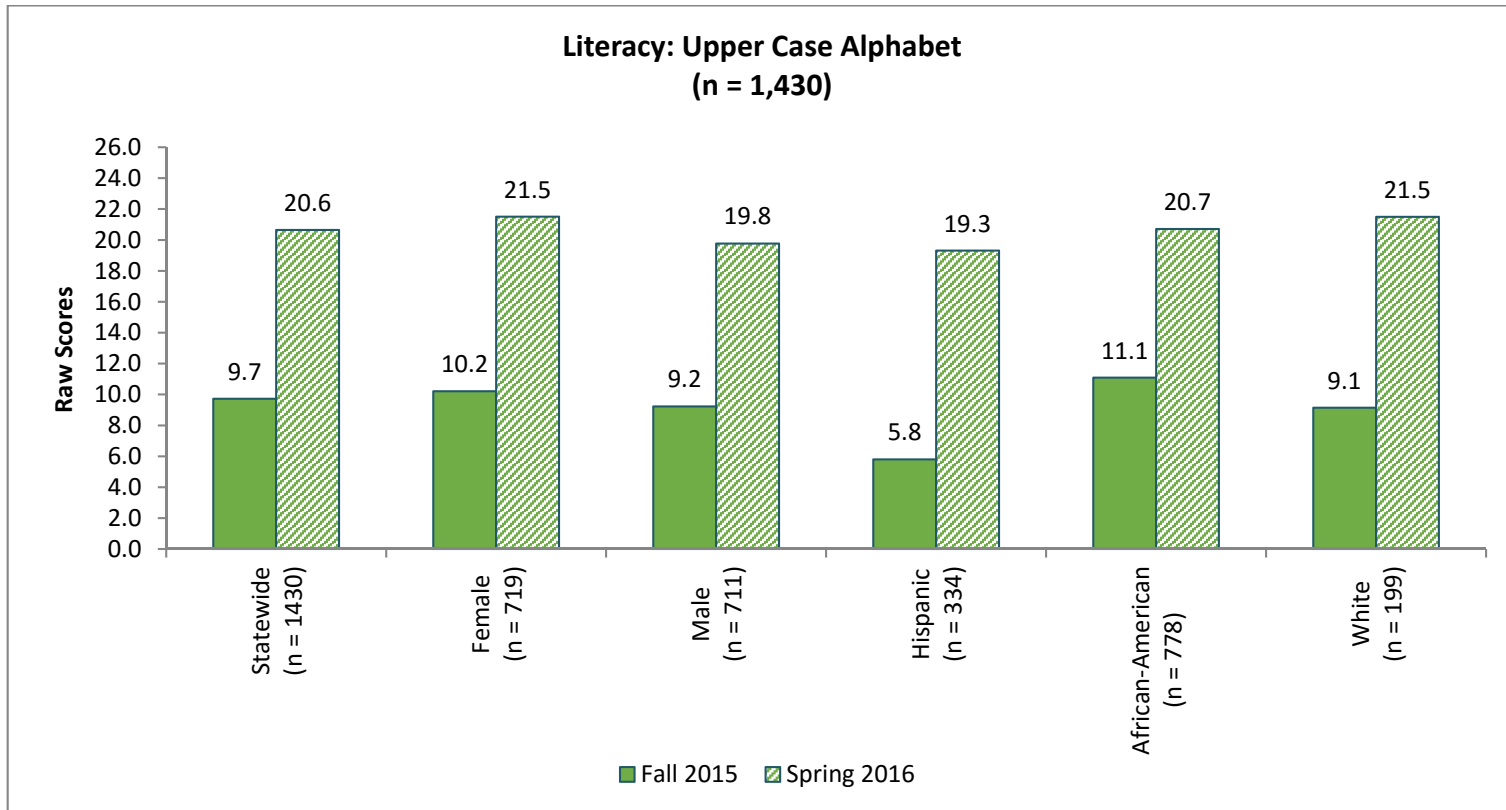


**Exhibit 4. PALS-PreK: Average Scores by Division on Literacy: Upper-Case Alphabet**



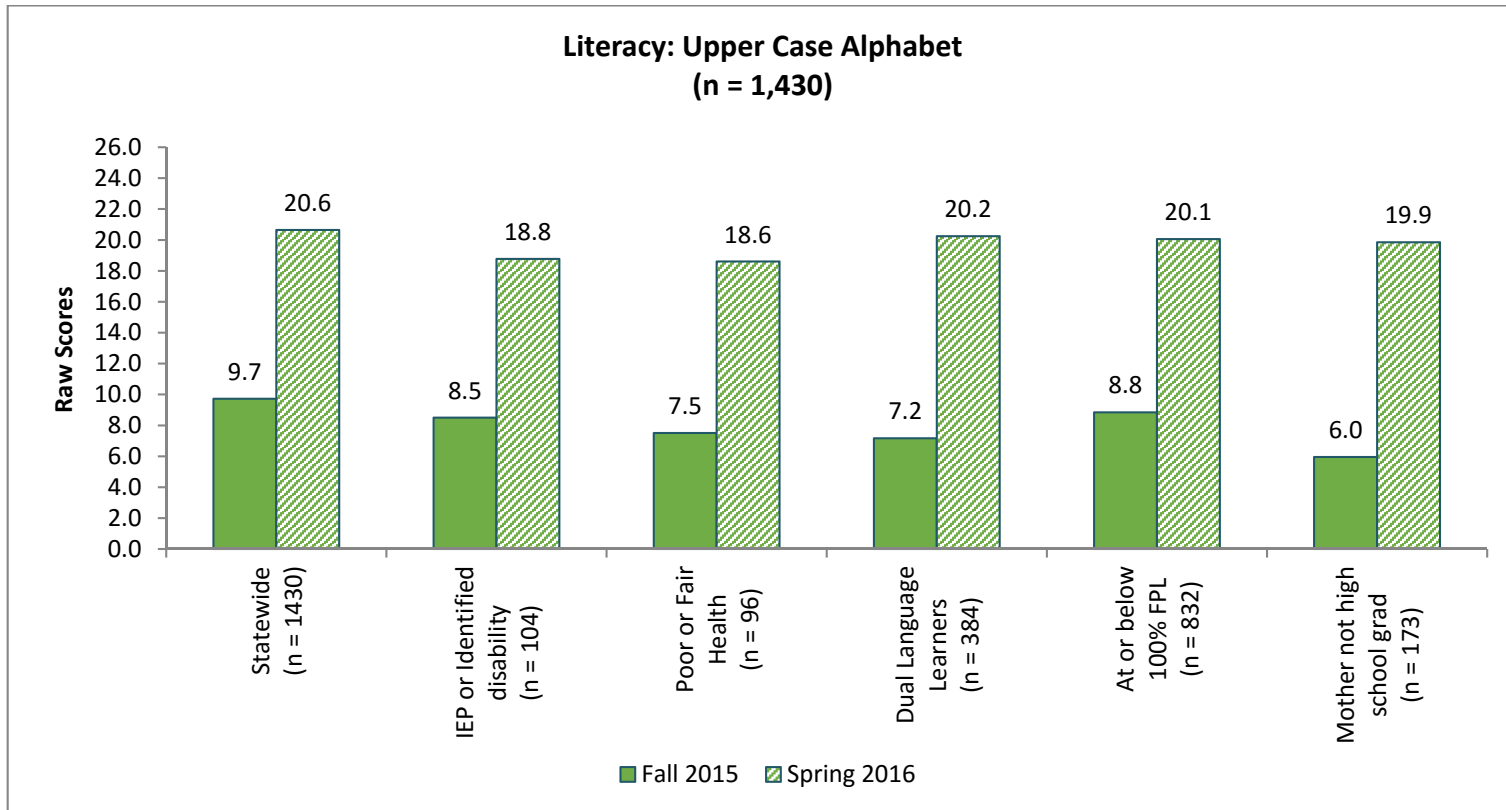
Note: The expected developmental range for spring of PreK is 12-21 with a maximum score of 26.

**Exhibit 5. PALS-PreK: Average Scores by Demographics on Literacy: Upper-Case Alphabet**



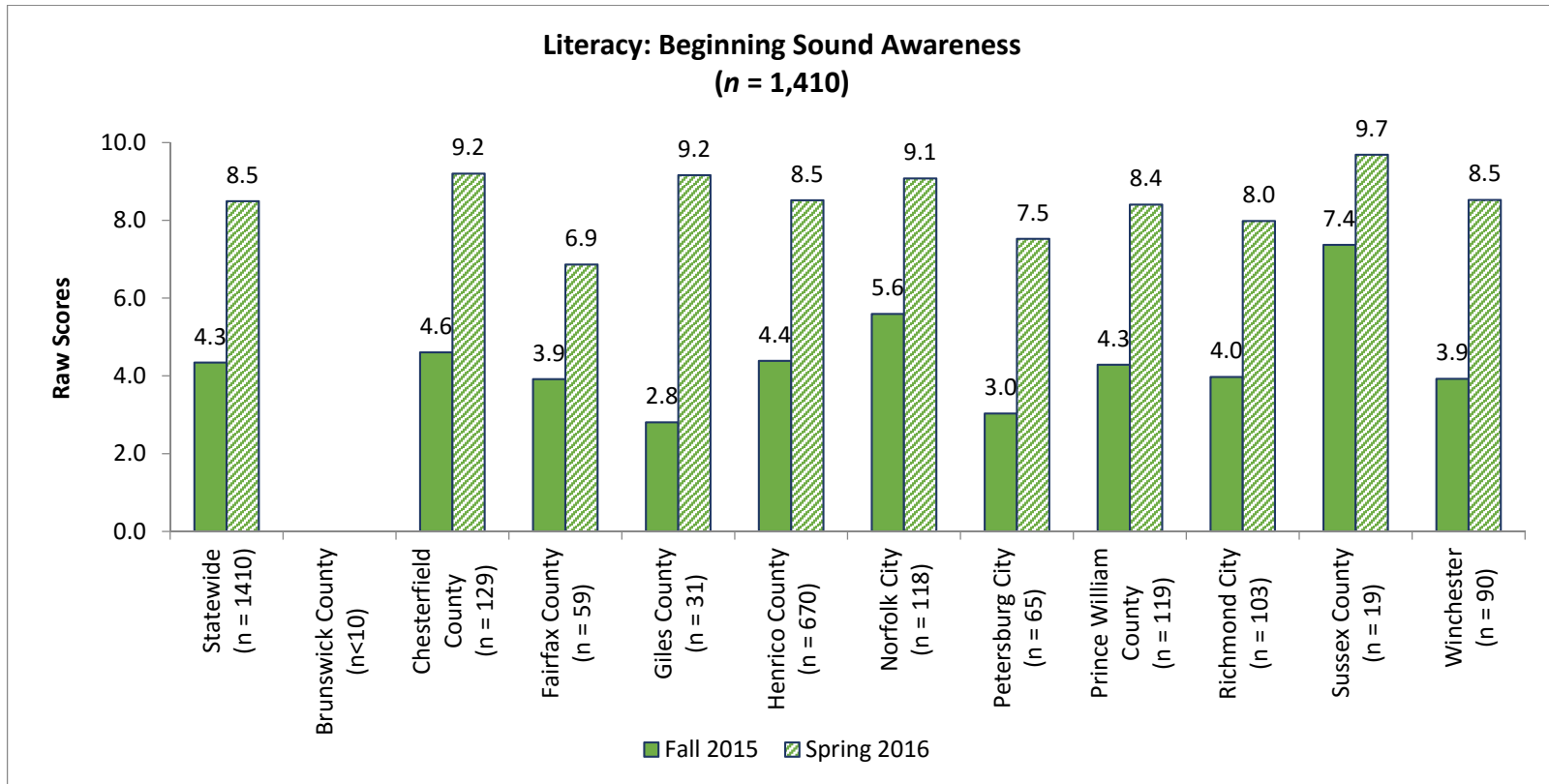
Note: The expected developmental range for spring of PreK is 12-21 with a maximum score of 26.

**Exhibit 6. PALS-PreK: Average Scores by Risk Factors on Literacy: Upper-Case Alphabet**



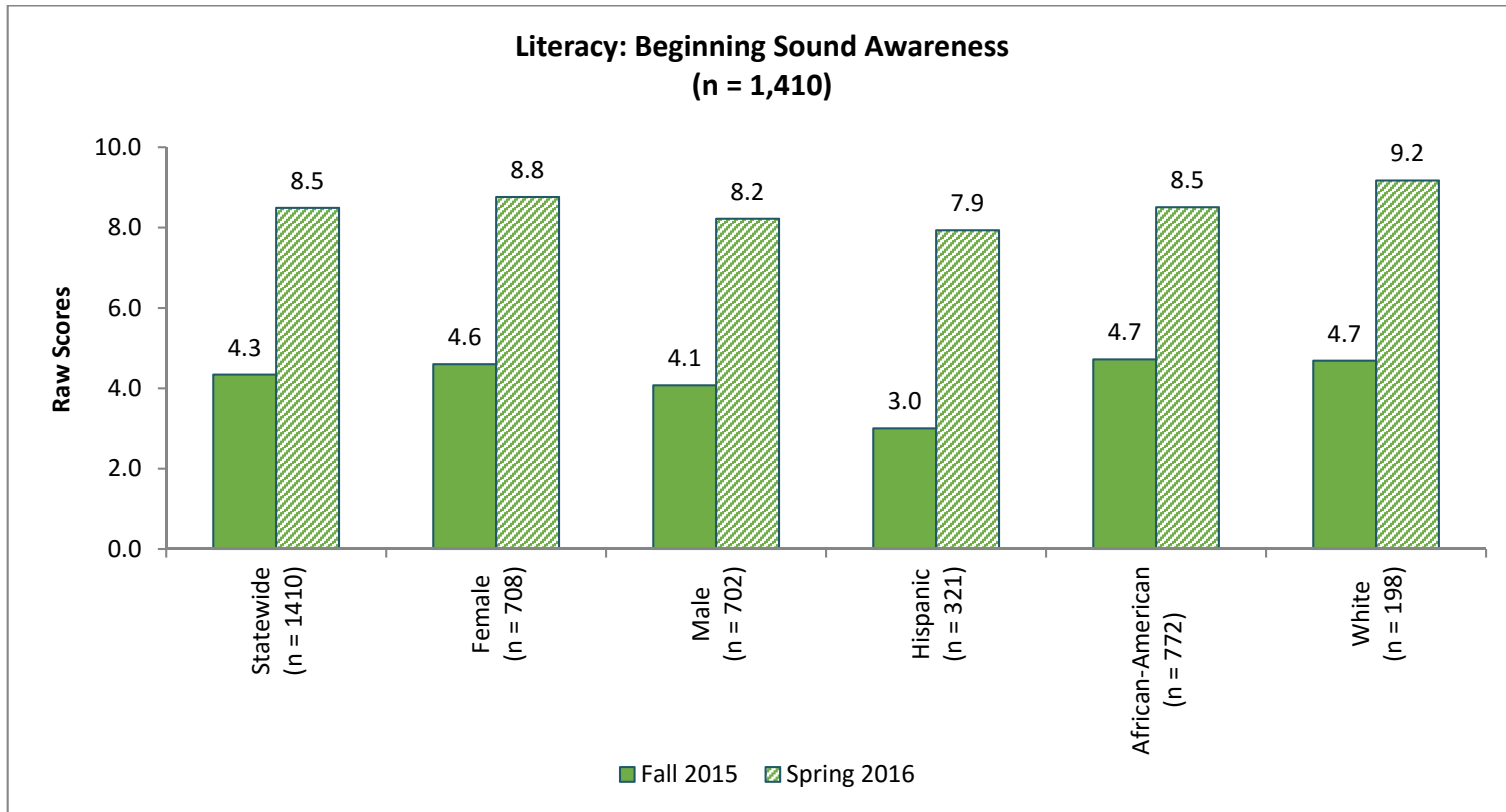
Note: The expected developmental range for spring of PreK is 12-21 with a maximum score of 26.

**Exhibit 7. PALS-PreK: Average Scores by Division on Literacy: Beginning Sound Awareness**



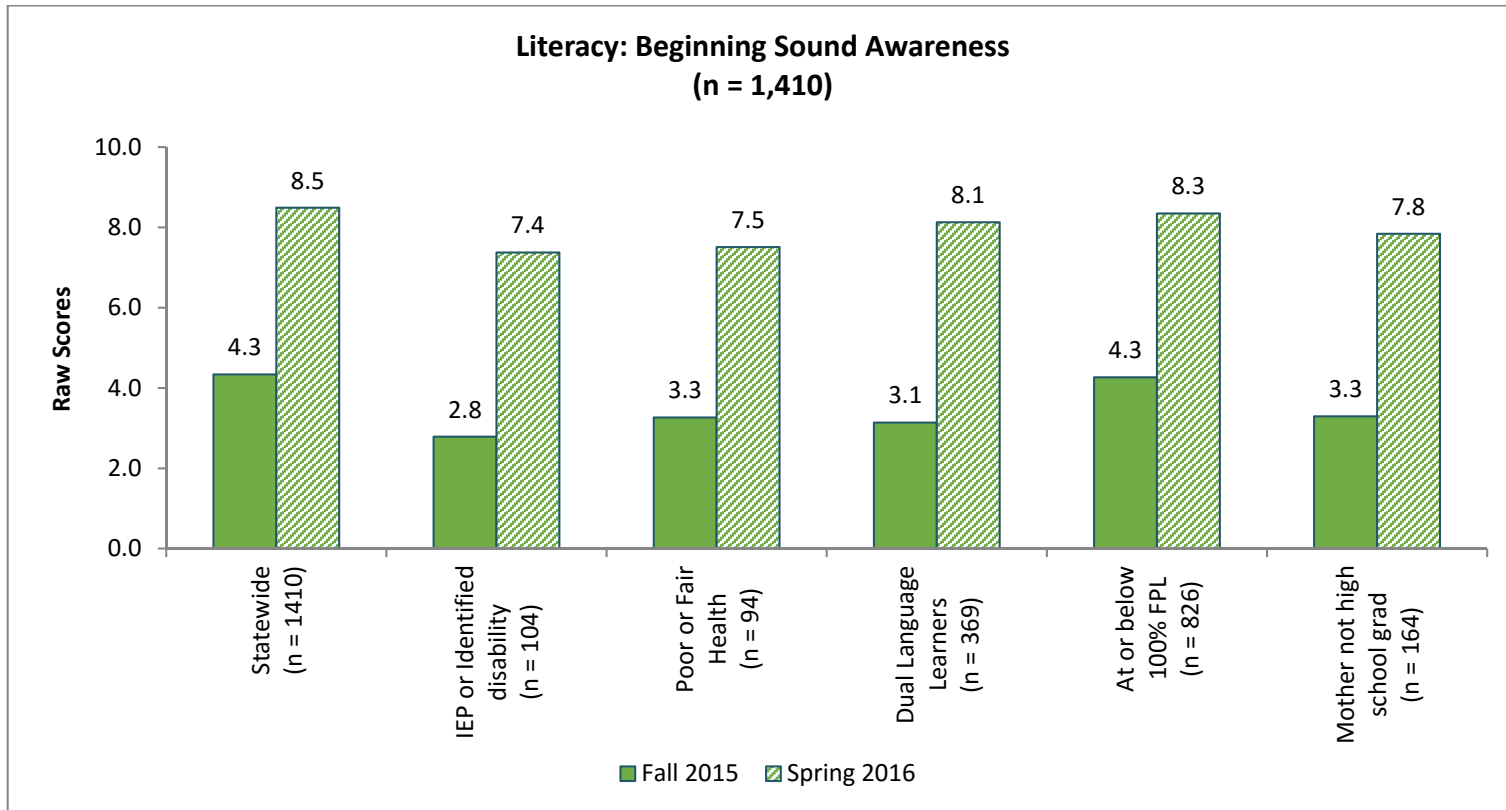
Note: The expected developmental range for spring of PreK is 5-8 with a maximum score of 10.

**Exhibit 8. PALS-PreK: Average Scores by Demographics on Literacy: Beginning Sound Awareness**



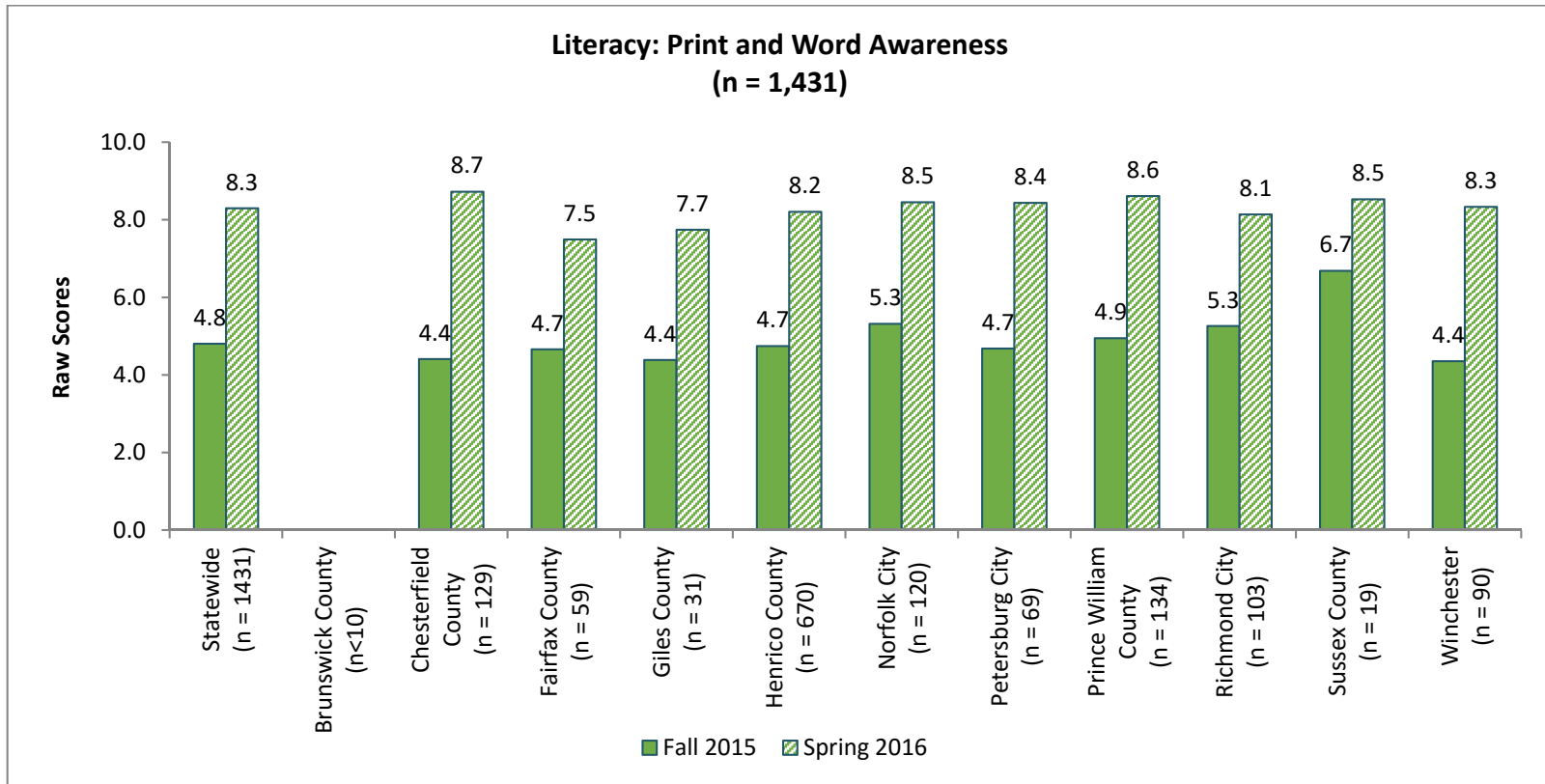
Note: The expected developmental range for spring of PreK is 5-8 with a maximum score of 10.

**Exhibit 9. PALS-PreK: Average Scores by Risk Factors on Literacy: Beginning Sound Awareness**



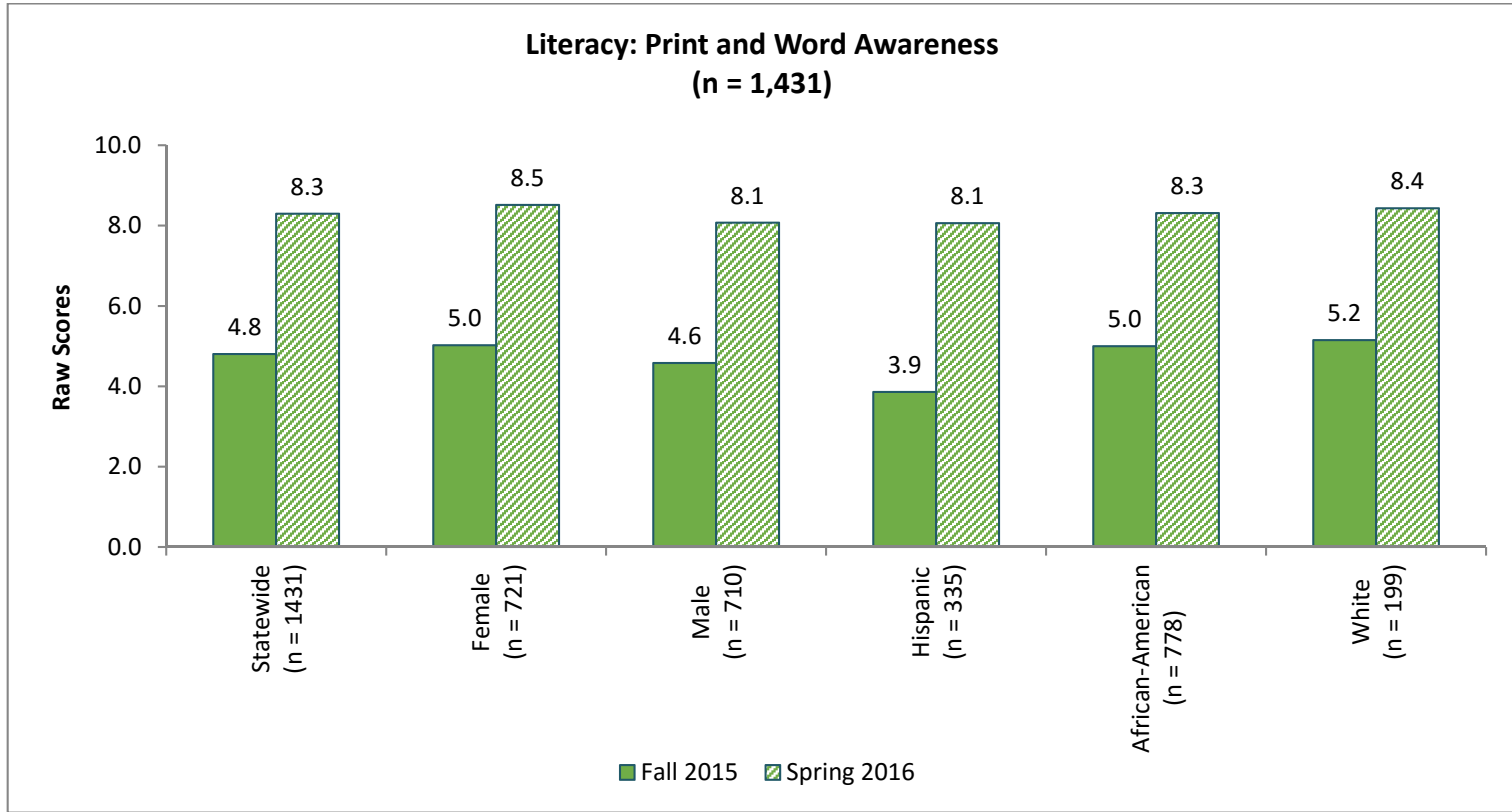
Note: The expected developmental range for spring of PreK is 5-8 with a maximum score of 10.

**Exhibit 10. PALS-PreK: Average Scores by Division on Literacy: Print and Word Awareness**



Note: The expected developmental range for spring of PreK is 7-9 with a maximum score of 10.

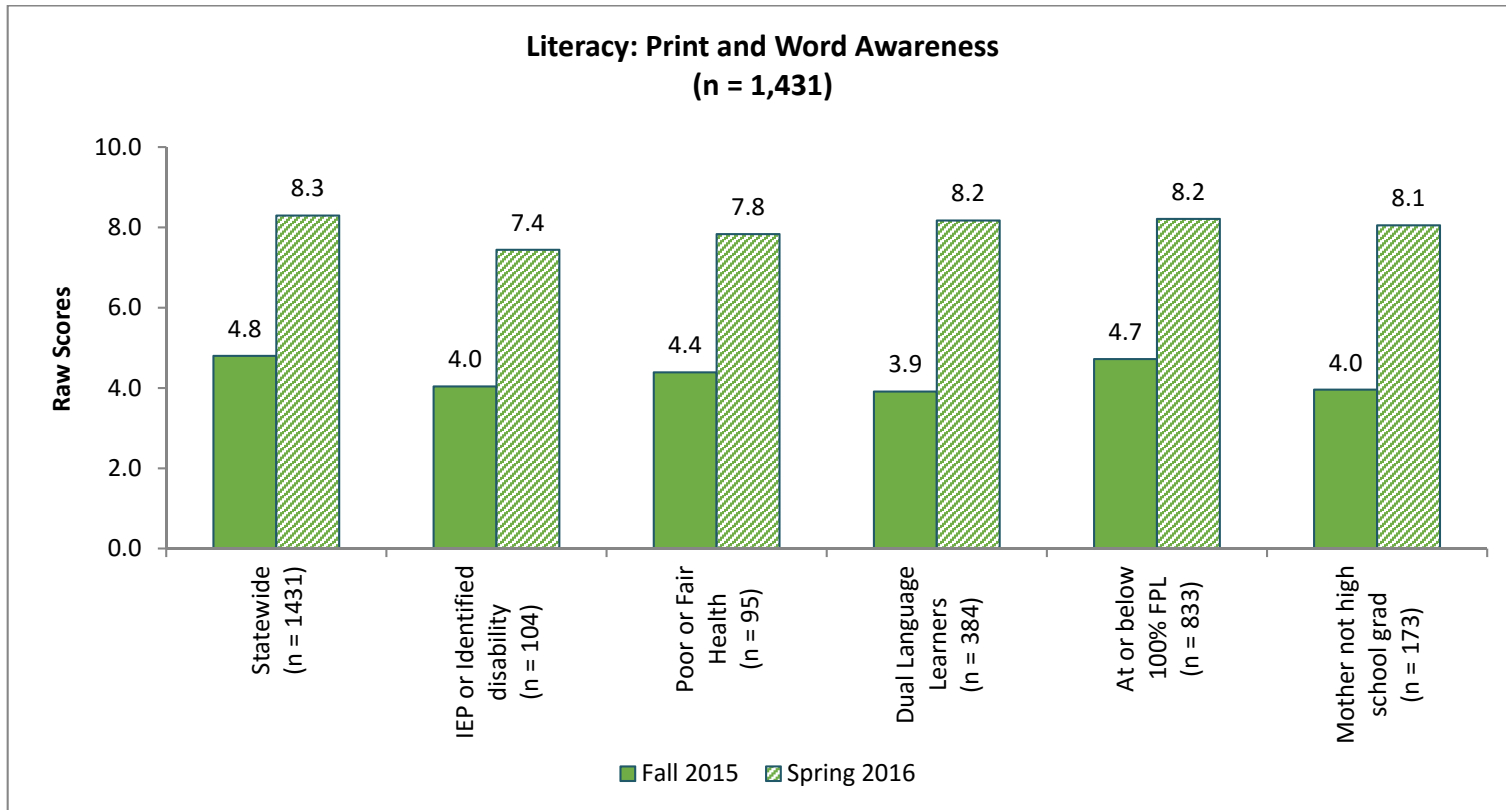
**Exhibit 11. PALS-PreK: Average Scores by Demographics on Literacy: Print and Word Awareness**



Note: The expected developmental range for spring of PreK is 7-9 with a maximum score of 10.

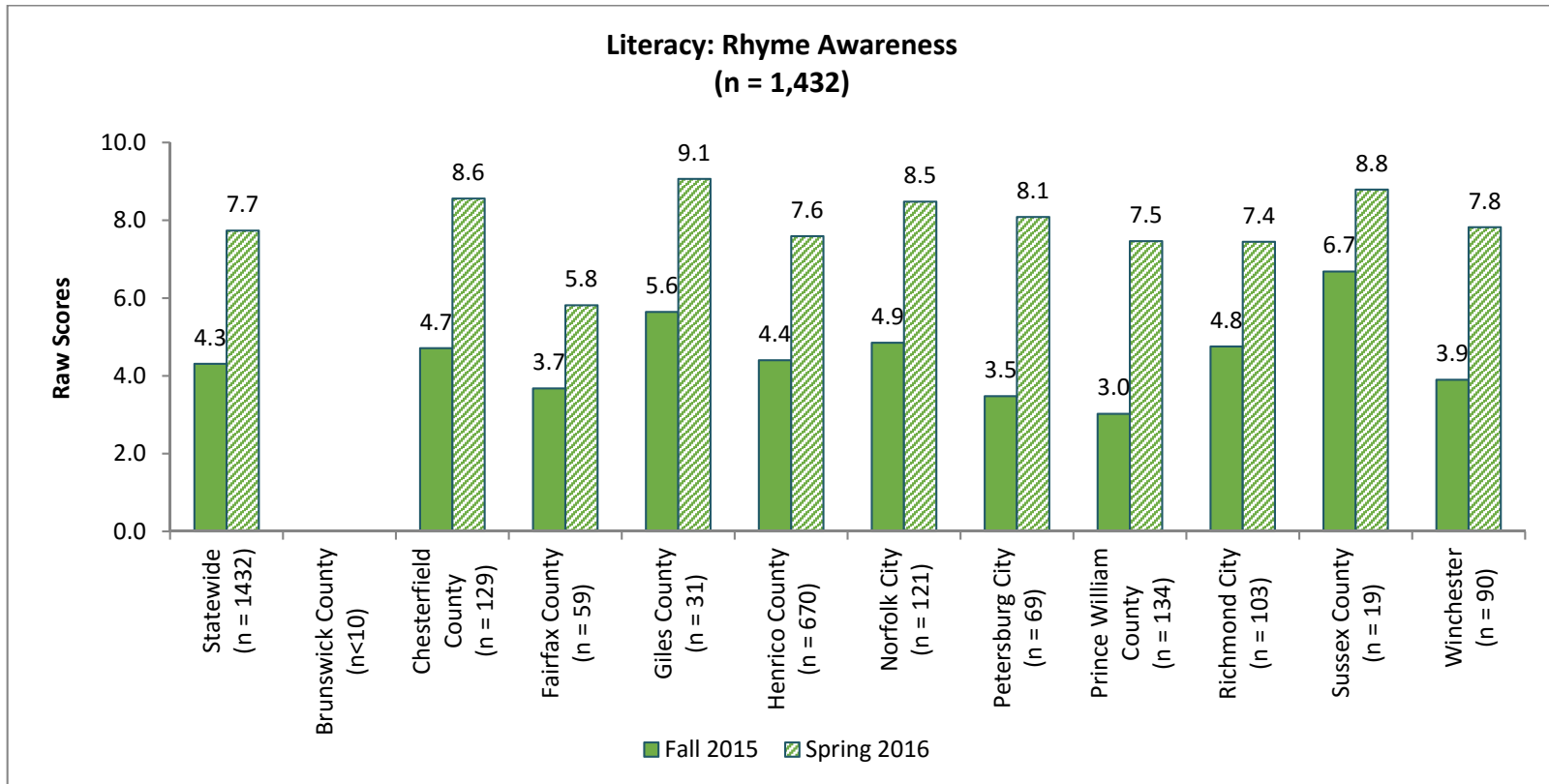


**Exhibit 12. PALS-PreK: Average Scores by Risk Factors on Literacy: Print and Word Awareness**



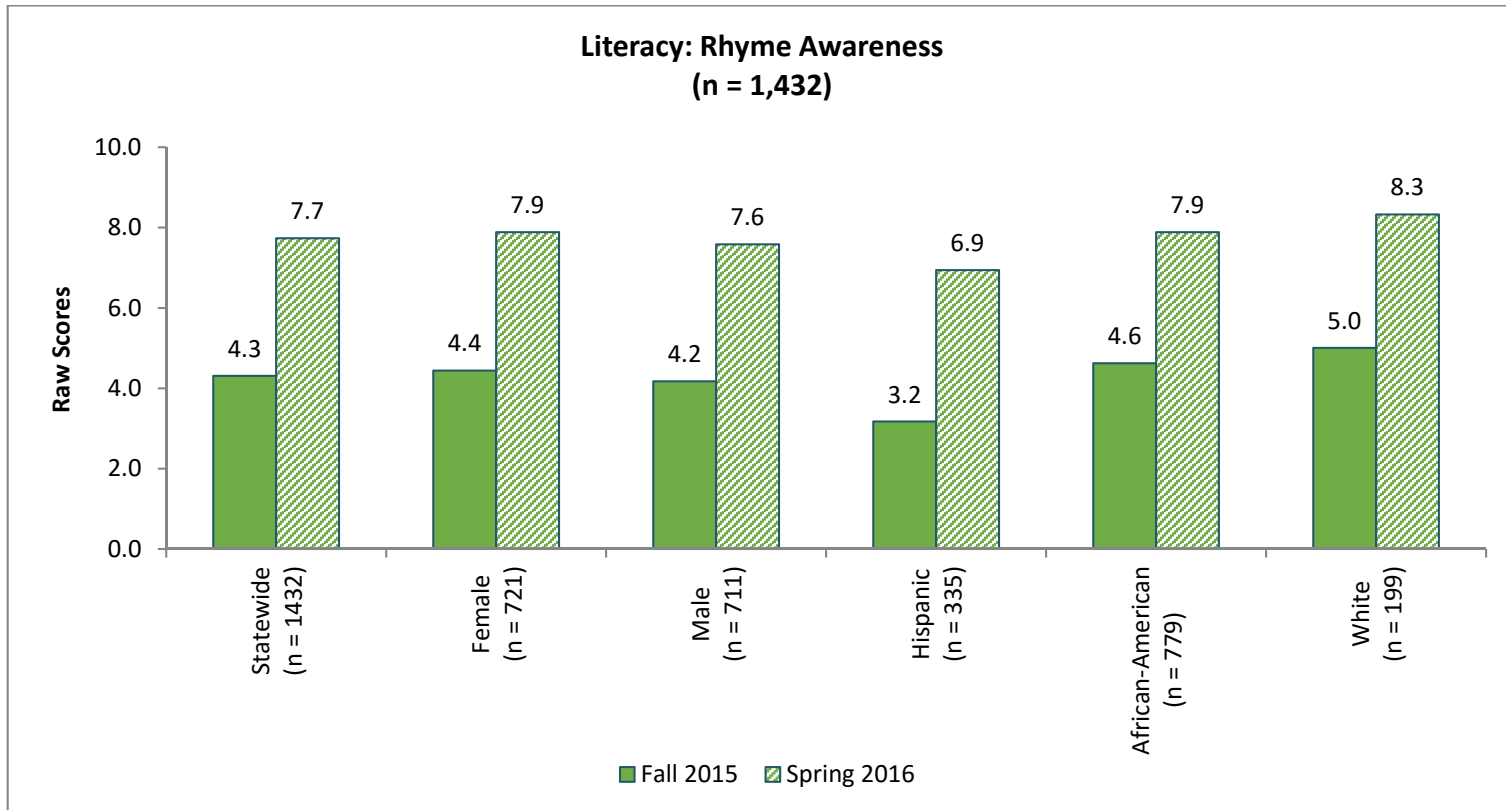
Note: The expected developmental range for spring of PreK is 7-9 with a maximum score of 10.

**Exhibit 13. PALS-PreK: Average Scores by Division on Literacy: Rhyme Awareness**



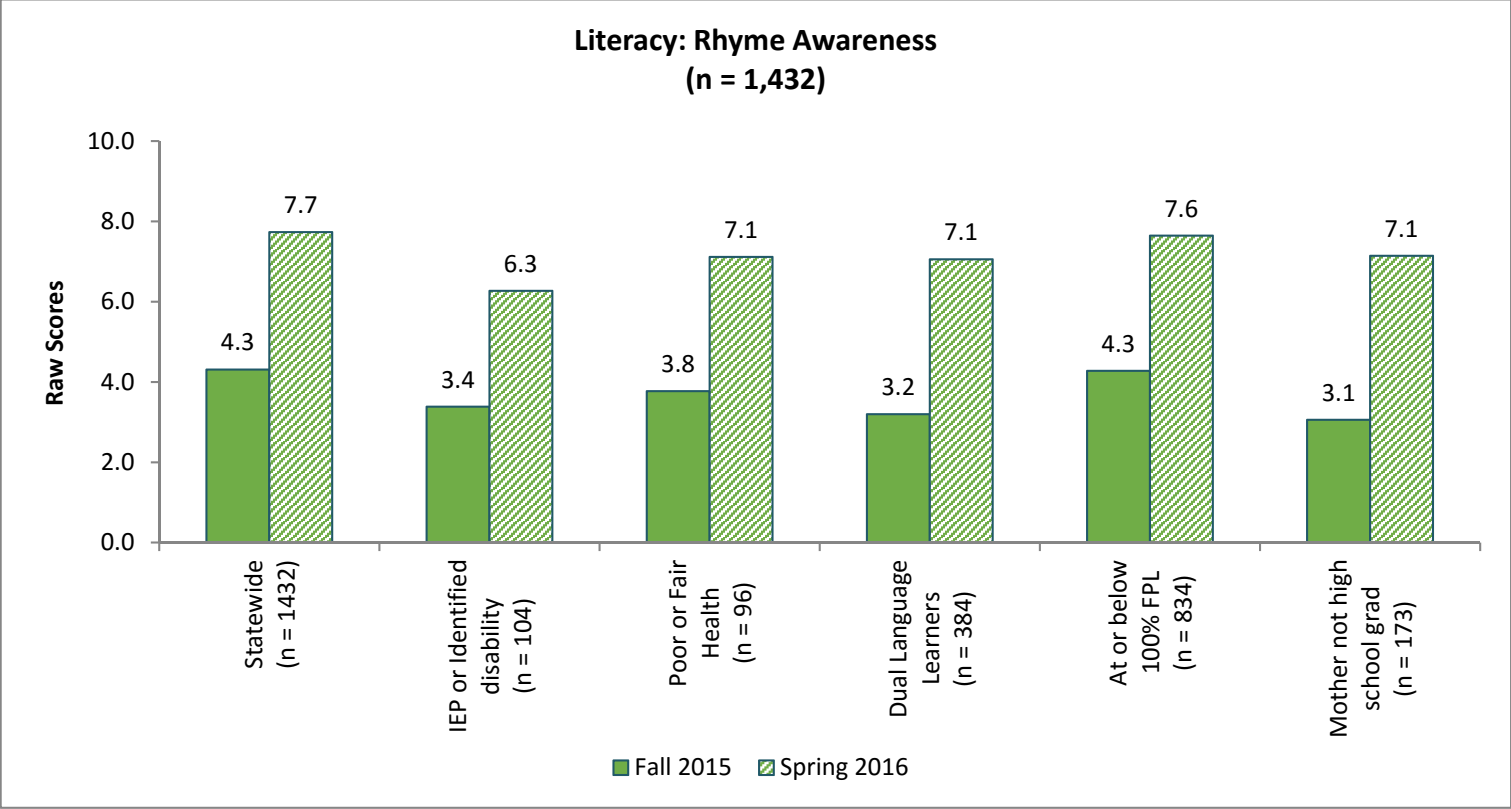
Note: The expected developmental range for spring of PreK is 5-7 with a maximum score of 10.

**Exhibit 14. PALS-PreK: Average Scores by Demographics on Literacy: Rhyme Awareness**



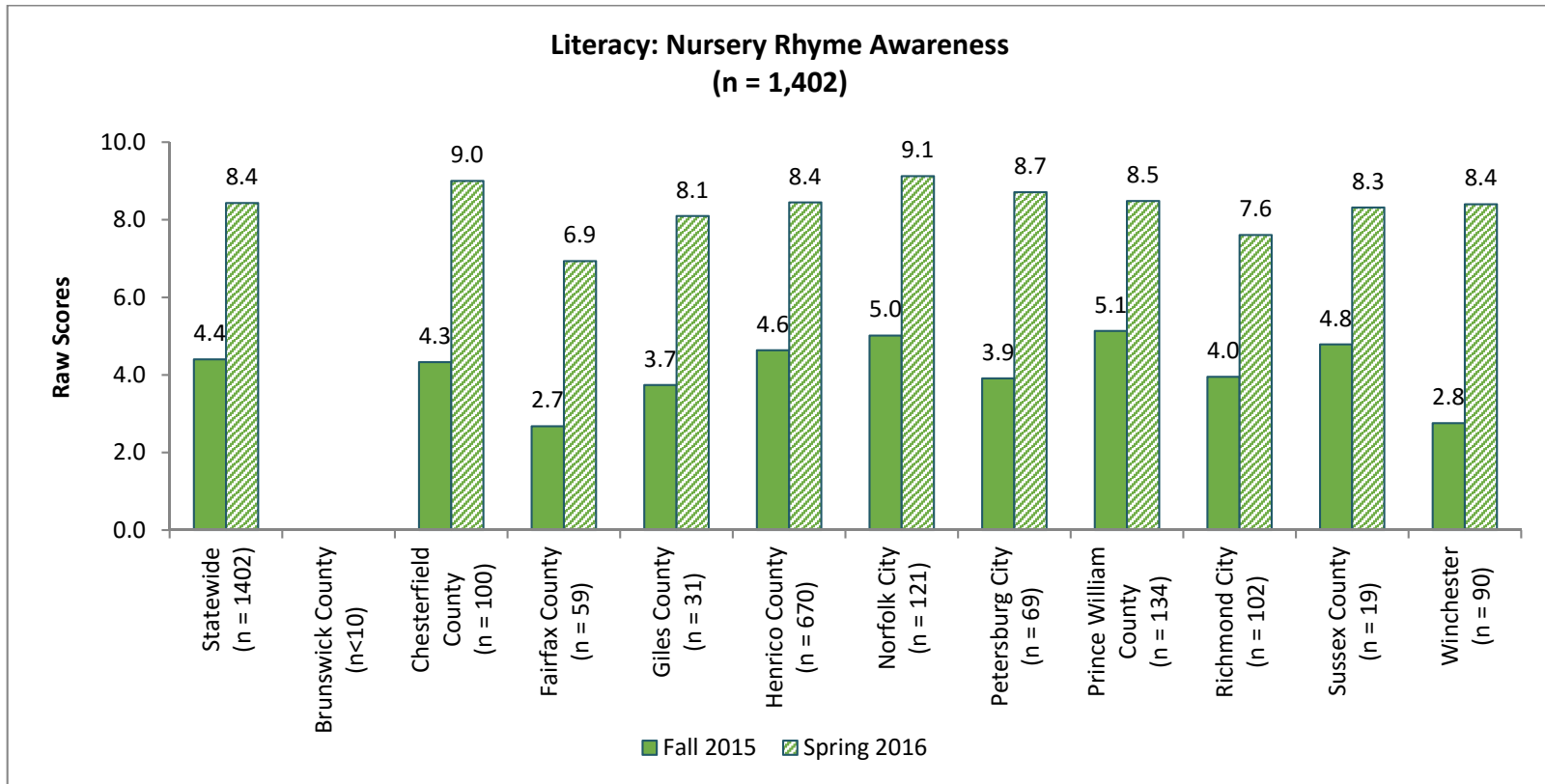
Note: The expected developmental range for spring of PreK is 5-7 with a maximum score of 10.

**Exhibit 15. PALS-PreK: Average Scores by Risk Factors on Literacy: Rhyme Awareness**



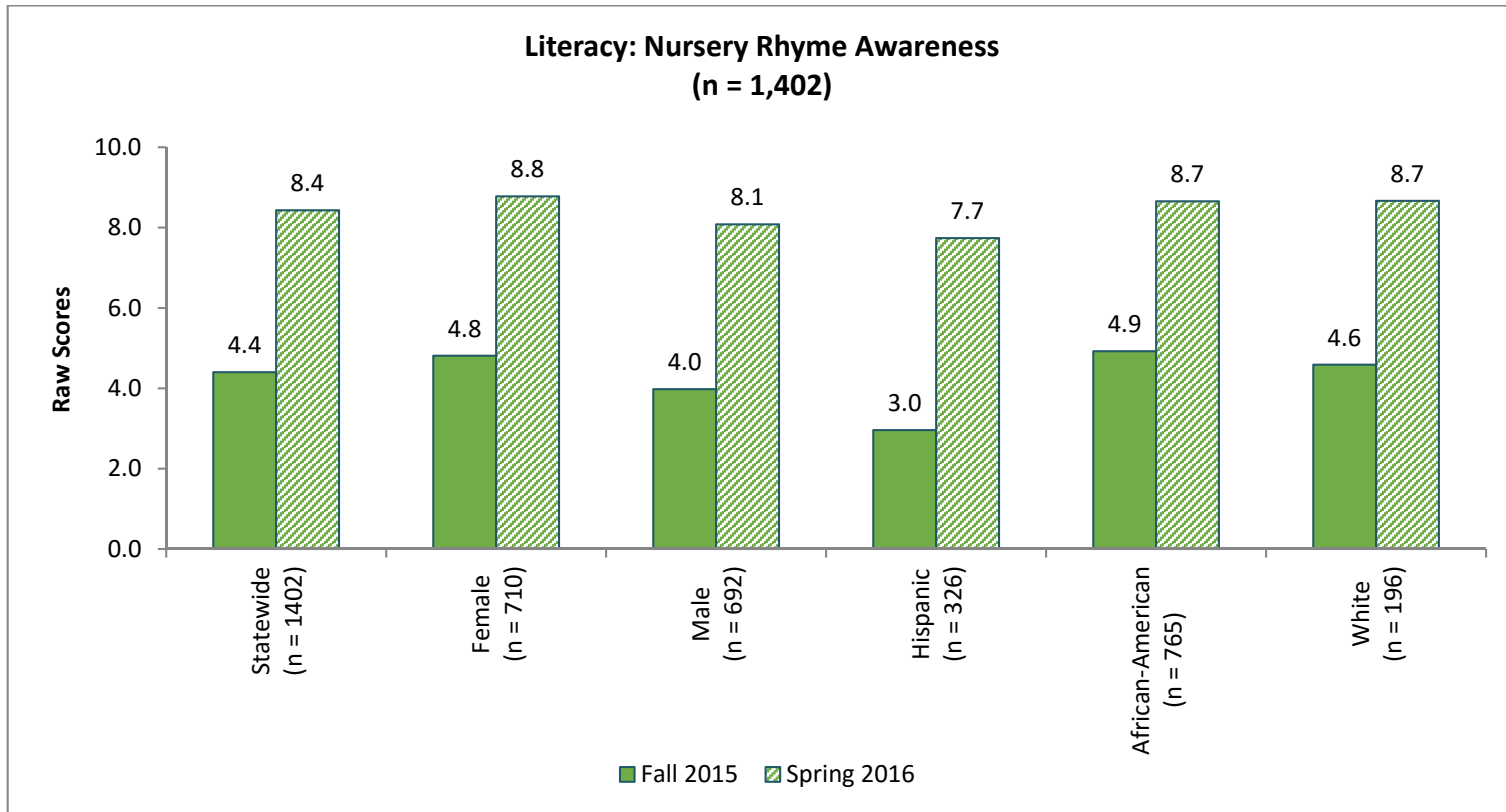
Note: The expected developmental range for spring of PreK is 5-7 with a maximum score of 10.

**Exhibit 16. PALS-PreK: Average Scores by Division on Literacy: Nursery Rhyme Awareness**



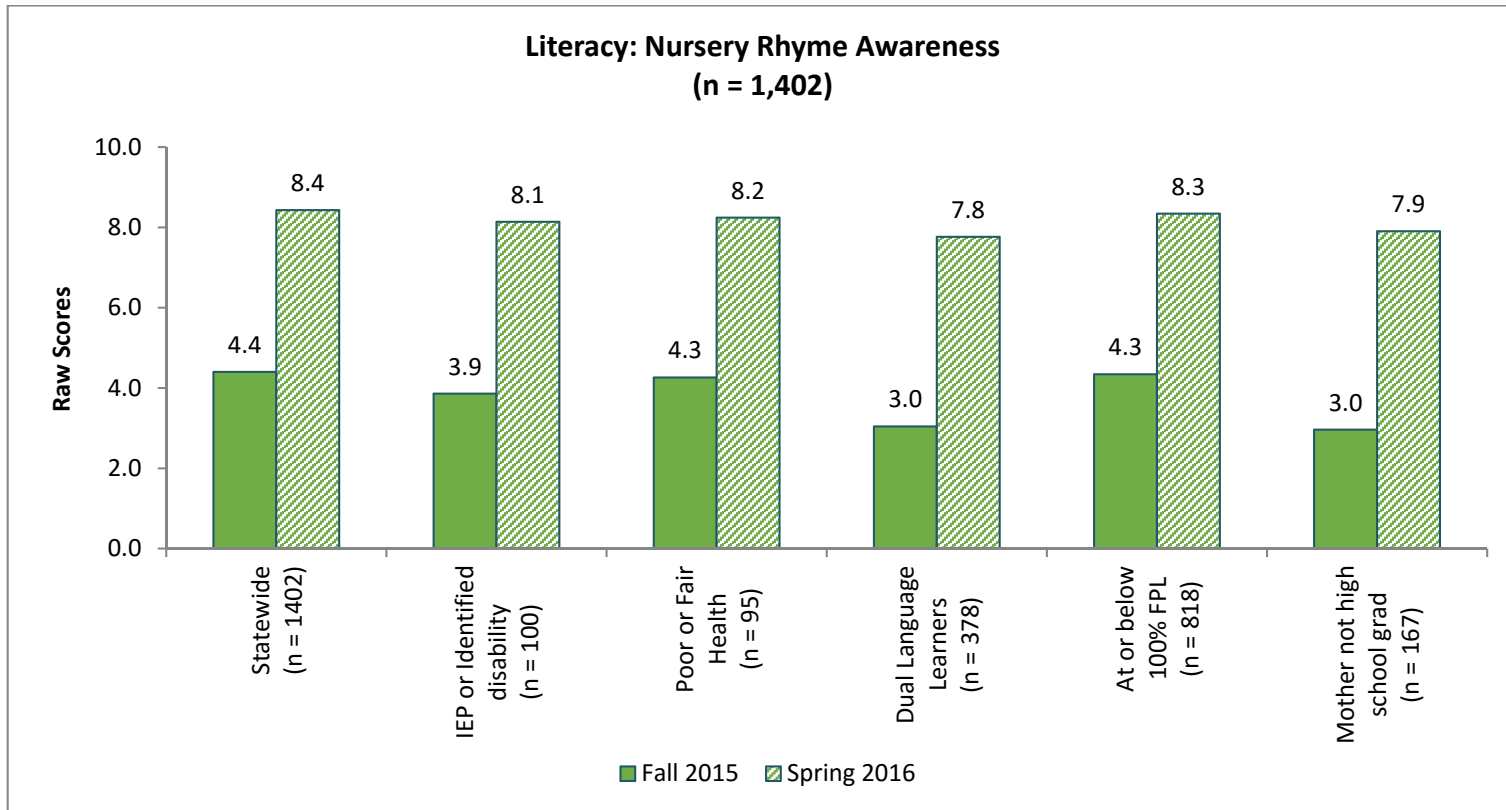
Note: The expected developmental range for spring of PreK is 6-10 with a maximum score of 10.

**Exhibit 17. PALS-PreK: Average Scores by Demographics on Literacy: Nursery Rhyme Awareness**



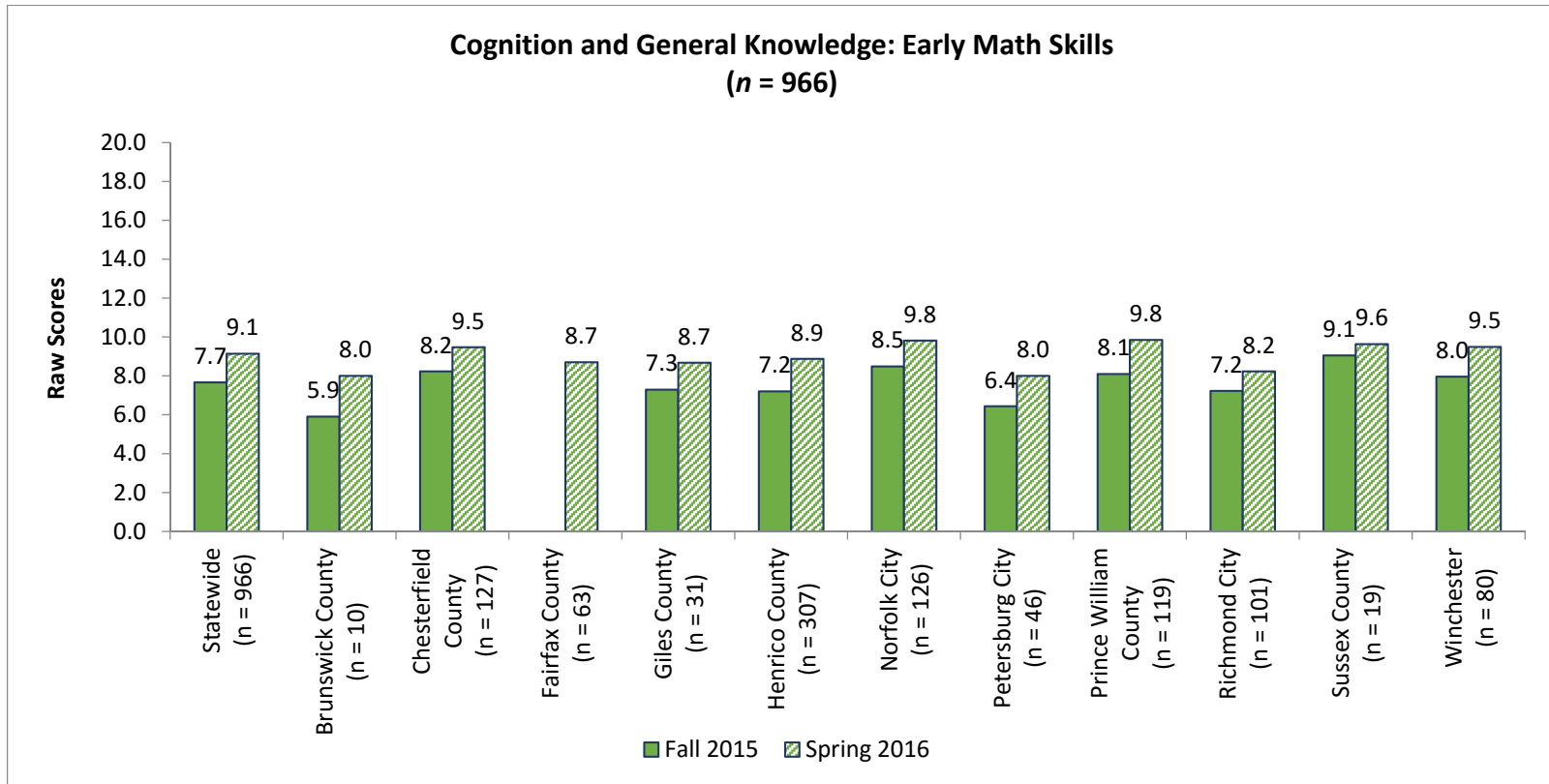
Note: The expected developmental range for spring of PreK is 6-10 with a maximum score of 10.

**Exhibit 18. PALS-PreK: Average Scores by Risk Factors on Literacy: Nursery Rhyme Awareness**



Note: The expected developmental range for spring of PreK is 6-10 with a maximum score of 10.

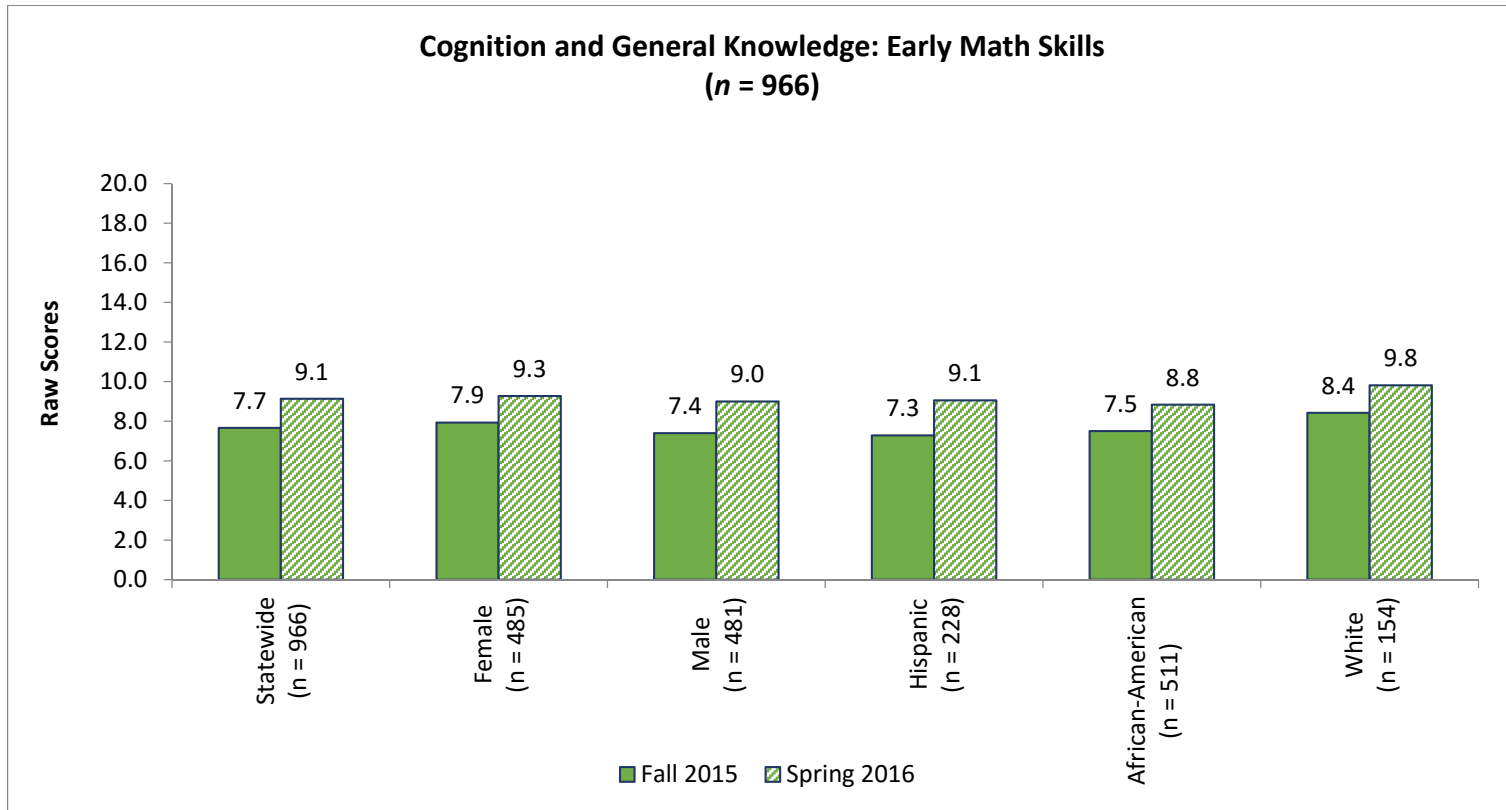
**Exhibit 19. Applied Problems: Average Scores by Division on Cognition and General Knowledge: Early Math Skills**



Note: These are average raw scores on the Applied Problems subtest. The range of raw scores in the fall was 0 to 15. The range of raw scores in the spring was 0 to 18. Also note, Fairfax sample is not reflected in the statewide sample.

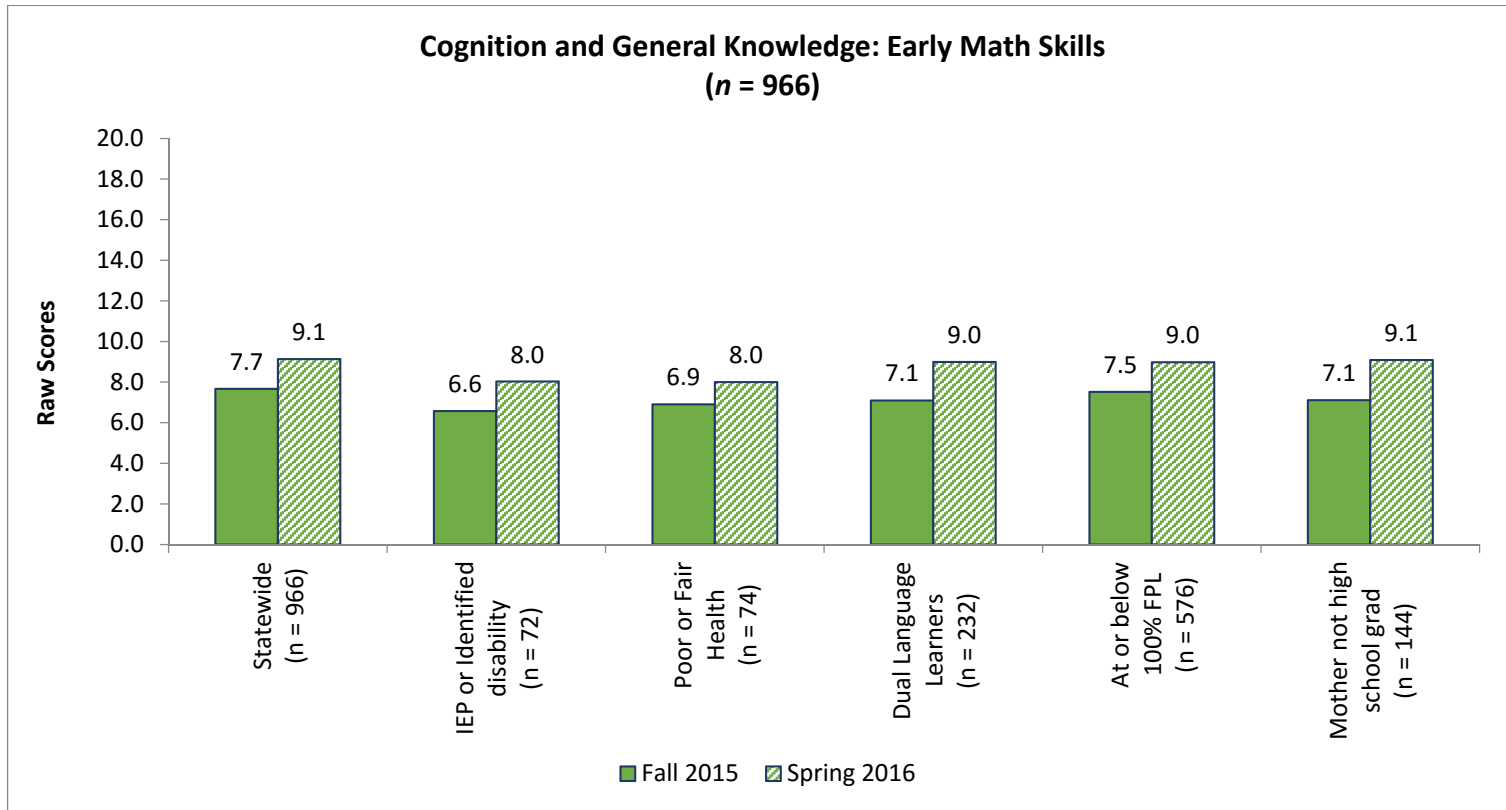


**Exhibit 20. Applied Problems: Average Scores by Demographics on Cognition and General Knowledge: Early Math Skills**



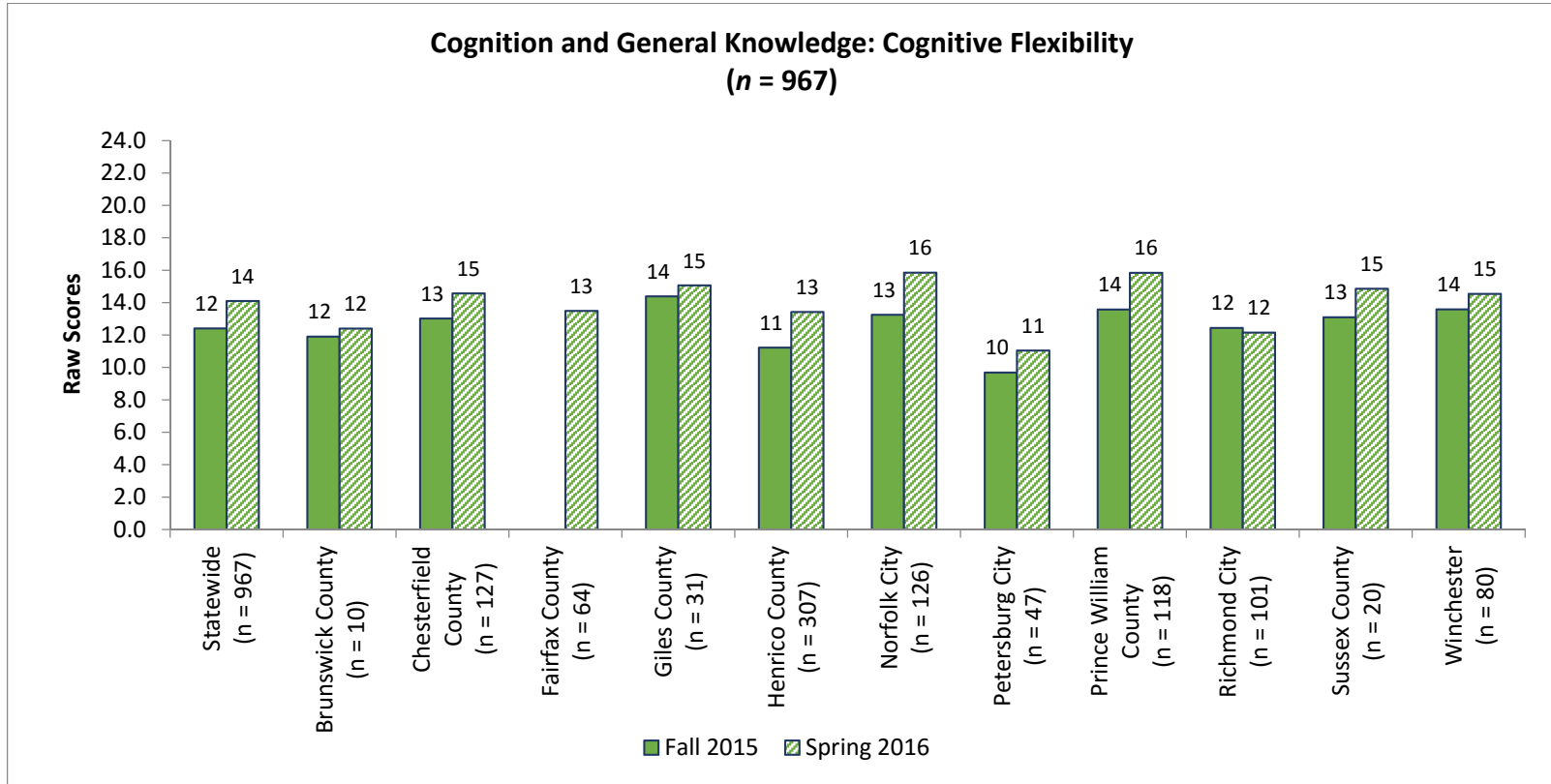
Note: These are average raw scores on the Applied Problems subtest. The range of raw scores in the fall was 0 to 15. The range of raw scores in the spring was 0 to 18.

**Exhibit 21. Applied Problems: Average Scores by Risk Factors on Cognition and General Knowledge: Early Math Skills**



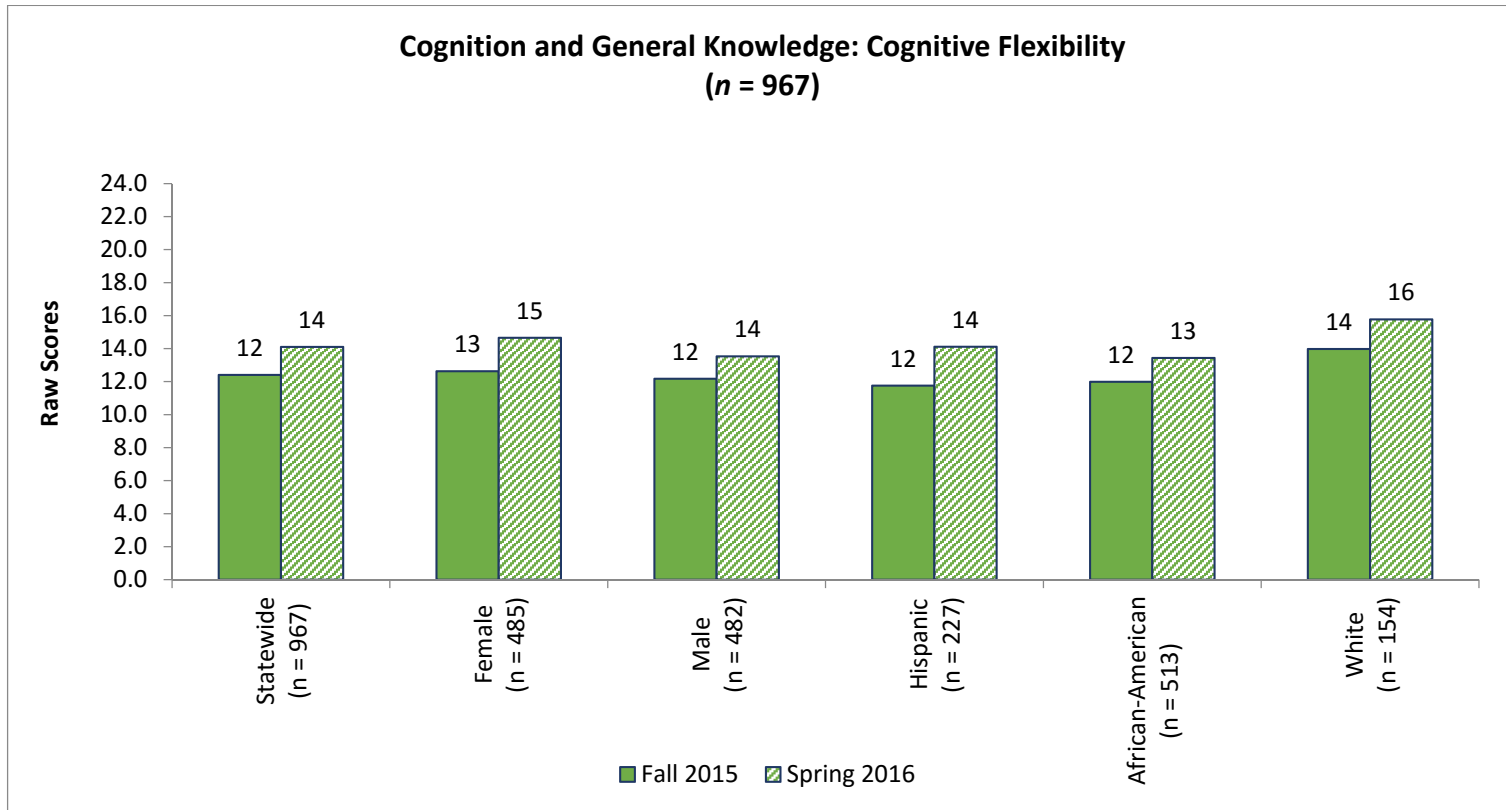
Note: These are average raw scores on the Applied Problems subtest. The range of raw scores in the fall was 0 to 15. The range of raw scores in the spring was 0 to 18.

**Exhibit 22. DCCS: Average Scores by Division on Cognition and General Knowledge: Cognitive Flexibility**



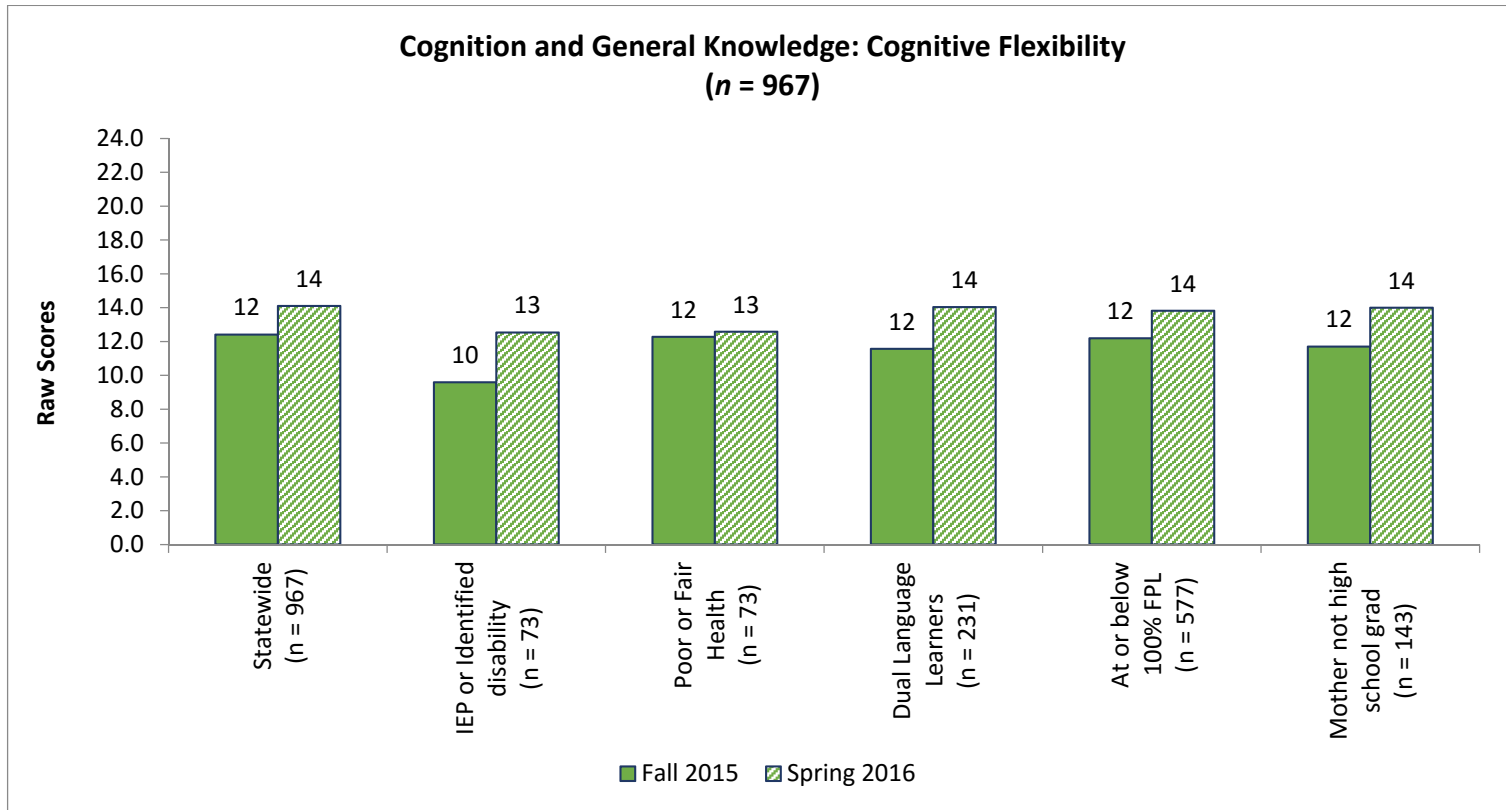
Note: These are average raw scores on the DCCS task. The range of raw scores in the fall was 0 to 24. The range of raw scores in the spring was 0 to 24. Also note, Fairfax sample is not reflected in the statewide sample.

**Exhibit 23. DCCS: Average Scores by Demographics on Cognition and General Knowledge: Cognitive Flexibility**



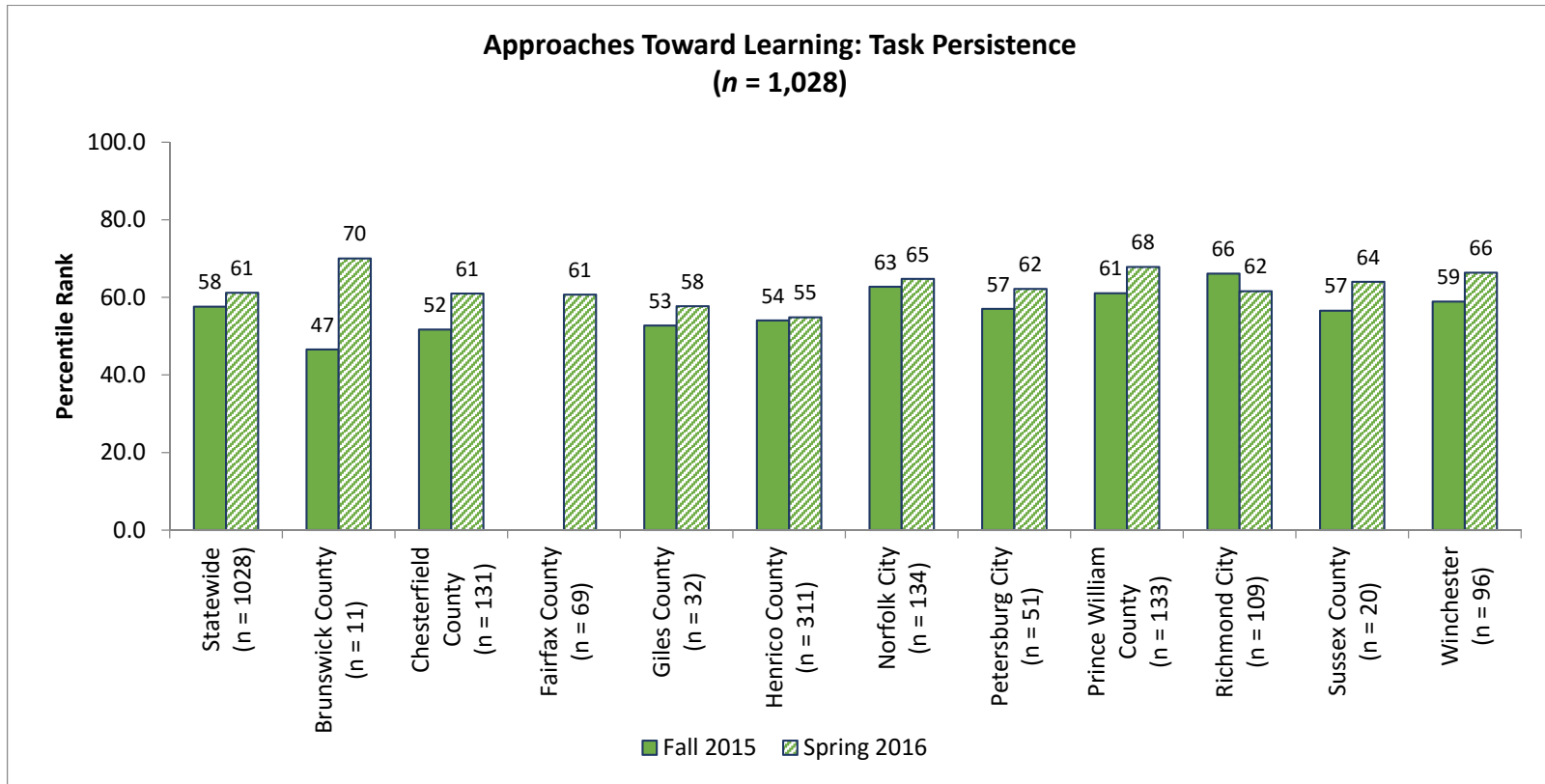
Note: These are average raw scores on the DCCS task. The range of raw scores in the fall was 0 to 24. The range of raw scores in the spring was 0 to 24.

**Exhibit 24. DCCS: Average Scores by Risk Factors on Cognition and General Knowledge: Cognitive Flexibility**



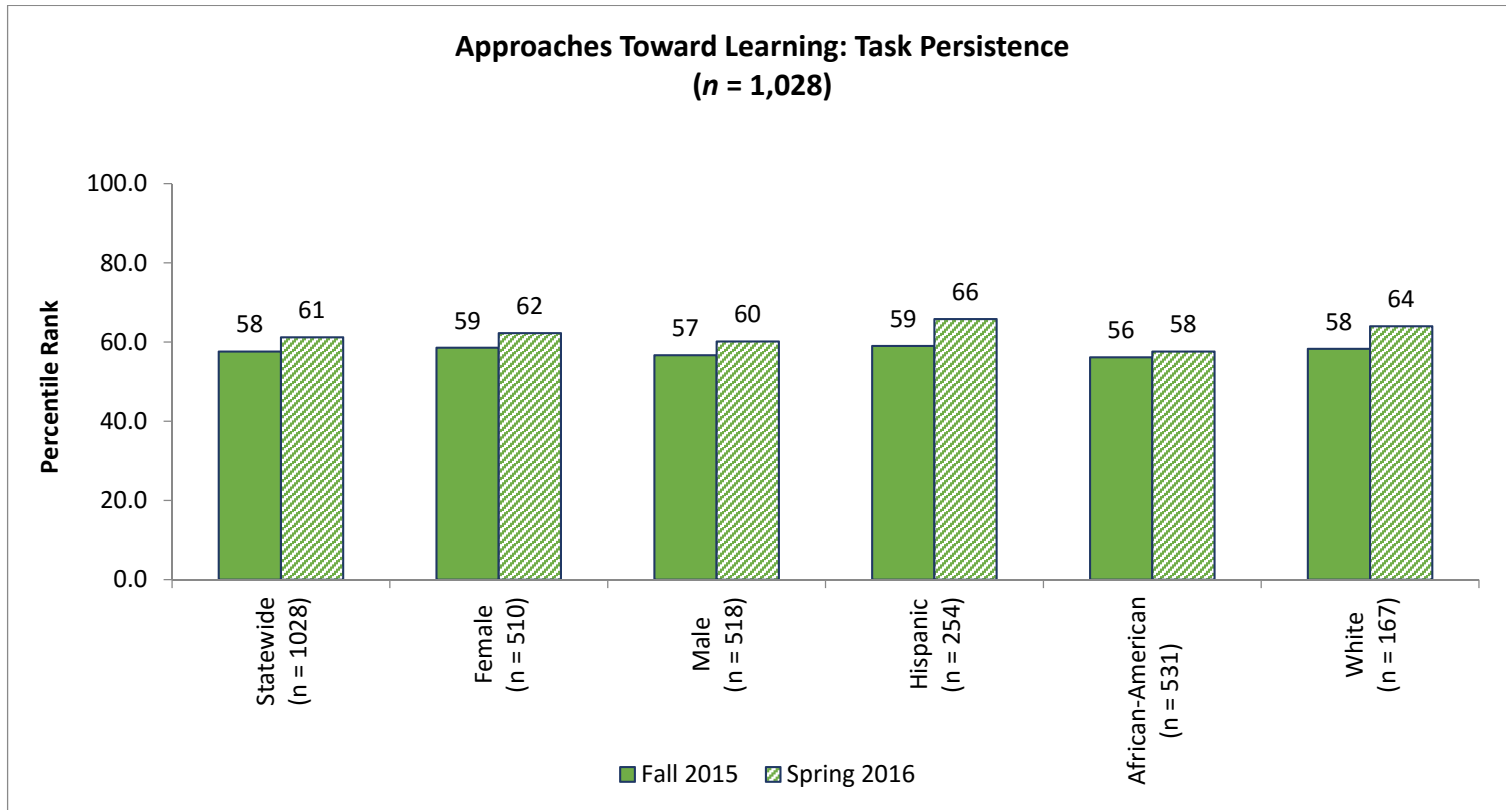
Note: These are average raw scores on the DCCS task. The range of raw scores in the fall was 0 to 24. The range of raw scores in the spring was 0 to 24.

**Exhibit 25. TCRS-2: Average Scores by Division on Approaches to Learning: Task Persistence**



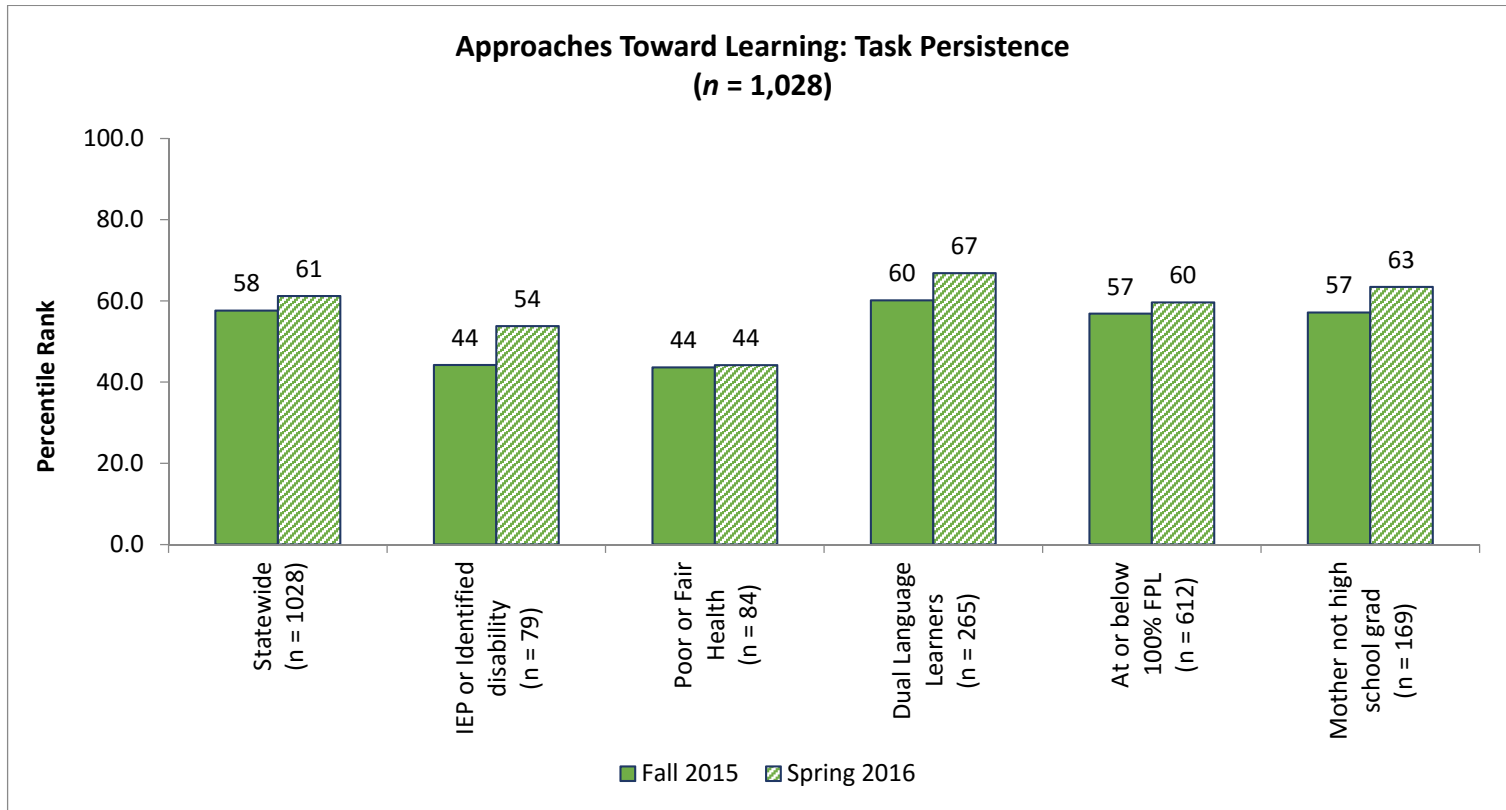
Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages. Also note, Fairfax sample is not reflected in the statewide sample.

**Exhibit 26. TCRS-2: Average Scores by Demographics on Approaches to Learning: Task Persistence**



Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages.

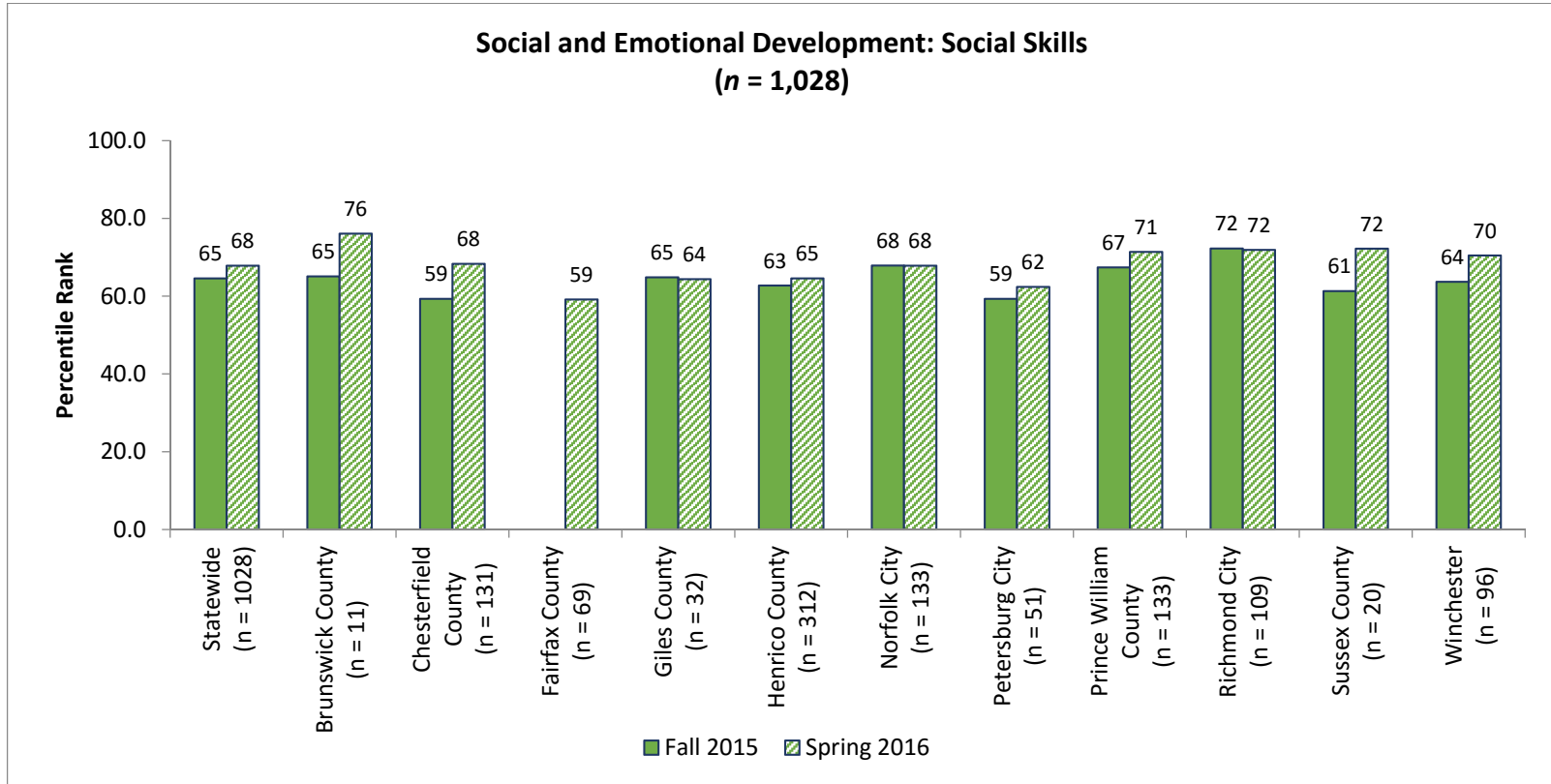
**Exhibit 27. TCRS-2: Average Scores by Risk Factors on Approaches to Learning: Task Persistence**



Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages.

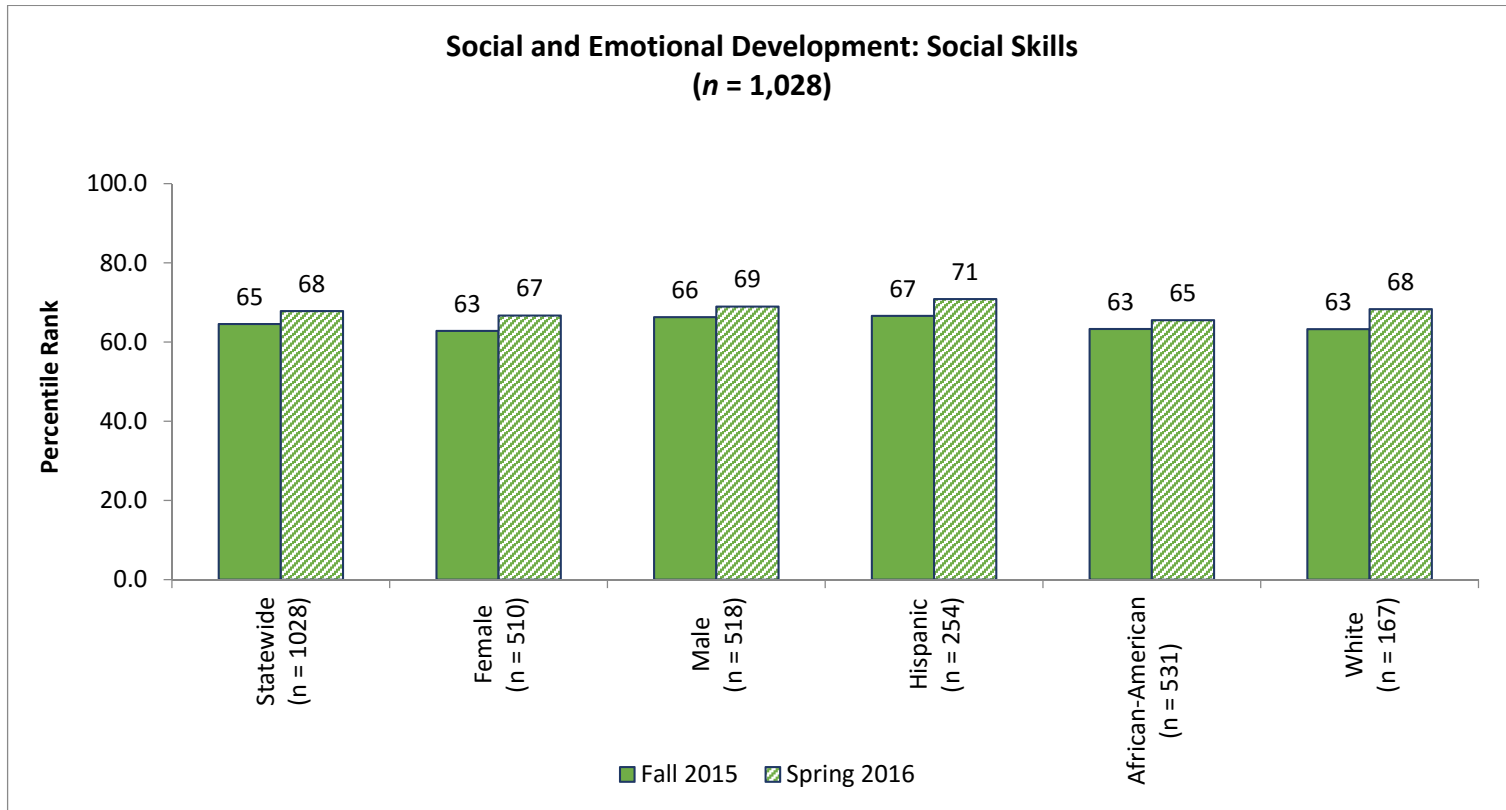


**Exhibit 28. TCRS-2: Average Scores by Division on Social and Emotional Development: Social Skills**



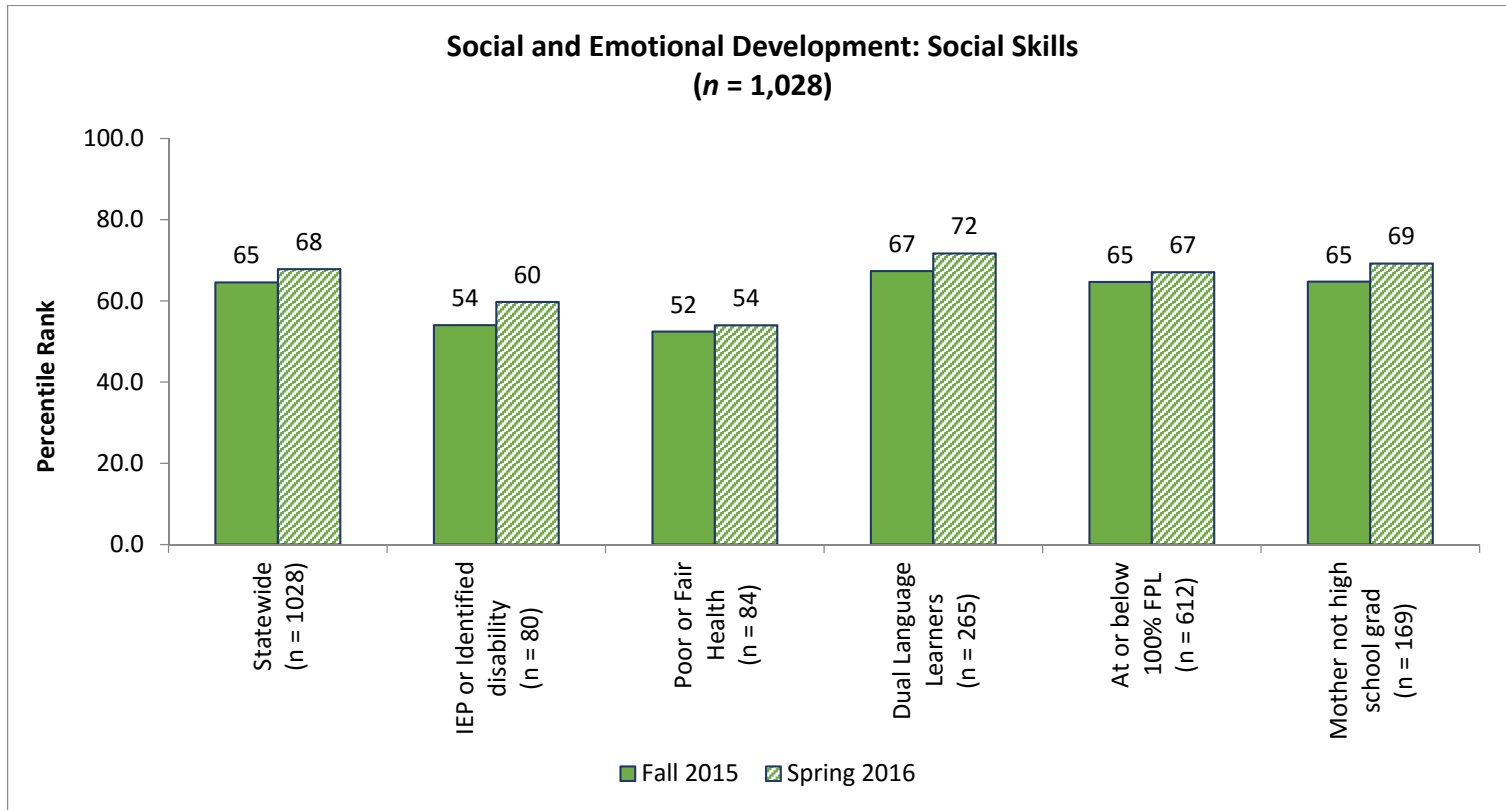
Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages. Also note, Fairfax sample is not reflected in the statewide sample.

**Exhibit 29. TCRS-2: Average Scores by Demographics on Social and Emotional Development: Social Skills**



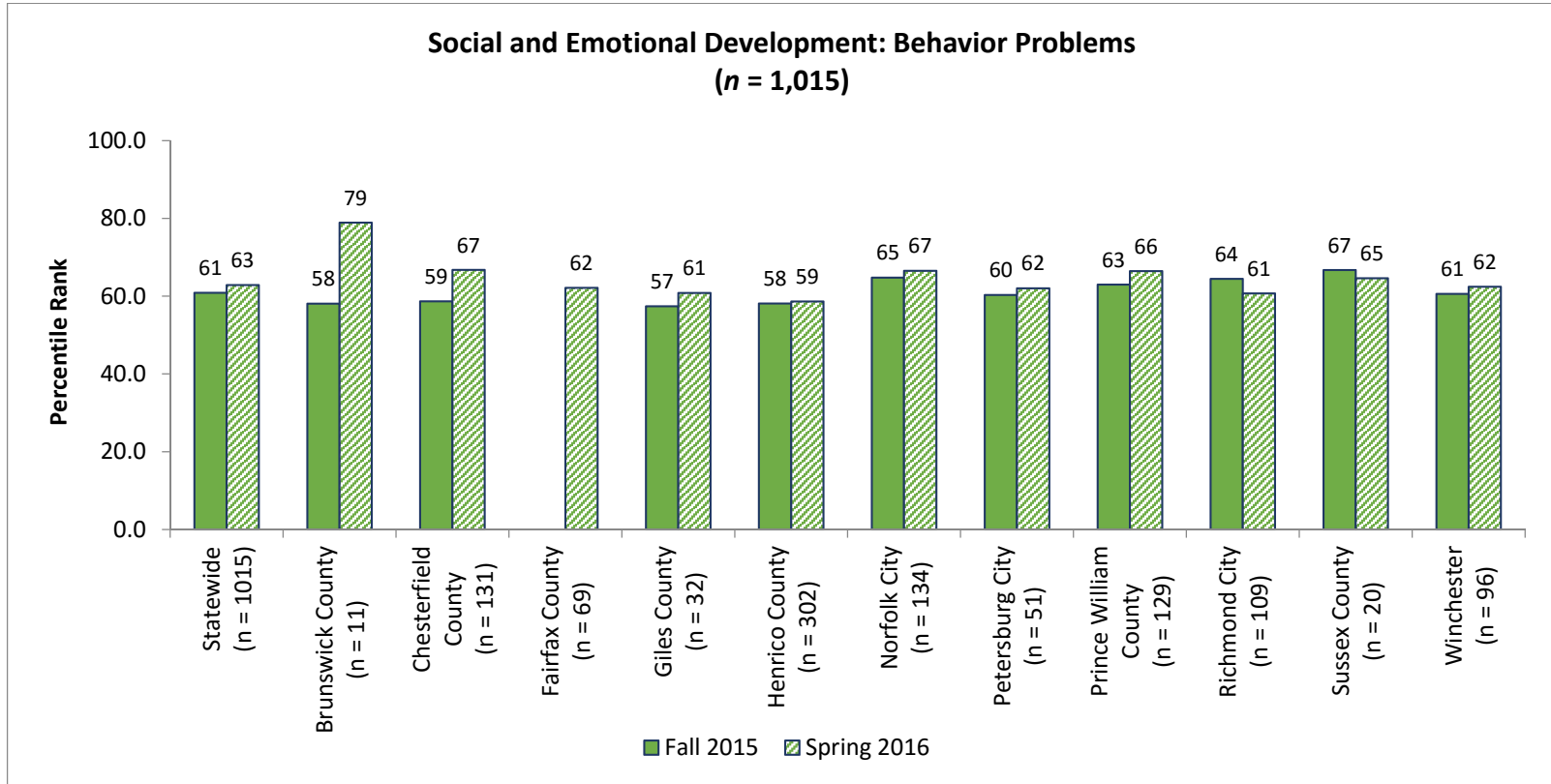
Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages.

**Exhibit 30. TCRS-2: Average Scores by Risk Factors on Social and Emotional Development: Social Skills**



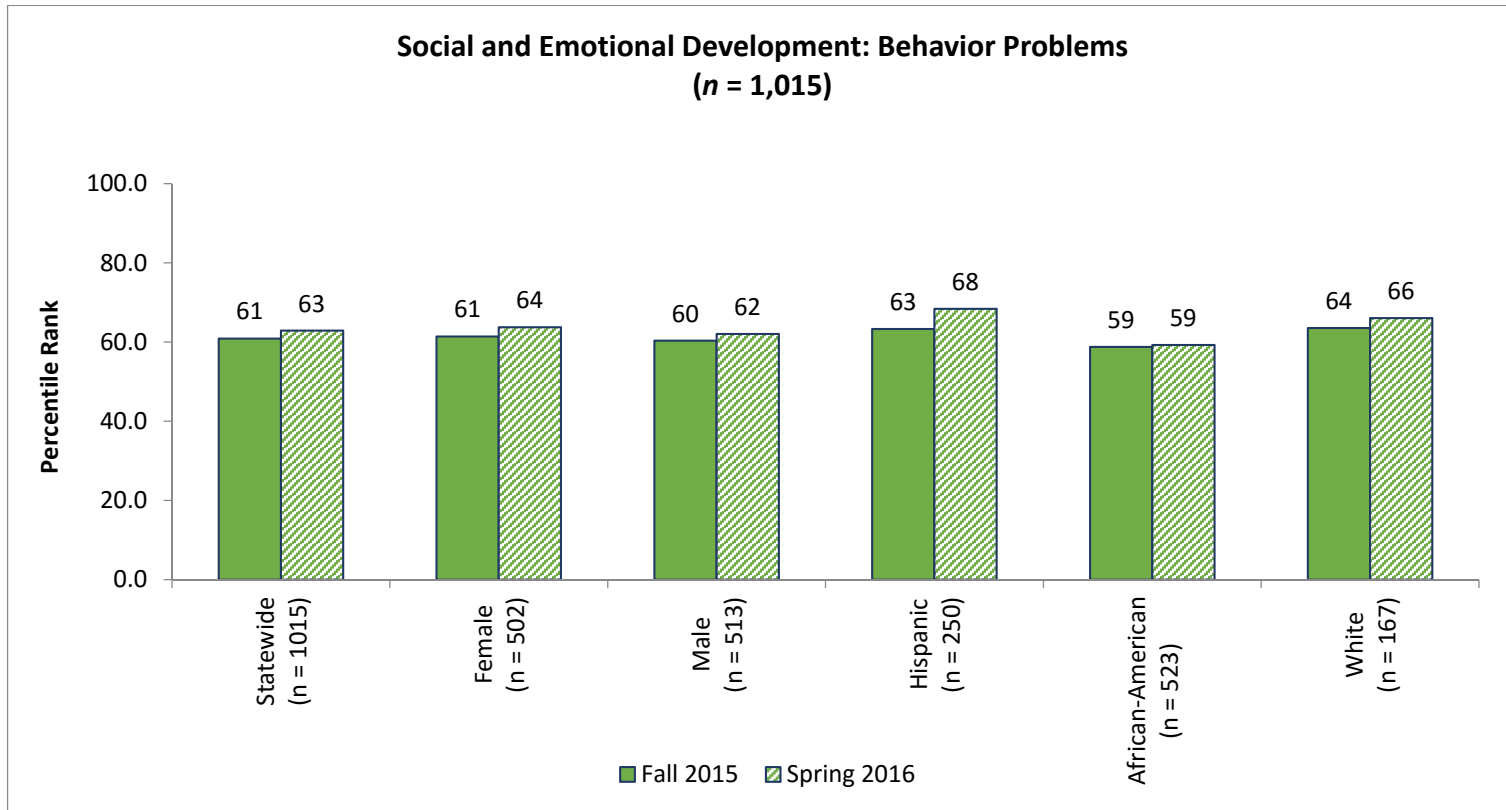
Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages.

**Exhibit 31. TCRS-2: Average Scores by Division on Social and Emotional Development: Behavior Problems**



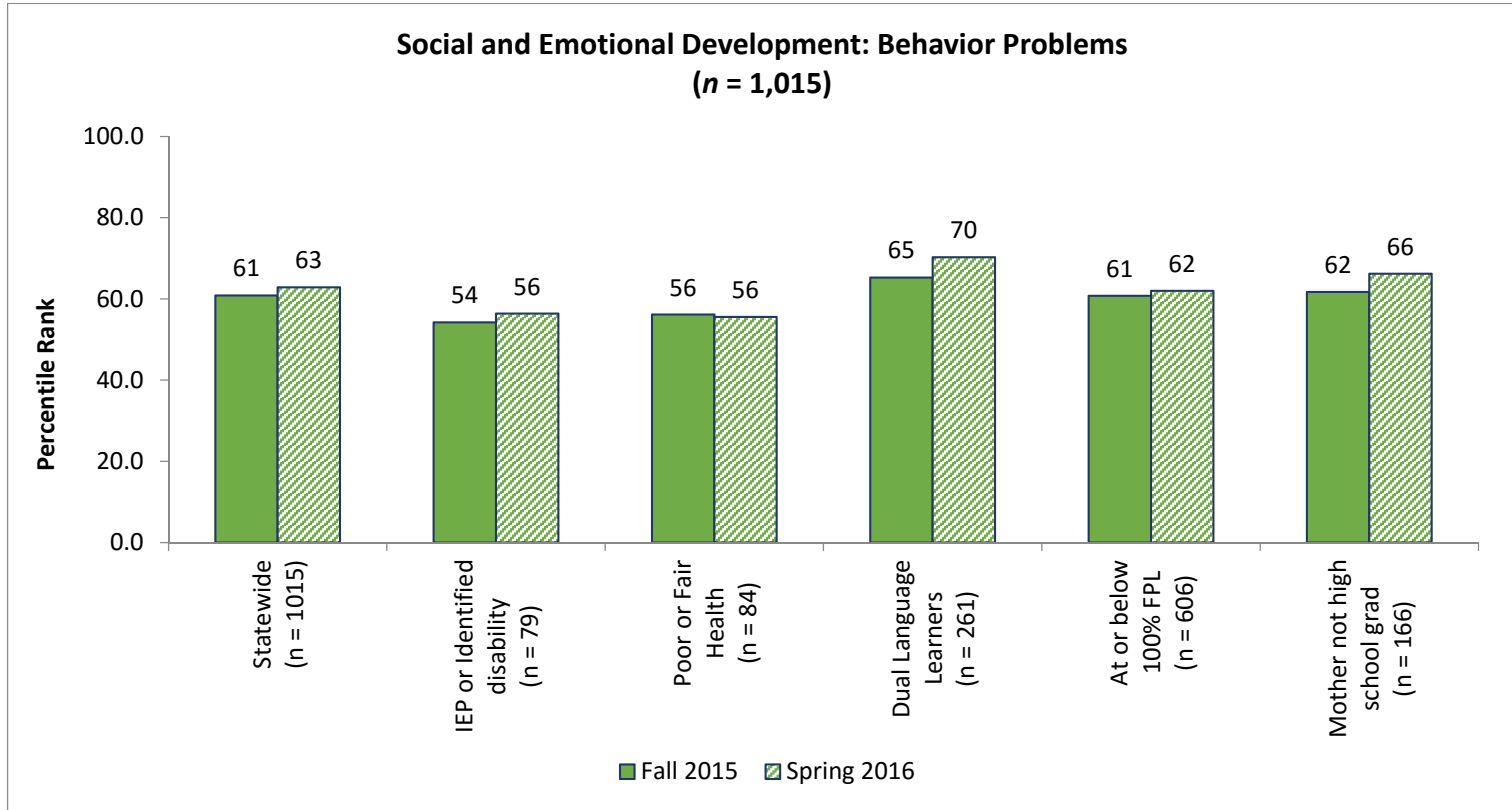
Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages. This is also true for the behavior problems scale such that higher percentile scores reflect fewer behavior problems. Also note, Fairfax sample is not reflected in the statewide sample.

**Exhibit 32. TCRS-2: Average Scores by Demographics on Social and Emotional Development: Behavior Problems**



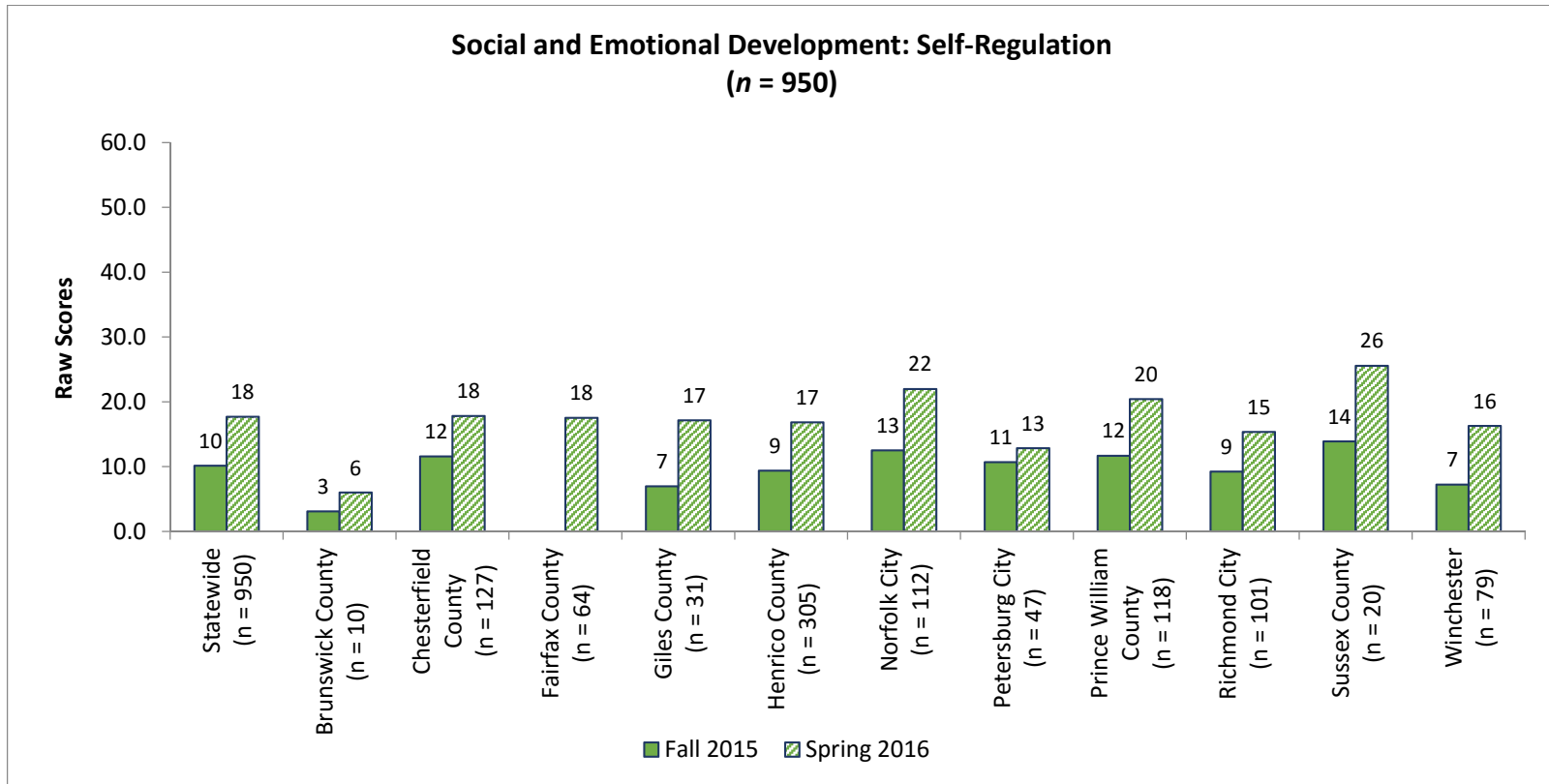
Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages. This is also true for the behavior problems scale such that higher percentile scores reflect fewer behavior problems.

**Exhibit 33. TCRS-2: Average Scores by Risk Factors on Social and Emotional Development: Behavior Problems**



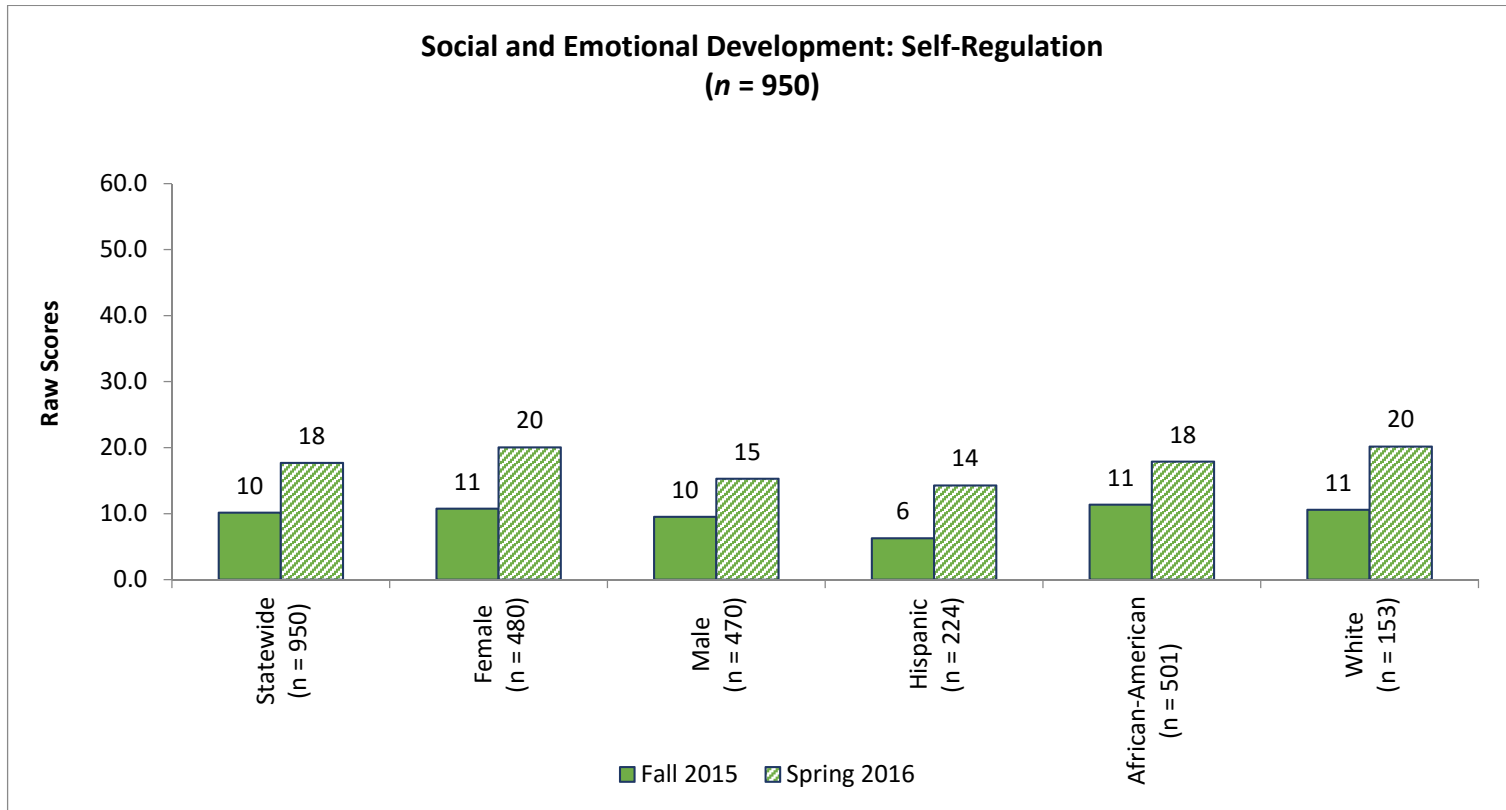
Note: These are percentile rank scores that range from 1 to 99. Higher percentile scores indicate greater competency in that area and lower percentile scores represent more problem behavior in that area. Children scoring at the 50<sup>th</sup> percentile or higher are considered meeting or exceeding normative averages. This is also true for the behavior problems scale such that higher percentile scores reflect fewer behavior problems.

**Exhibit 34. HTKS: Average Scores by Division on Social and Emotional Development: Self-Regulation**



Note: These are average raw scores on the HTKS task. The range of raw scores in the fall was 0 to 59. The range of raw scores in the spring was 0 to 60. Also note, Fairfax sample is not reflected in the statewide sample.

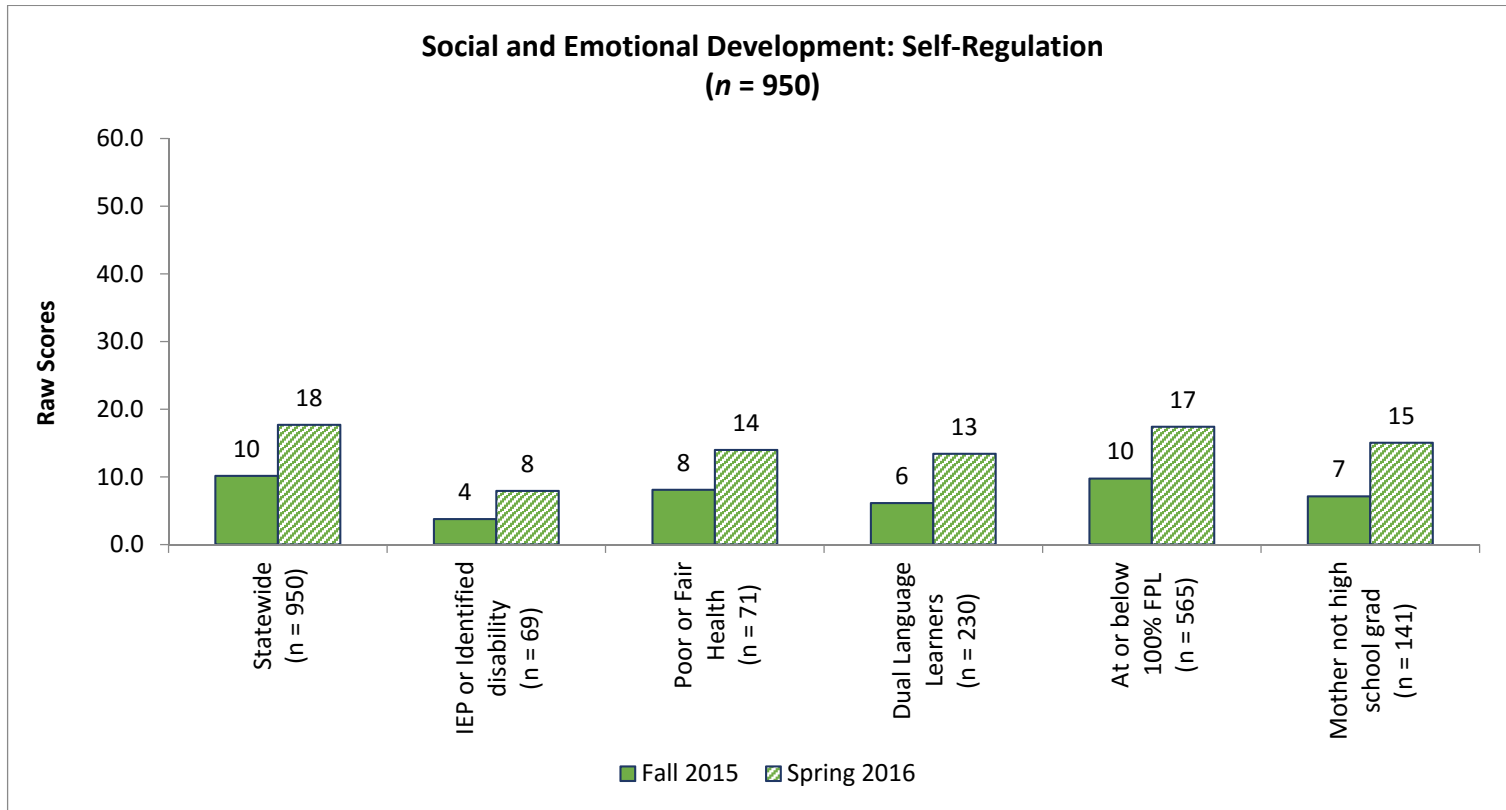
**Exhibit 35. HTKS: Average Scores by Demographics on Social and Emotional Development: Self-Regulation**



Note: These are average raw scores on the HTKS task. The range of raw scores in the fall was 0 to 59. The range of raw scores in the spring was 0 to 60.

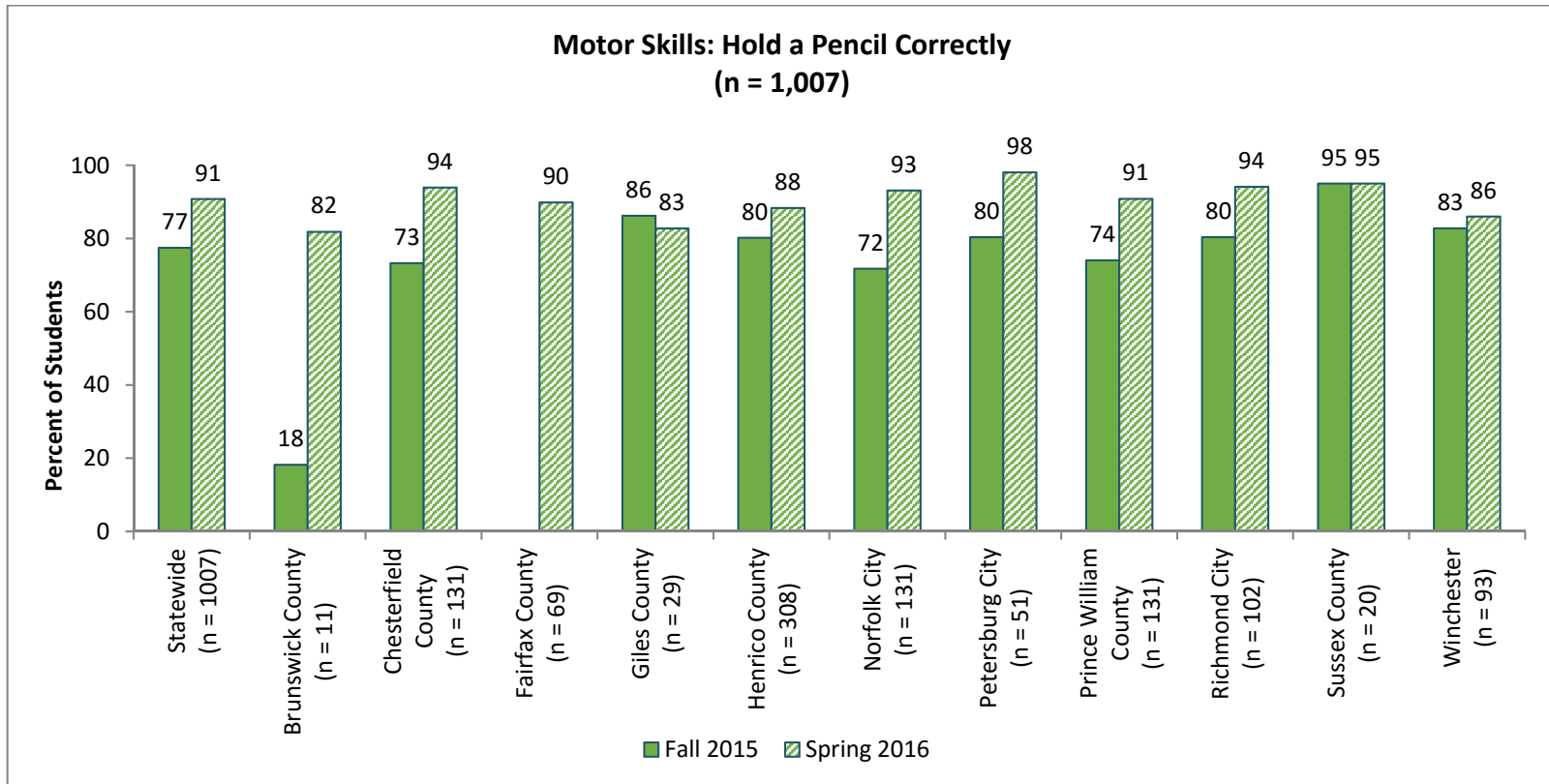


**Exhibit 36. HTKS: Average Scores by Risk Factors on Social and Emotional Development: Self-Regulation**



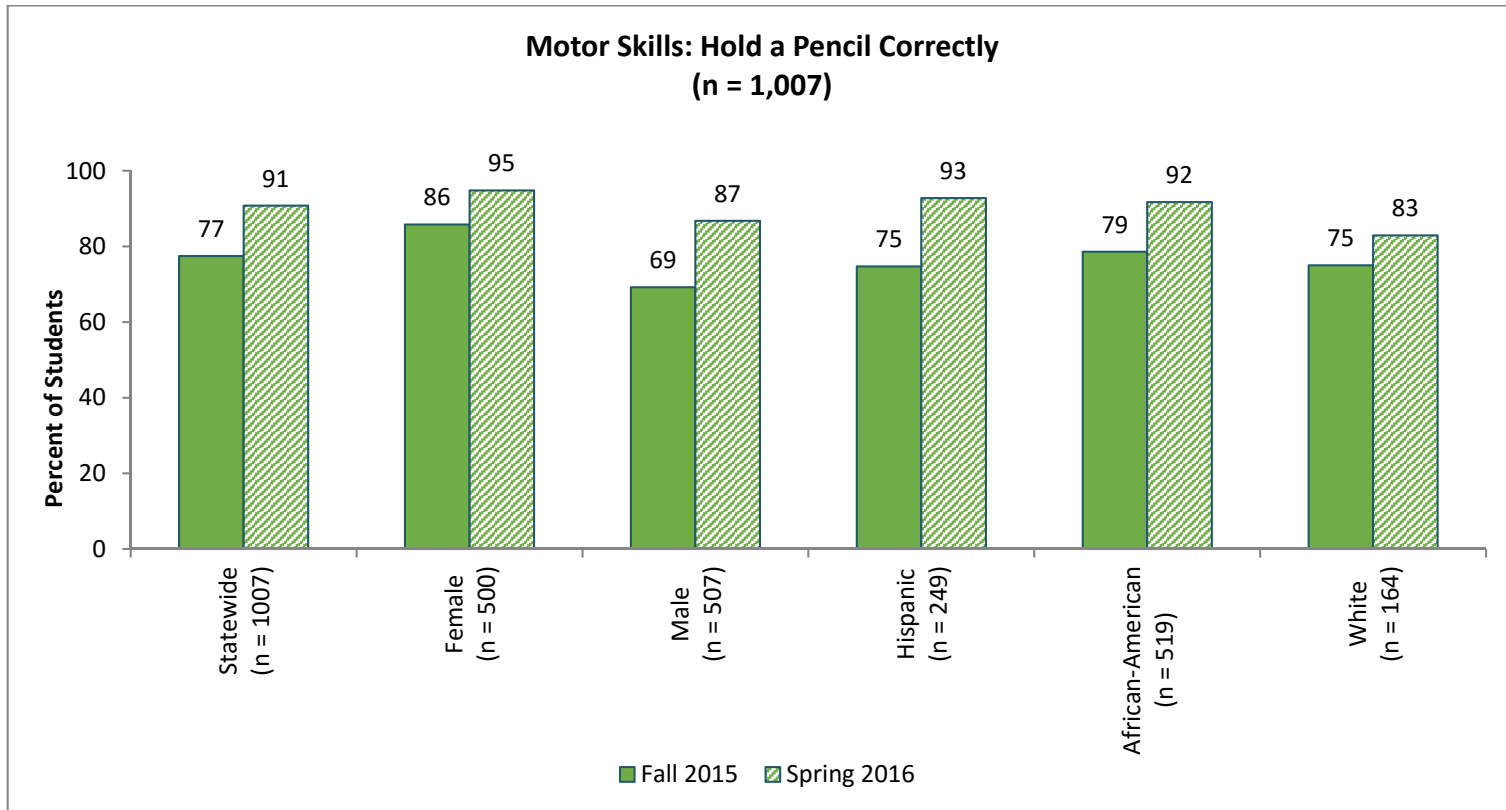
Note: These are average raw scores on the HTKS task. The range of raw scores in the fall was 0 to 59. The range of raw scores in the spring was 0 to 60.

Exhibit 37. Percent of Students Rated as Proficient by Division on Motor Skills: Hold a Pencil Correctly

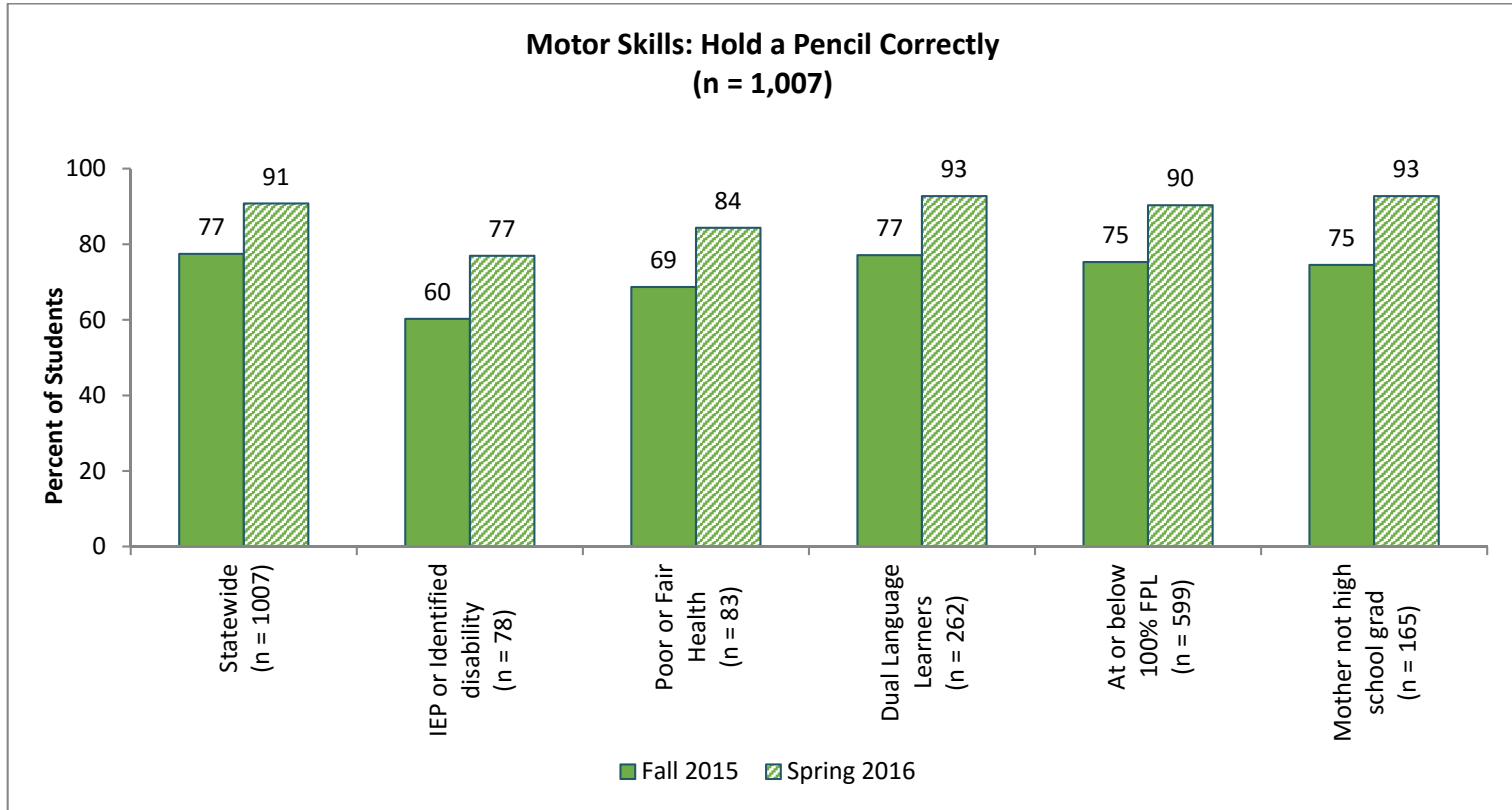


Note: Fairfax sample is not reflected in the statewide sample.

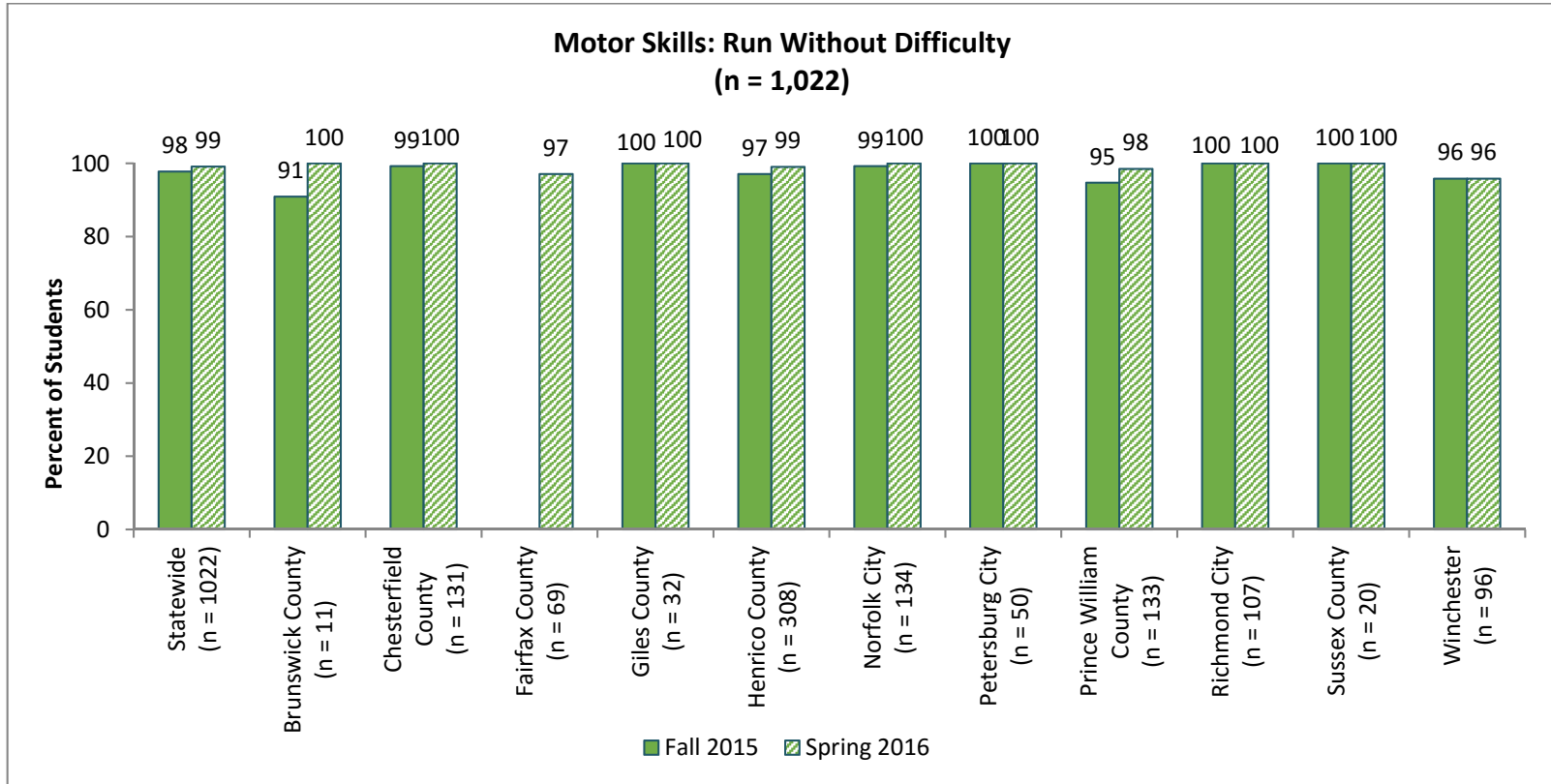
**Exhibit 38. Percent of Students Rated as Proficient by Demographics on Motor Skills: Hold a Pencil Correctly**



**Exhibit 39. Percent of Students Rated as Proficient by Risk Factors on Motor Skills: Hold a Pencil Correctly**

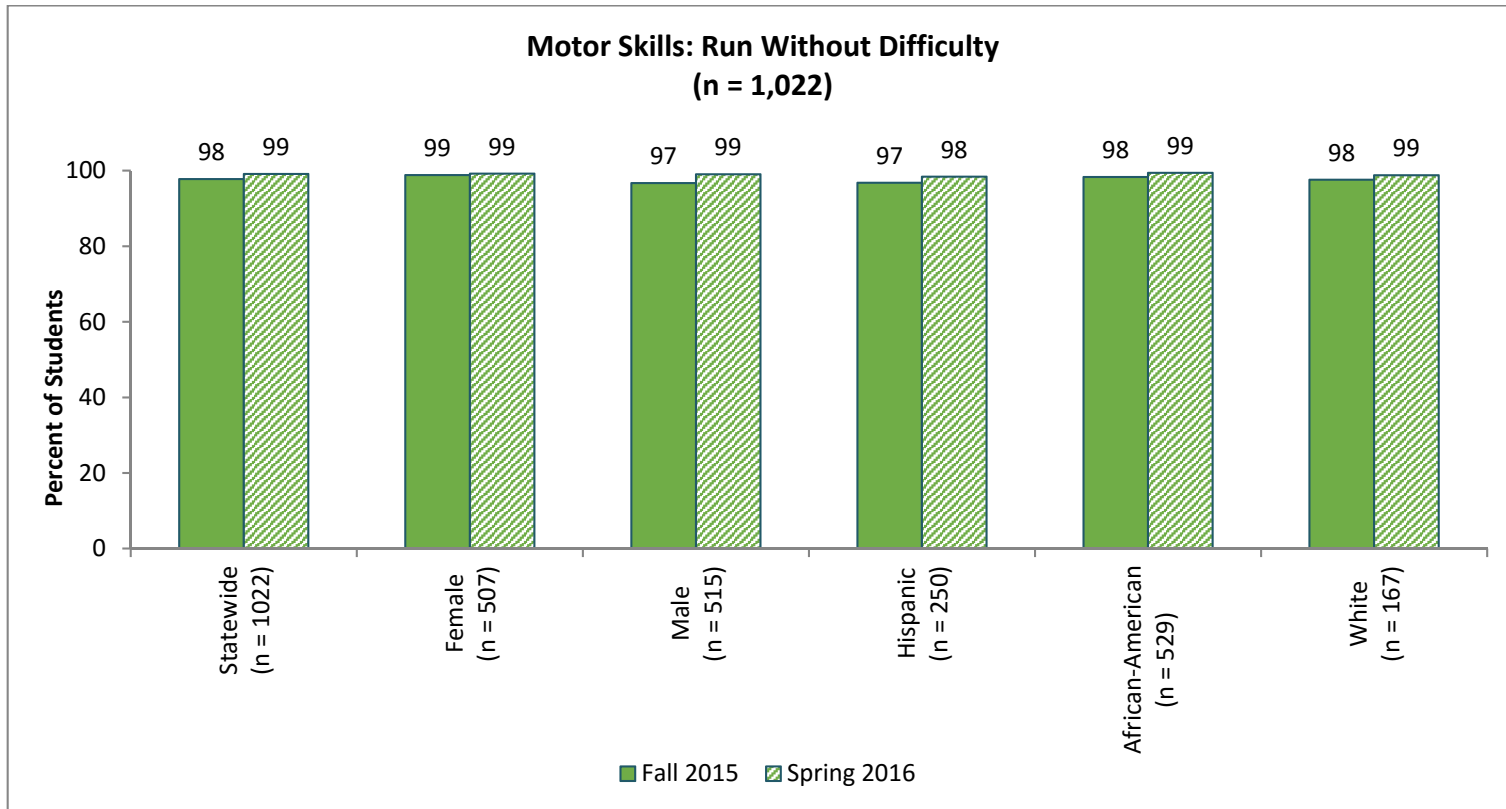


**Exhibit 40. Percent of Students Rated as Proficient by Division on Motor Skills: Run Without Difficulty**

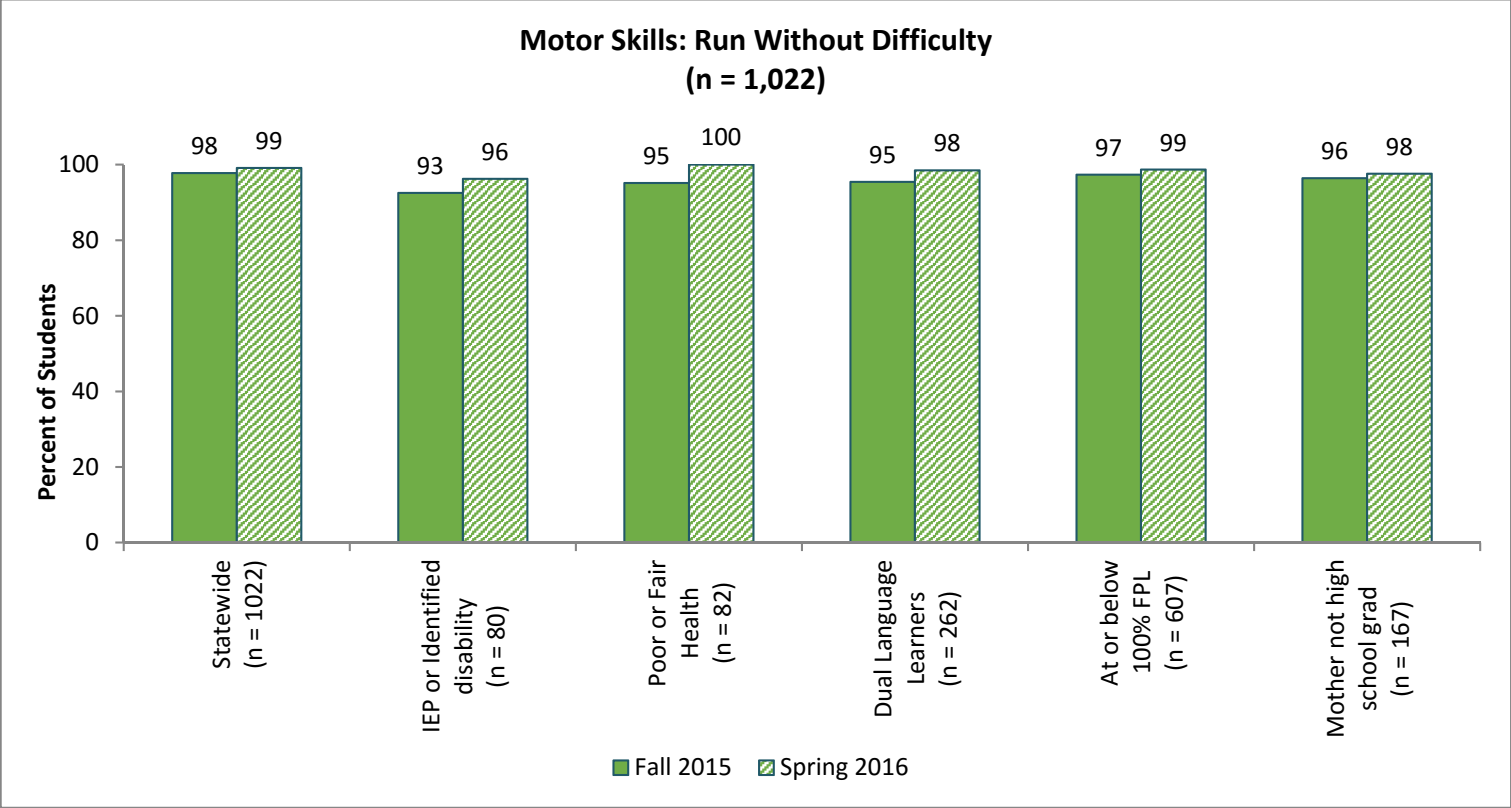


Note: Fairfax sample is not reflected in the statewide sample.

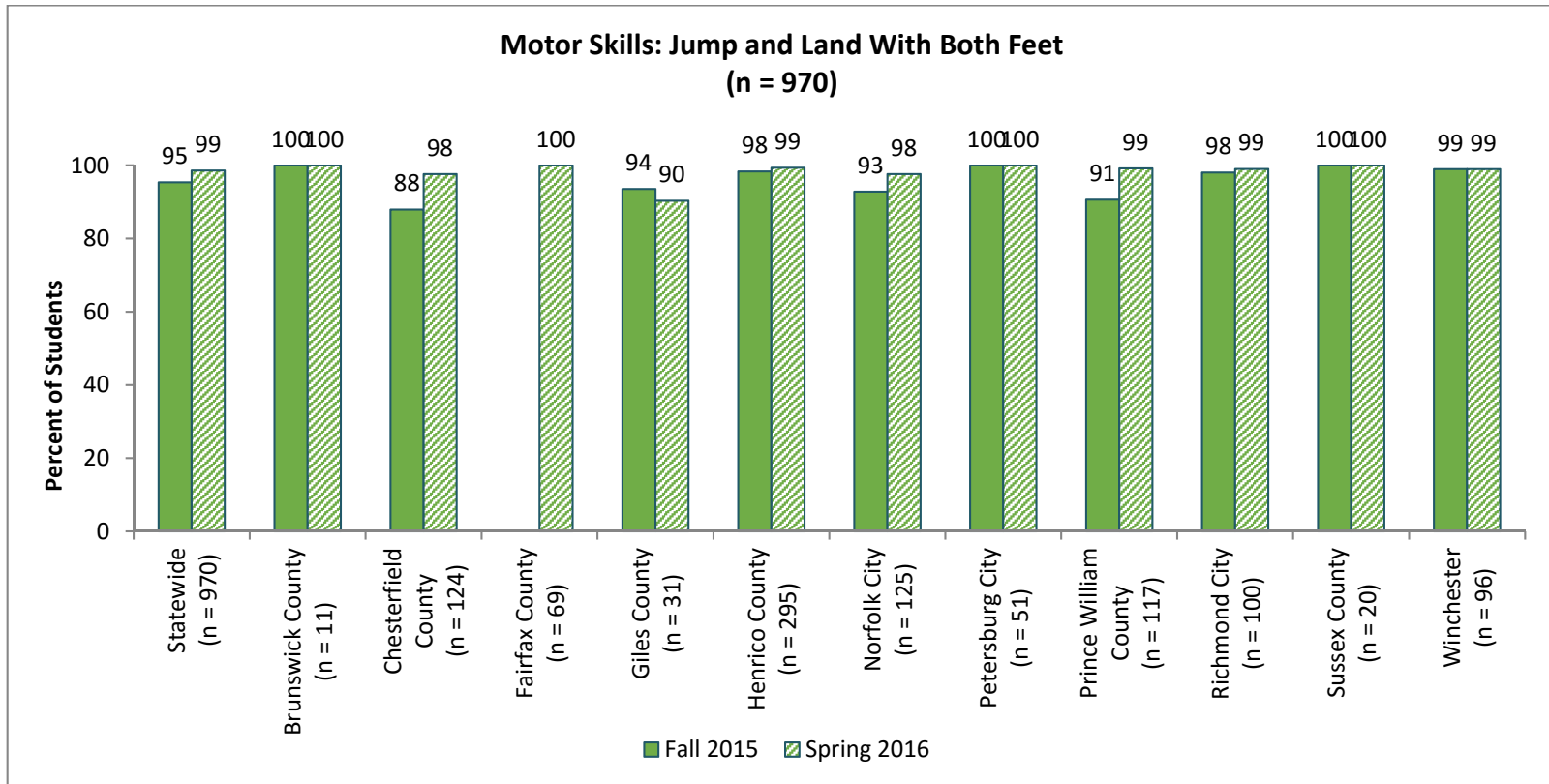
**Exhibit 41. Percent of Students Rated as Proficient by Demographics on Motor Skills: Run Without Difficulty**



**Exhibit 42. Percent of Students Rated as Proficient by Risk Factors on Motor Skills: Run Without Difficulty**



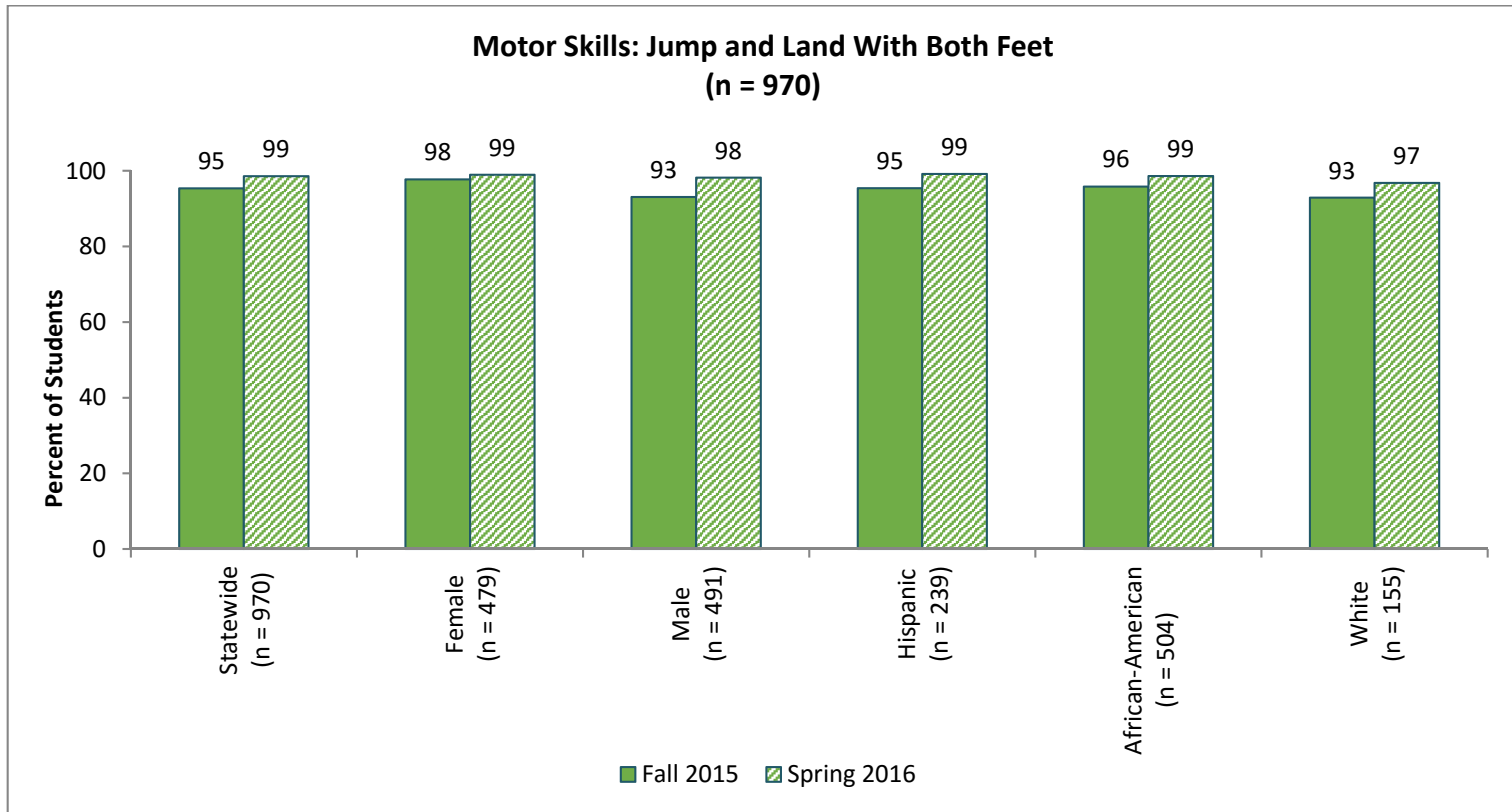
**Exhibit 43. Percent of Students Rated as Proficient by Division on Motor Skills: Jump and Land With Both Feet**



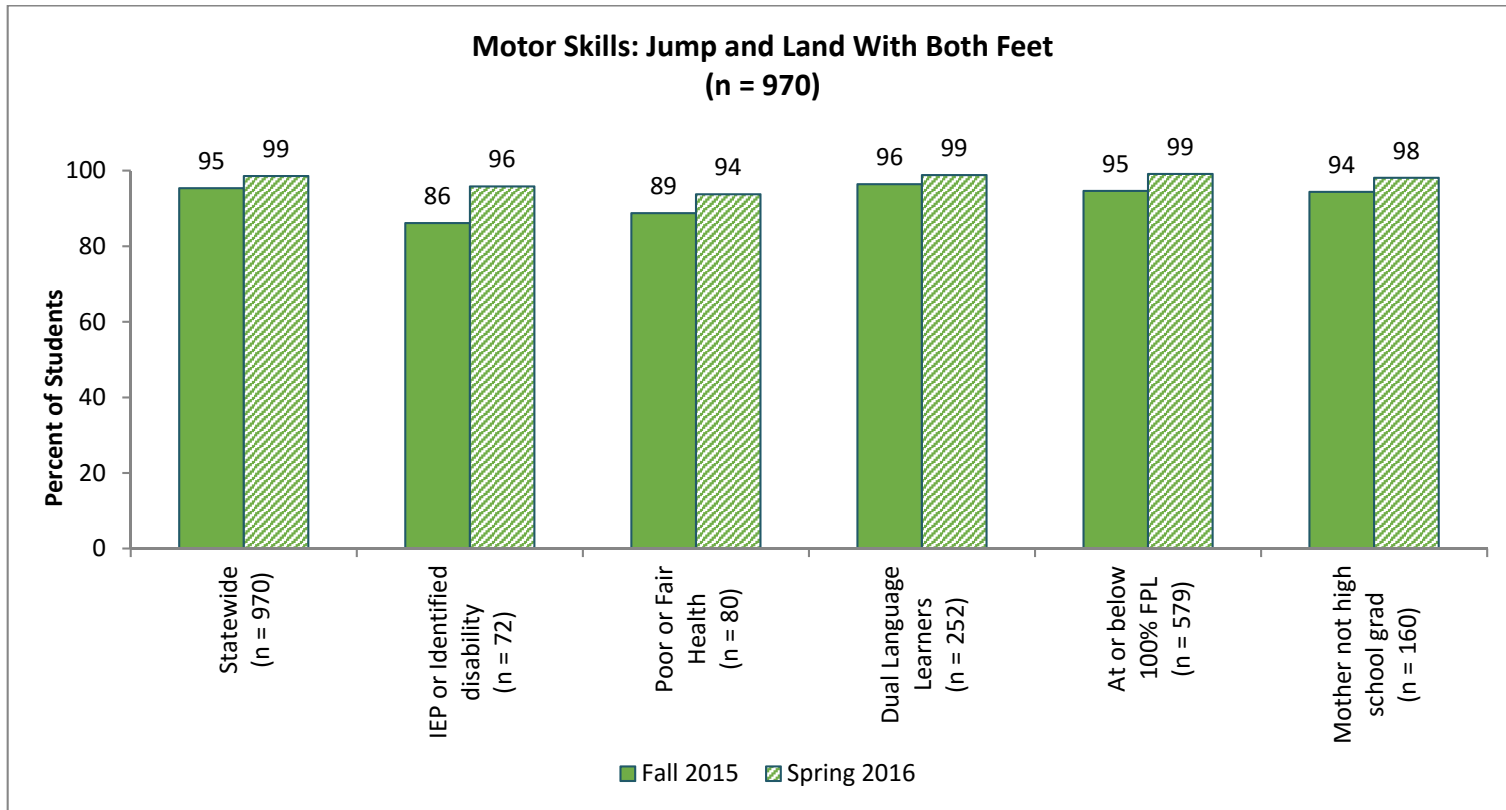
Note: Fairfax sample is not reflected in the statewide sample.



**Exhibit 44. Percent of Students Rated as Proficient by Demographics on Motor Skills: Jump and Land With Both Feet**



**Exhibit 45. Percent of Students Rated as Proficient by Risk Factors on Motor Skills: Jump and Land With Both Feet**



## Appendix

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The Virginia Preschool Initiative-Plus (VPI+) expansion grant has the aspirational goal to have at least 85% of children who participate in VPI+ classrooms in the first year reach normative averages across all Essential Domains of School Readiness. Below we describe our approach to creating cut points for those measures that provide norm references. We used guidance from developers and/or the VPI+ implementation team to identify cut points for whether a child's score is at or above an average level for the child's age. The charts below provide information on the percentage of children in the state that met or exceeded normative averages in each measure by domain for both fall and spring. We then show similar information for each of the divisions.

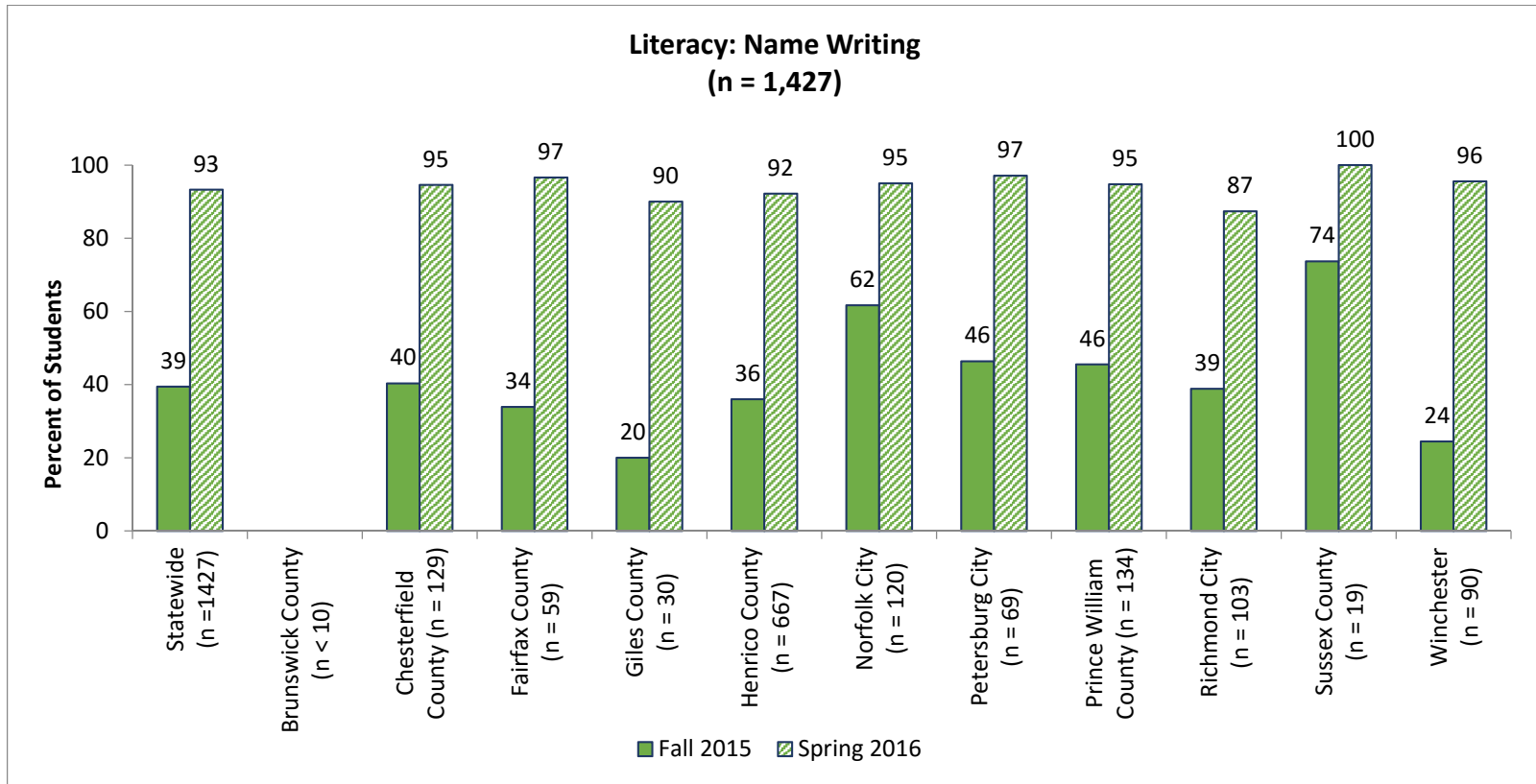
### Method for Establishing Normative Averages or Cut Scores

- **Literacy.** We used the expected developmental ranges provided by the PALS developer for children in the spring of preschool for all of the literacy tasks and report each task separately.
- **Cognition and General Knowledge (Early Math Skills).** We converted Applied Problems raw scores into standard scores to compare performance of children to similar age peers. We calculated the age-adjusted standard score in the fall and in the spring using the software program that converts a child's raw score to a standard score based on gender and age at the time of assessment. Thus, the norms for performance increase as children become older. Standard scores have a mean of 100 and a standard deviation of 15. Children were identified as reaching normative averages if they had a standard score of 100 or higher.
- **Approaches to Learning.** We followed guidelines provided in the T-CRS-2 manual to convert children's raw scores on the T-CRS-2 to percentile ranks based on gender and grade-level (i.e., preschool as opposed to another grade-level). The percentile rank ranges from 1 to 99 for each subscale score. Higher percentiles indicate greater well-being and lower percentiles represent more problem behavior in that area. For example, a percentile rank score of 35 means that 35% of the norm group scored as well as or lower than the child and 65% of the norm group scored higher. Children were identified as reaching normative averages if they had a percentile rank score of 50 or higher.
- **Social and Emotional Development.** We followed guidelines provided in the T-CRS-2 manual to convert children's raw scores on the T-CRS-2 to percentile ranks based on gender grade-level (i.e., preschool as opposed to another grade-level). The percentile rank ranges from 1 to 99 for each subscale score. Higher percentiles indicate greater well-being and lower percentiles represent more problem behavior in that area. For example, a percentile rank score of 35 meant that 35%

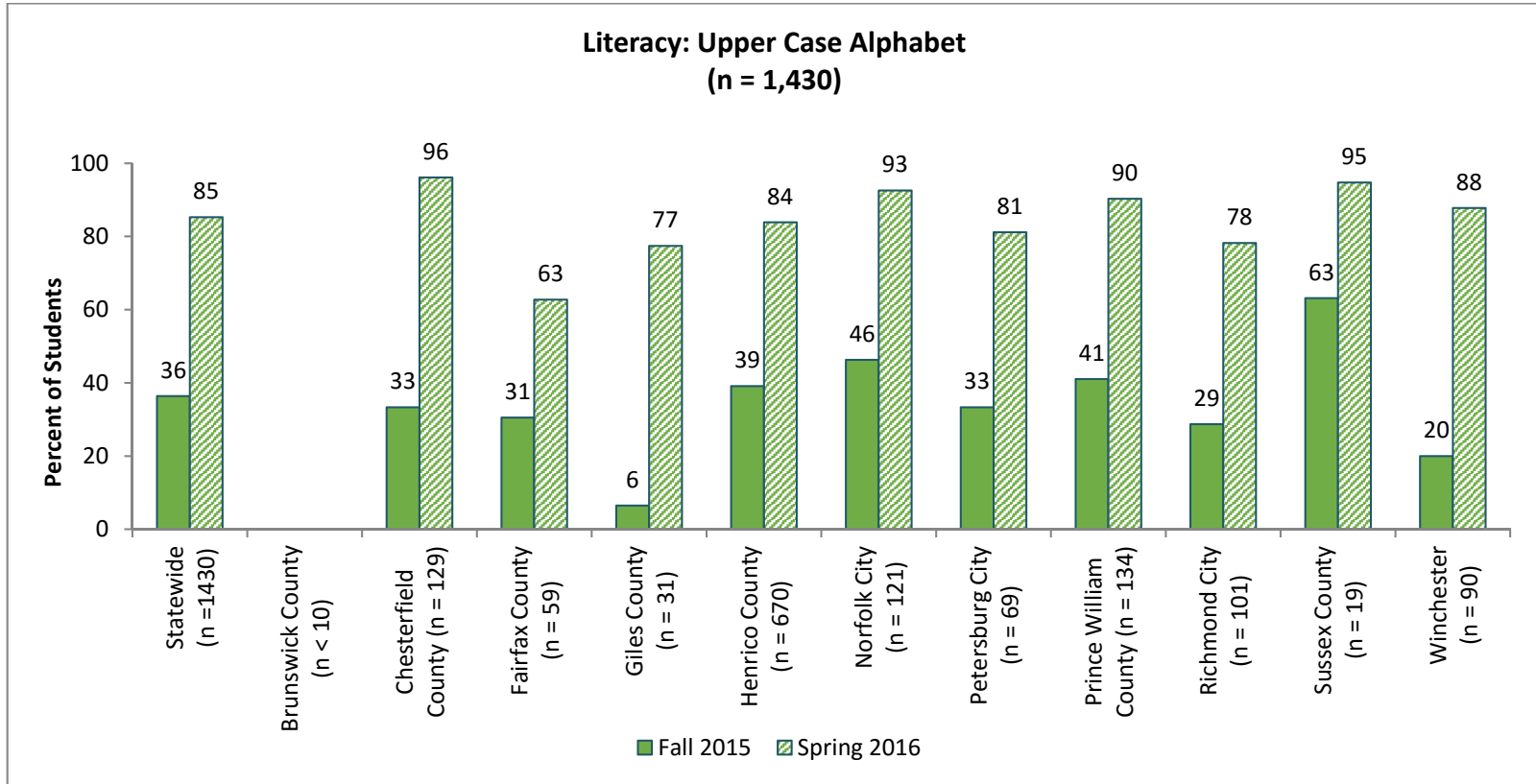
of the norm group scored as well as or lower than the child and 65% of the norm group scored higher. Children were identified as reaching normative averages if they had a percentile rank score of 50 or higher.

- Based on the nature of the measure and the developers' recommendations, there are no reliable or norm-referenced cut points to use with the HTKS task.
- **Physical and Motor Development.** To determine typical proficiency in motor development, we calculated the percentage of children who were rated as proficient *on all three motor items* (running without difficulty, jumping with both feet, and holding a pencil properly). As a reminder, percentages of children who were rated as being able to perform each of these tasks are reported above separately.

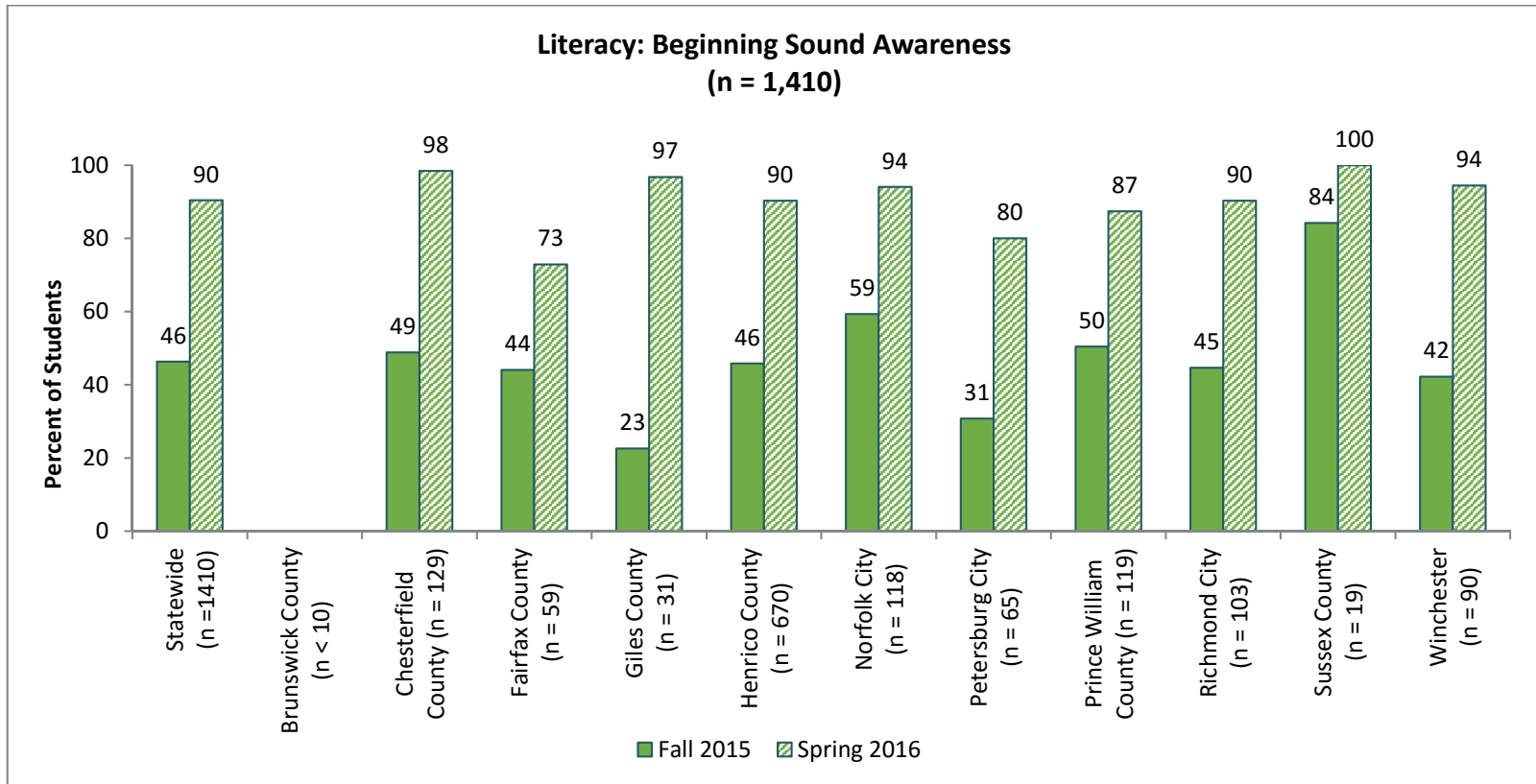
**Exhibit A-1. Percent of Children Who Met or Exceeded Expected Developmental Ranges on Literacy: Name Writing**



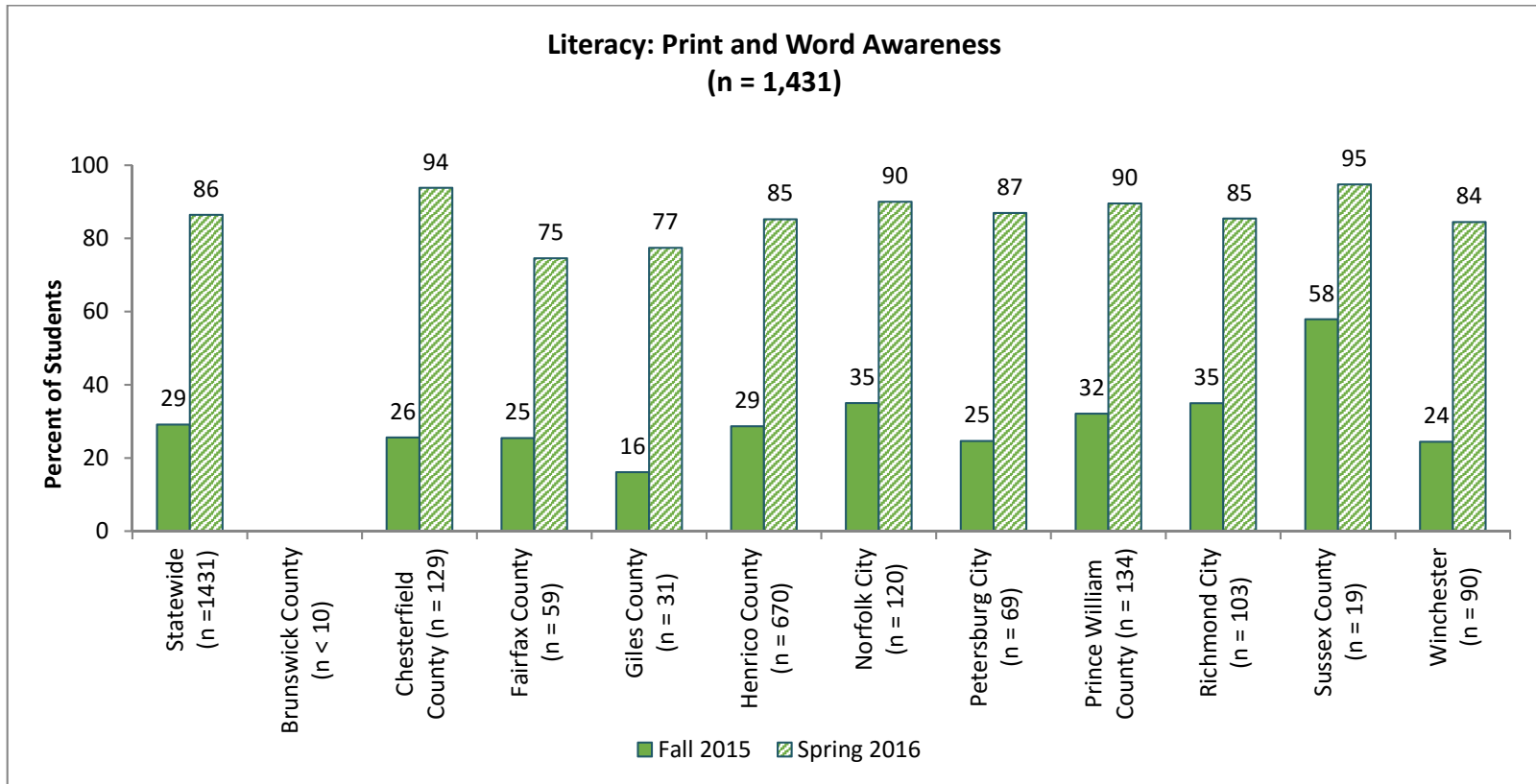
**Exhibit A-2. Percent of Children Who Met or Exceeded Expected Developmental Ranges on Literacy: Upper Case Alphabet**



**Exhibit A-3. Percent of Children Who Met or Exceeded Expected Developmental Ranges on Literacy: Beginning Sound Awareness**

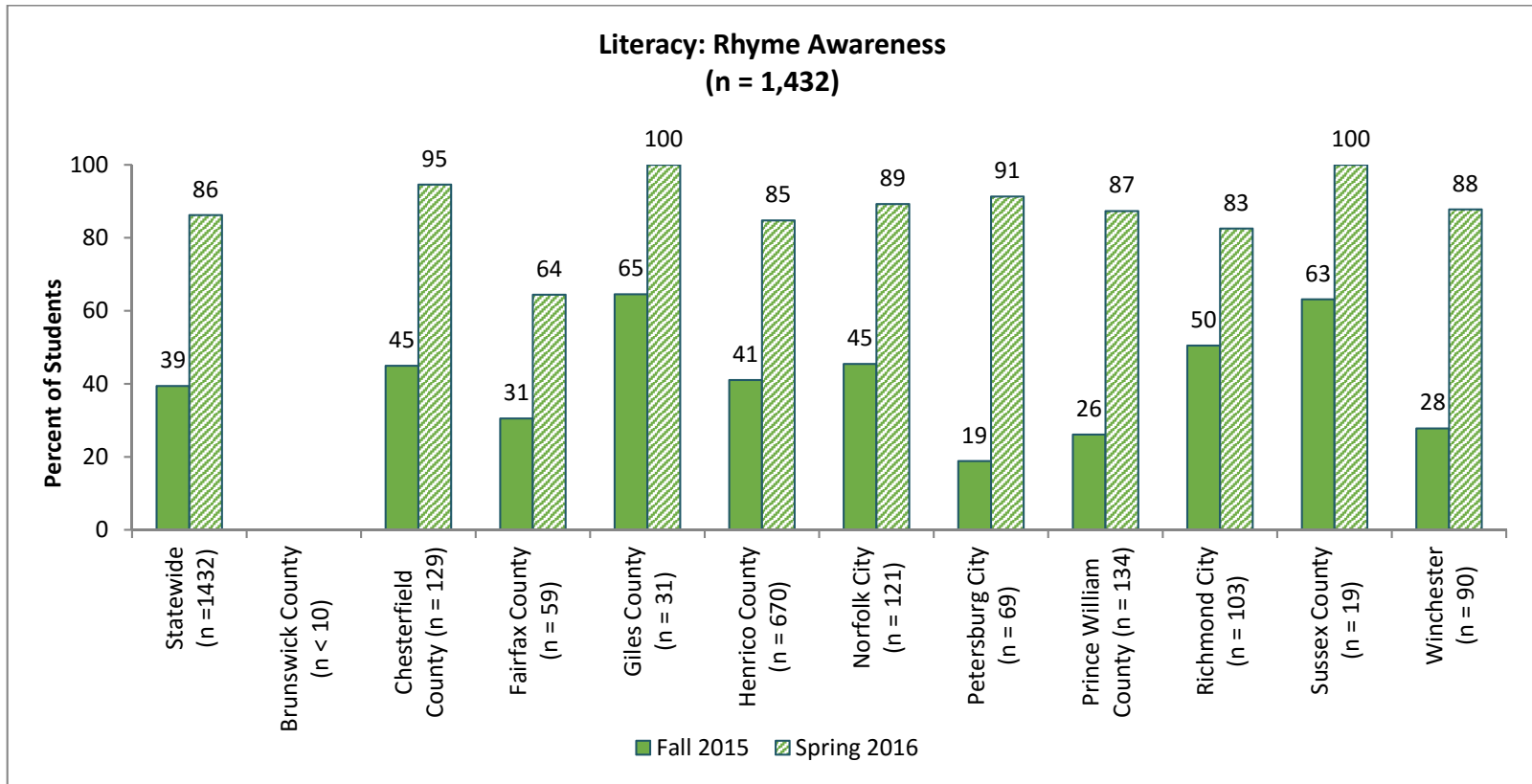


**Exhibit A-4. Percent of Children Who Met or Exceeded Expected Developmental Ranges on Literacy: Print and Word Awareness**

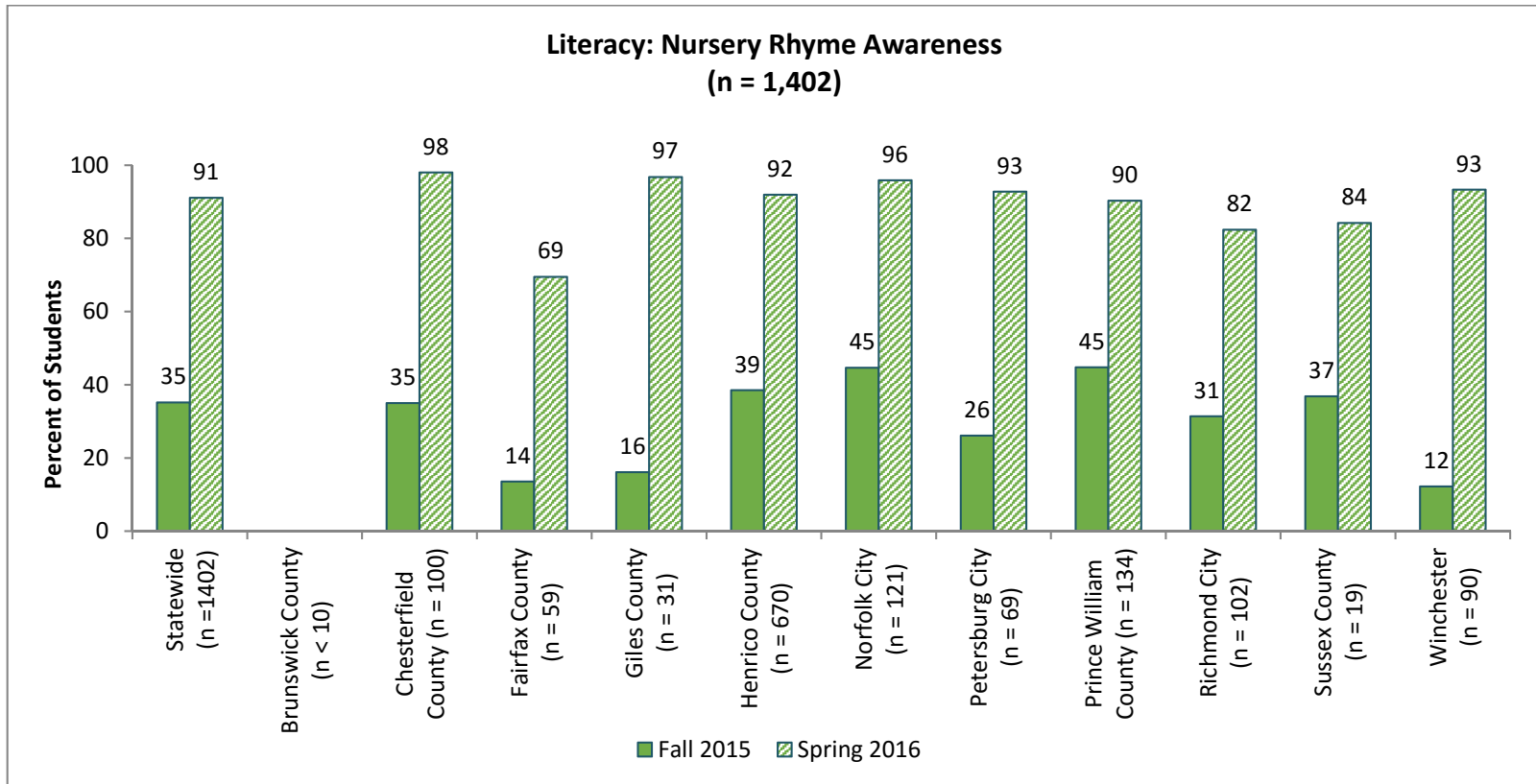




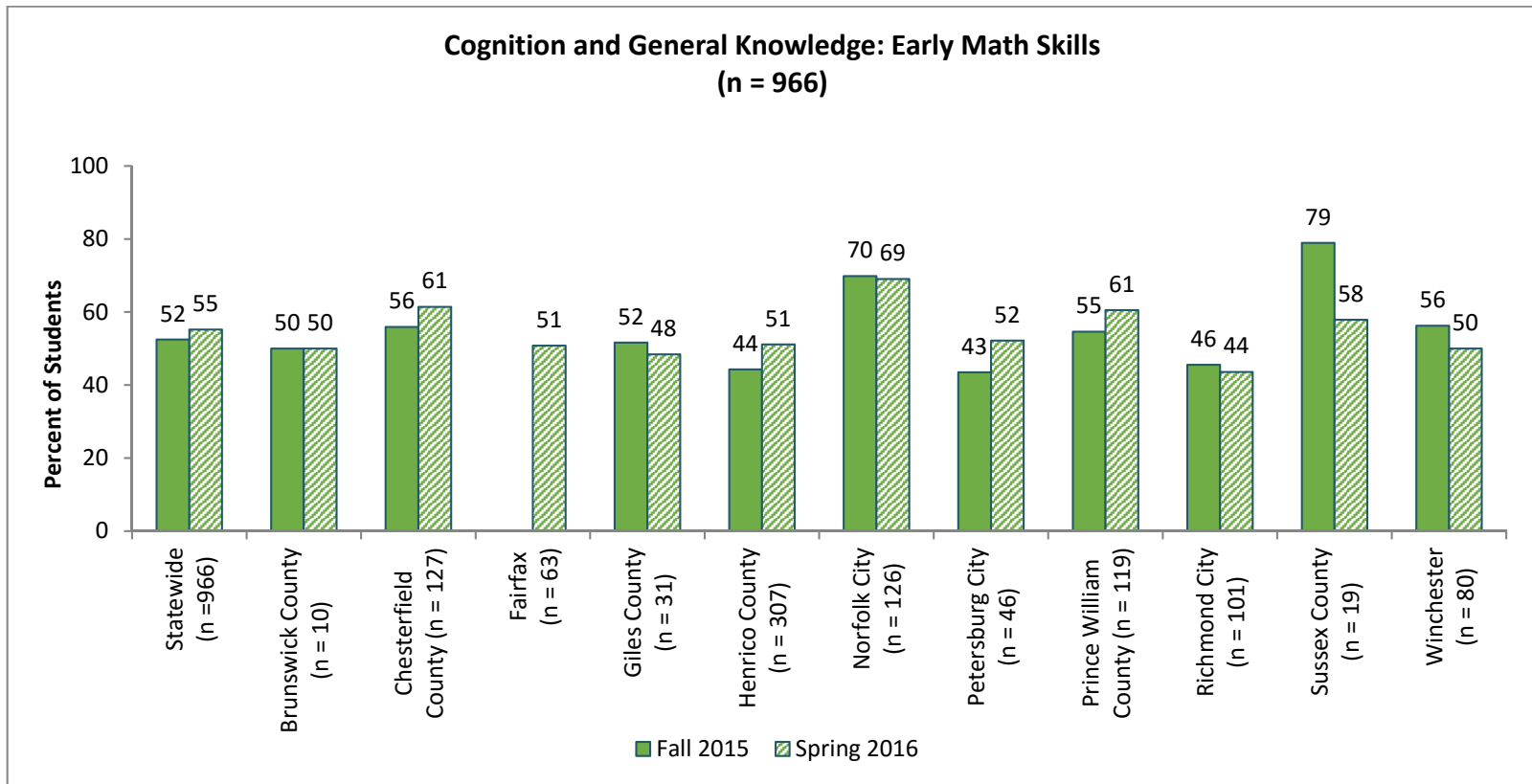
**Exhibit A-5. Percent of Children Who Met or Exceeded Expected Developmental Ranges on Literacy: Rhyme Awareness**



**Exhibit A-6. Percent of Children Who Met or Exceeded Expected Developmental Ranges on Literacy: Nursery Rhyme Awareness**

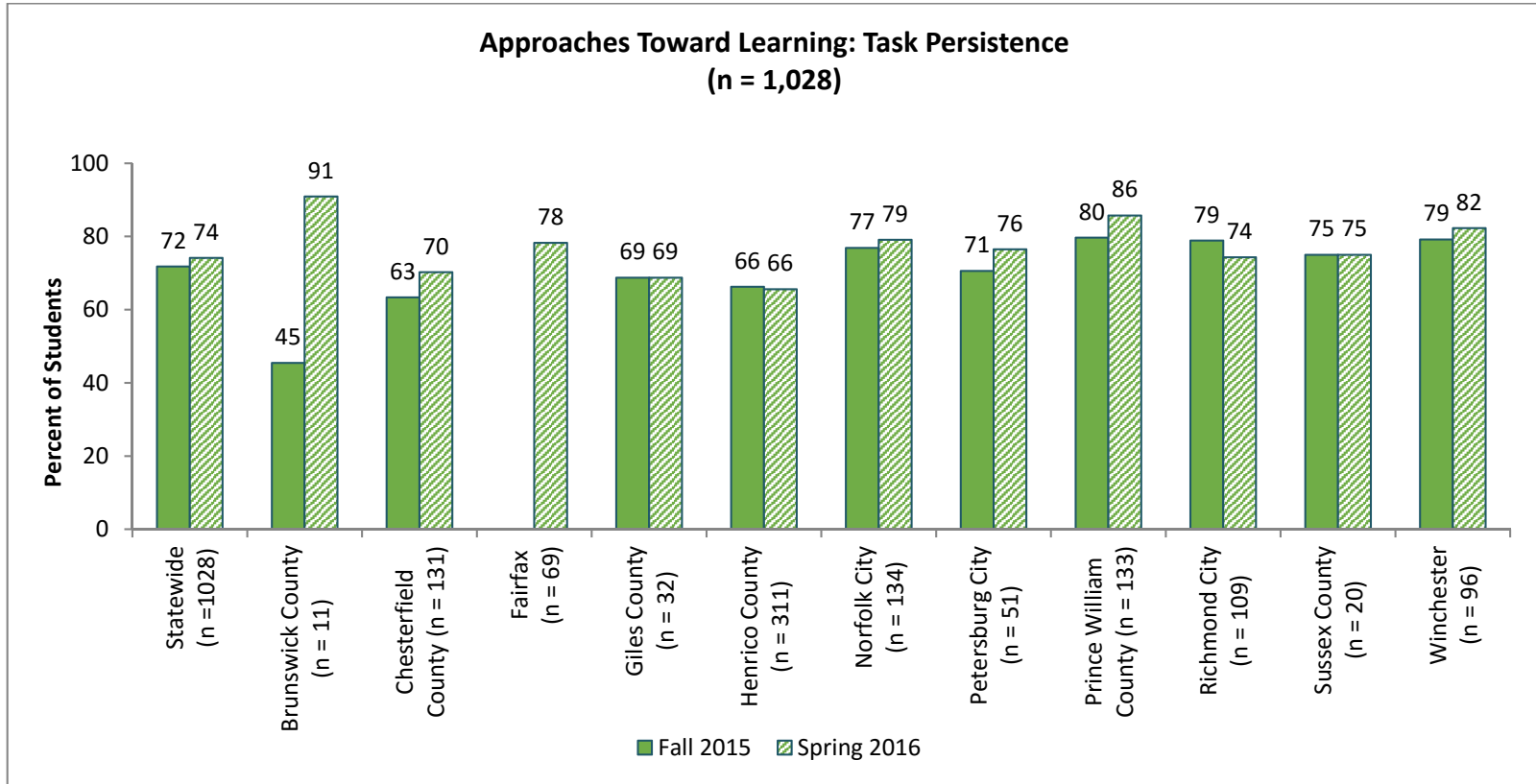


**Exhibit A-7. Percent of Children Who Met or Exceeded the Normative Average on Cognition and General Knowledge: Early Math Skills**



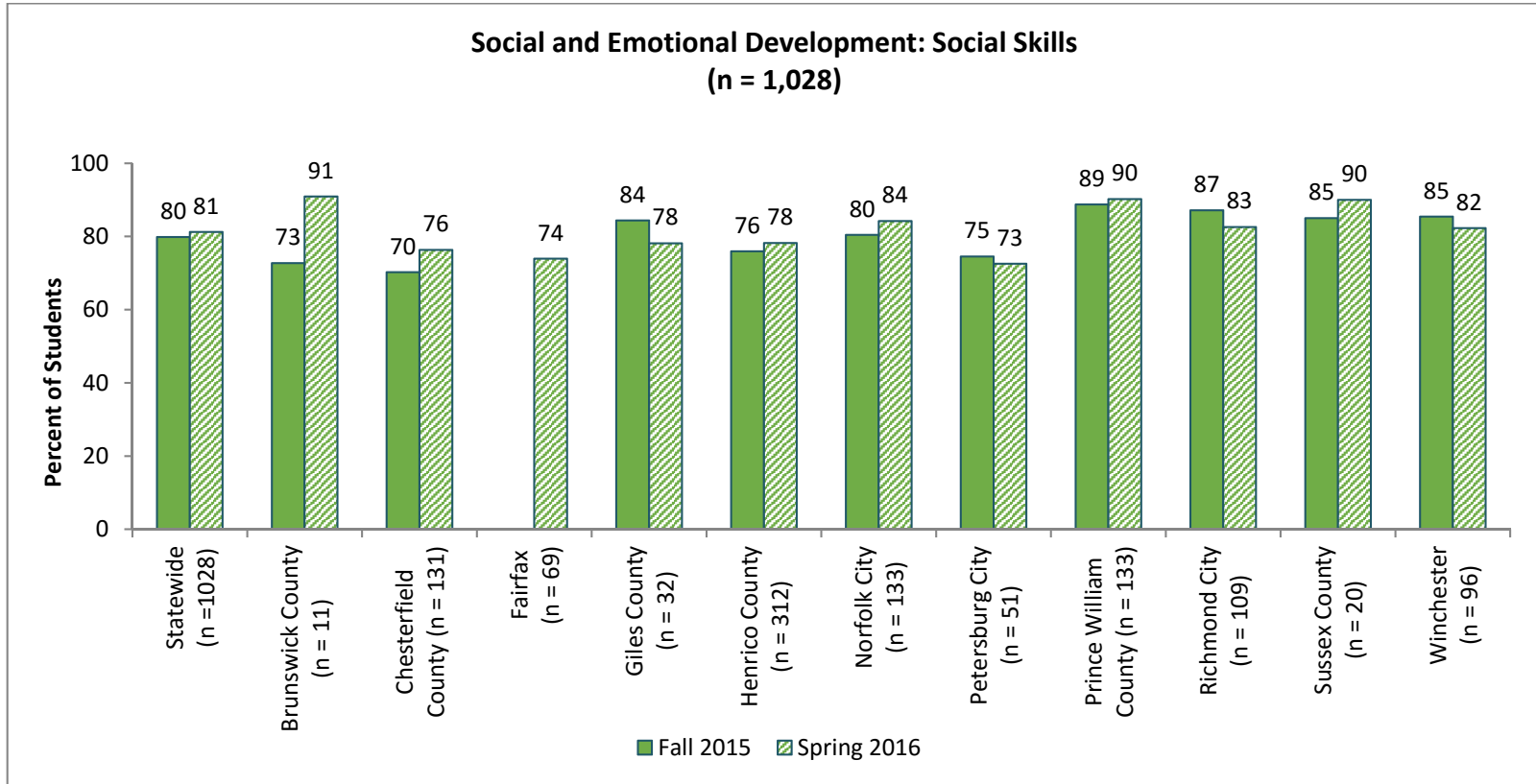
Note: Fairfax sample is not reflected in the statewide sample.

**Exhibit A-8. Percent of Children Who Met or Exceeded the Normative Average on Approaches Toward Learning: Task Persistence**



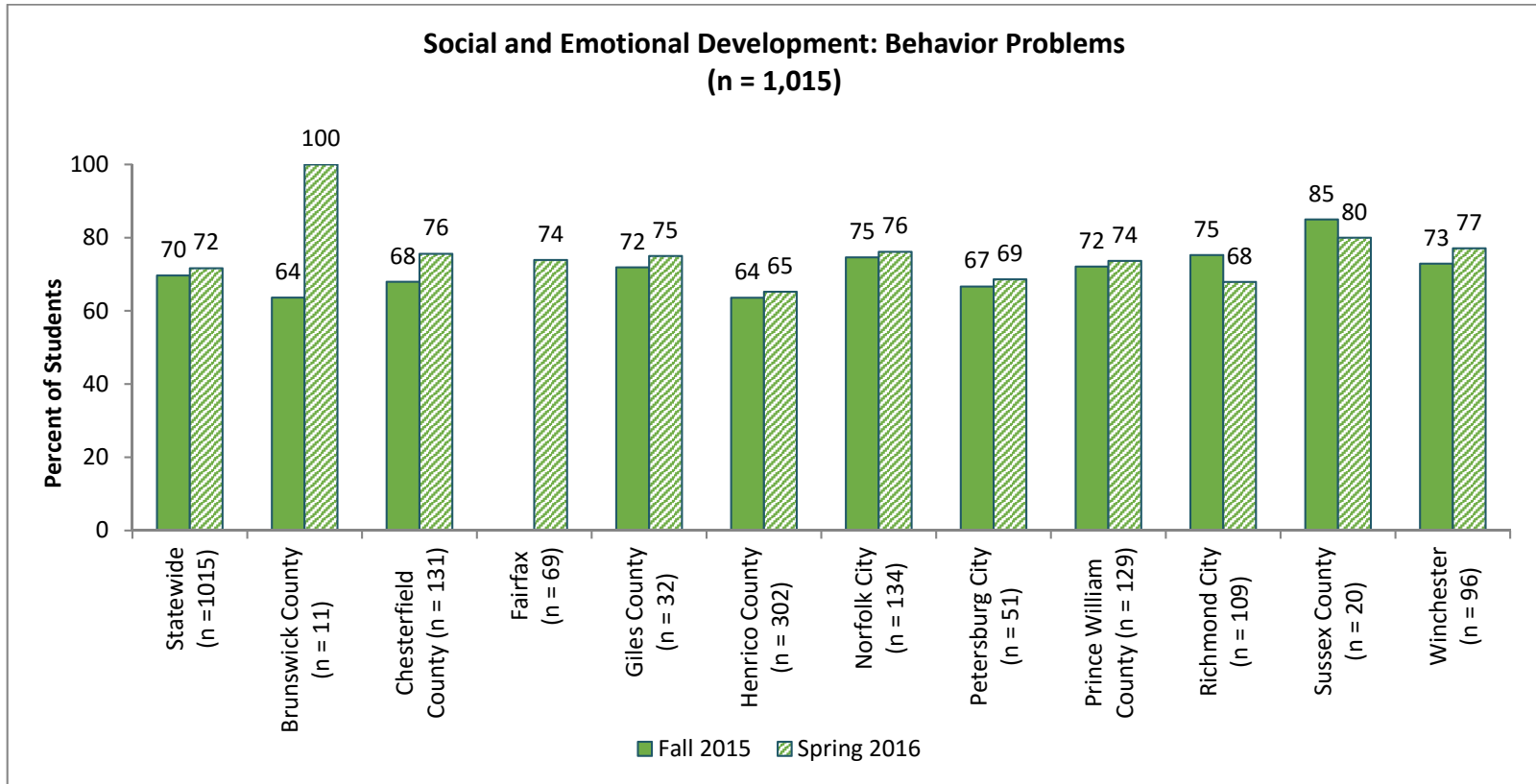
Note: Fairfax sample is not reflected in the statewide sample.

**Exhibit A-9. Percent of Children Who Met or Exceeded the Normative Average on Social and Emotional Development: Social Skills**



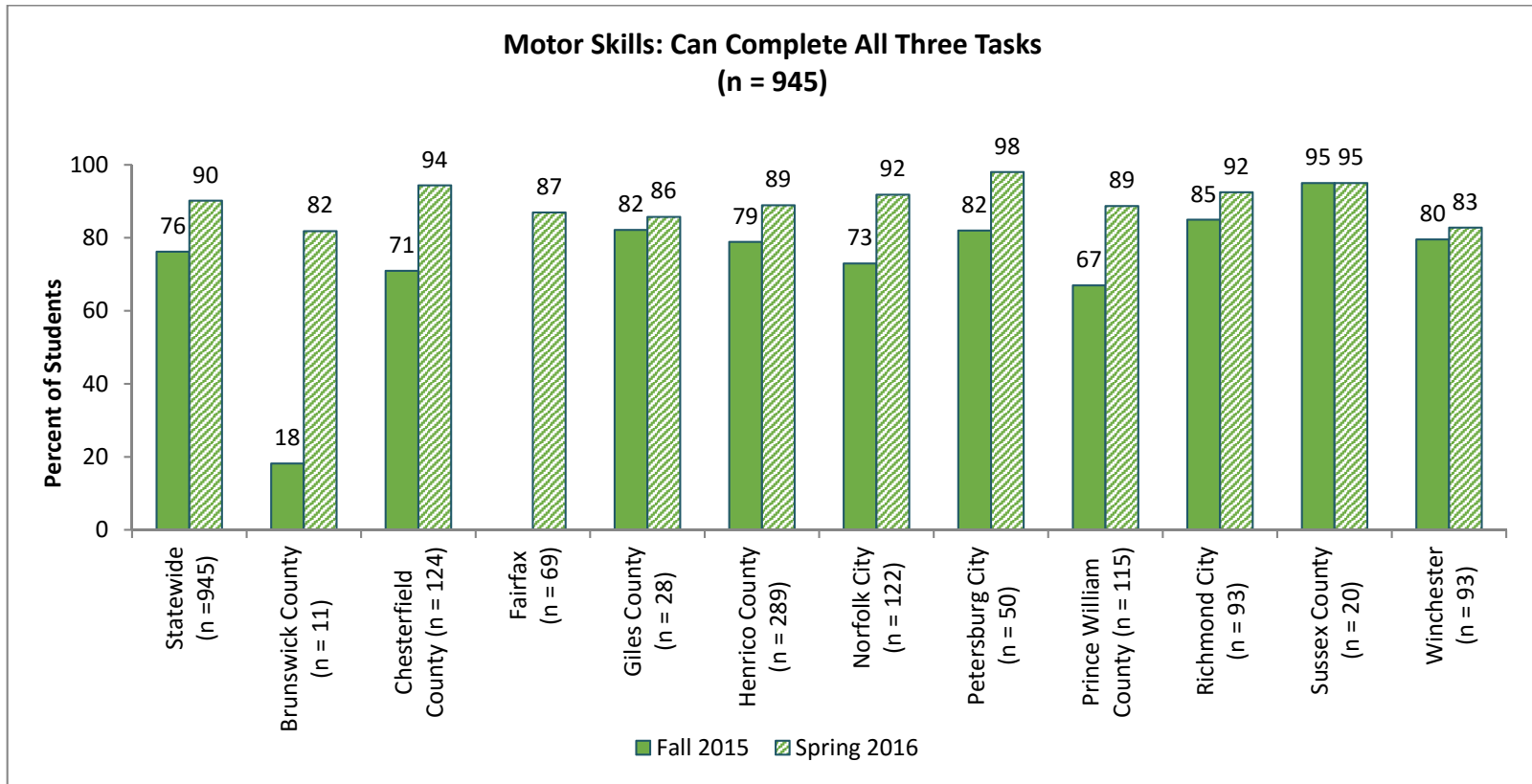
Note: Fairfax sample is not reflected in the statewide sample.

**Exhibit A-10. Percent of Children Who Met or Exceeded the Normative Average on Social and Emotional Development: Behavior Problems**

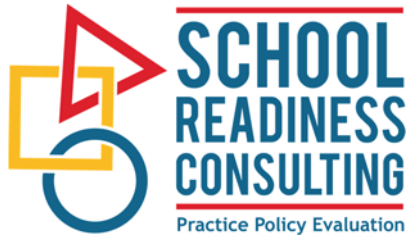


Note: This scale is reverse scored so the percent of children shown in this chart reflect the children who met or exceeded normative averages meaning they were rated as having fewer behavior problems. Also note, Fairfax sample is not reflected in the statewide sample.

**Exhibit A-11. Percent of Children Who Were Rated as Proficient on All Three Motor Tasks**



Note: Fairfax sample is not reflected in the statewide sample.



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