North Carolina's Kindergartners and Schools Technical Report:

Addendum to the April 2001 Summary Report

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INTRODUCTION

School readiness is an important issue facing the nation. The first National Education Goal states, "all children in America will start school ready to learn." Since the establishment of this goal, the issue of children's preparedness for school has drawn increased attention from legislators, policy makers, and educators who face accountability pressures. School readiness is an important issue in North Carolina as well. North Carolina's First in America (North Carolina Education Research Council, 2000), State Board of Education, and Smart Start goals have each emphasized school readiness. In 1999, the Ready for School Goal Team, a state task force of members from the early childhood and public school communities, was charged with developing a definition of school readiness and a plan for assessing school readiness statewide (Scott-Little & Maxwell, 2000). Briefly, the task force defined school readiness as a puzzle with two pieces: the condition of children when they enter school and the capacity of schools to educate all kindergartners effectively. North Carolina's school readiness task force made several assessment recommendations, including the creation of a new statewide assessment for the purposes of providing a "snapshot" of school readiness statewide and monitoring trends over time. This new assessment, the North Carolina School Readiness Assessment (NC SRA), was conducted for the first time in the fall of 2000 and reported in *North Carolina's Kindergartners and Schools: Summary Report* (Maxwell, Bryant, Ridley, & Keyes-Elstein, 2001).

Purpose and Organization of Addendum

The purpose of this technical report addendum is to provide more detailed information about the procedures and results than was included in *North Carolina's Kindergartners and Schools: Summary Report* (Maxwell, Bryant, Ridley, & Keyes-Elstein, 2001). This technical report addendum is not a stand-alone document. The Summary Report must be read first.

The Technical Report Addendum is organized like the Summary Report. Information is presented about two components of school readiness—children and schools. As in the Summary Report, information also is provided about children at risk for school failure and schools that serve a large proportion of children at risk.

METHODS

This section provides detailed descriptions of the sampling design, participants, setting, and measures. It also describes the data collection procedures.

Sampling Design

The NC SRA was designed to assess the skills of entering kindergartners (i.e., condition of children) and characteristics of public schools that serve kindergartners (i.e., capacity of schools). Kindergartners were selected using a two-stage sampling design. In the first stage, schools were stratified by (1) average 3rd-grade End-of-Grade reading scores

(tertiles), (2) percentage of students in the free and reduced-price lunch program (<50, ≥50), and (3) region of North Carolina (North Central, South Central, East, West). These stratification variables were used to ensure adequate representation of children and schools with varied characteristics. Some strata were formed by collapsing cells over geographical regions when cell sizes were too small.

The number of schools selected from each stratum was roughly proportional to the proportion of the kindergarten population represented. Information on the number of kindergartners in each school was obtained from the North Carolina Department of Public Instruction for the 1999-2000 school year. Within each stratum, schools were selected with replacement with probabilities proportional to the number of kindergartners served. Hence, larger schools had a greater chance of being selected, and schools could be selected multiple times. Sixteen schools were selected into the sample twice and one school was selected into the sample three times.

Information packets were mailed to superintendents of all districts from which a school had been selected and to principals of all selected schools. NC SRA staff then contacted these principals by phone to discuss their school's participation in the NC SRA. If a principal declined to participate, the school was replaced with another randomly selected school from the same stratum. Only 7 schools (out of 189) declined. Most principals declined due to concerns about overwhelming their staff or because this was their first year as principal at the school.

Eight of the selected schools enrolled kindergartners in both year-round and traditional calendar programs. For each of these schools, one program was selected at random with probabilities proportional to the fraction of kindergartners enrolled in each program. Two independent selections were made for the one school that was selected into the first stage sample twice.

In the second stage, 5 kindergartners were selected for each time a school entered the first-stage sample. The selection method was simple random sampling without replacement. For each school, the number of kindergartners was assumed to be no more than 1.5 times the 1999-2000 enrollment. Twenty-five numbers ranging from 1 to the maximum anticipated enrollment were randomly selected (without replacement) for each time the school was selected into the stage one sample.

NC SRA research assistants visited schools early in the school year (about the seventh week) to obtain an accurate picture of the condition of children near the time they entered school. These research assistants used the FPG-generated randomized list of numbers to select the kindergartners within each school. As a first step, the assistant obtained from the school a list of all kindergartners enrolled in the school as of that day. This list included children with disabilities who were in self-contained classrooms at the school. After numbering each child on this list, the research assistant deleted from the randomized number list all numbers greater than the number of children enrolled. The first number at the top of the random list identified the first child to be selected. If this child was eligible, data were collected; if not, the next random number on the list was used to select a replacement child. This process was repeated until data were collected on 5 children for each time the school was selected in the first-stage sample. Children were eligible for the study if they: a) were present on the day of the school visit, b) were

first-time kindergartners (i.e., had not been retained previously), c) had any necessary assistive devices (e.g., glasses, hearing aids) with them on the day of the school visit, d) spoke either English or Spanish proficiently, and e) agreed to play some games with the research assistant. In some schools, principals distributed letters to the parents of all kindergartners describing the project and asking parents to let the school know if they did not want their child to participate. In these schools, an additional criterion for eligibility was f) parents had not requested that their child not participate in this project.

Participants

The Fall 2000 NC SRA gathered information about school readiness from a random sample of kindergartners and their teachers, principals, and parents. The sample was representative of kindergartners and public schools in the state and included 1034 kindergartners from 568 different classrooms at 189 public schools.

Kindergartners who participated in the NC SRA included those with and without disabilities and those who spoke either English or Spanish as their primary language. Twenty-nine children in the sample were identified by their teachers as receiving special education services or having an Individual Educational Plan (IEP). Fifty-two children were identified by their teachers as being more proficient in Spanish than in English, and all were assessed in Spanish. An additional fifteen children who spoke English as a second language, but were proficient in English (as judged by their kindergarten teachers), were assessed in English. Parents of these children reported that 10 had learned to speak Spanish as their first language and 5 had learned to speak some other language (e.g., Chinese, Russian) as their first language. Additional information about the participating children is presented in the Results section of this technical report addendum.

The NC SRA also included parents and kindergarten teachers of the randomly selected children and principals of the selected schools. Descriptive information about parents and school personnel are included in the Results section of this report.

Setting

One hundred and eighty-nine public elementary schools (including three charter schools) took part in the NC SRA. These schools were located across the state in 72 different counties. Regional research assistants visited the schools to conduct one-on-one assessments with participating kindergartners. The assessments occurred in the most appropriate space available at each school. In most cases, assessments were conducted in a private or semi-private setting such as an unoccupied office or an unused corner of the library. Settings were selected to minimize distractions and to facilitate comfortable interactions between the child and research assistant.

Measures

A variety of measures were used to assess two pieces of the school readiness puzzle—children and schools. Information about the condition of children was gathered from parents, kindergarten teachers, and children. Information about schools' capacity to educate kindergartners was gathered from parents, teachers, and principals. The NC SRA battery consisted of commercially available assessment instruments, measures and survey items from national studies, as well as survey items developed by project staff. Table 1 summarizes the assessment battery. Each of the measures used in the NC SRA is described in this section.

Table 1 Summary of the NC SRA Battery

Domain	Measure
Condition of Children	
Health & Physical Development	Parent Survey
Social & Emotional Development	Social Skills Rating System
Approaches Toward Learning	Parent Survey
Language Development & Communication	Comprehensive Test of Phonological Processing
	Peabody Picture Vocabulary Test-III
	Story and Print Concepts
	Woodcock-Johnson Psycho-Educational Battery-Revised
Cognition & General Knowledge	Bracken Basic Concepts Scale-Revised
	Color Names
	Woodcock-Johnson Psycho-Educational Battery-Revised
Capacity of Schools	Parent Survey
	Teacher Questionnaire
	Kindergarten Teacher Survey
	Elementary School Principal Survey

Bracken Basic Concept Scale – Revised (Bracken, 1998). The Quantity subtest of the Bracken was used to assess kindergartners' understanding of basic math concepts such as *a lot* and *full* (*Cognition and General Knowledge*). Children's acquisition of fundamental concepts (e.g., those that relate to quantity) is related to their overall

cognitive development. The Quantity subtest of the Bracken consists of 49 items. These items are presented orally along with 4 multiple-choice picture stimuli, and children are asked to point to the correct picture. The Bracken can be used with individuals between the ages of 2 years 6 months and 7 years 11 months. A Spanish translation of the instrument assesses the same concepts as the English version; however, normative data are not available for the Spanish edition. This instrument was individually administered to participating kindergartners. The Bracken Quantity subtest produces a standard score with a mean of 10 and a standard deviation of 3. The NC SRA analyses (for English-speaking children) rescaled the standard scores to have a mean of 100 and a standard deviation of 15. Rescaling was necessary to create the math composite score.

Comprehensive Test of Phonological Processing (CTOPP; Wagner, Torgesen, & Rashotte, 1999). The Elision subtest of the CTOPP was used to assess kindergartners' phonological awareness (*Language Development and Communication*). Phonological awareness refers to an individual's ability to break spoken words into parts. The Elision subtest measures the extent to which an individual can say a word after dropping out designated sounds. For example, a child could be prompted to say "fireman" and then prompted to say "fireman" without saying "man." The correct response would be "fire." The Elision subtest can be used with individuals between the ages of 5 and 24 years. The version used in the NC SRA (for ages 5 and 6) consists of 20 test items. Standard scores with a mean of 10 and a standard deviation of 3 were used in the NC SRA analysis. This instrument was individually administered to English-speaking kindergartners only.

Peabody Picture Vocabulary Test – III, Form A (PPVT; Dunn & Dunn, 1997). The PPVT was used to measure children's receptive language skills (*Language Development and Communication*). The PPVT can be administered to individuals as young as 2 years 6 months and as old as 90 years. It consists of 204 items arranged in order of increasing difficulty; most individuals complete 60 or fewer items. Test procedures involve showing the child a picture plate and asking the child to select the picture that best represents the stimulus word presented by the assessor. A Spanish version of the PPVT (TVIP; Dunn, Padilla, Lugo, & Dunn, 1986) was administered to the 52 kindergartners who spoke Spanish as their primary language. The PPVT/TVIP was individually administered to kindergartners. Standard scores (for both the English and Spanish versions) with a mean of 100 and a standard deviation of 15 were used in the analysis.

Social Skills Rating System (SSRS; Gresham & Elliott, 1990). The teacher form of the Social Skills Questionnaire (Grades K-6) was used to gather information about children's social skills and problem behaviors (*Social and Emotional Development*). Teachers completed a 30-item rating scale that measures children's social skills on a scale of 0 to 2, with a higher score indicating greater skills. Teachers also completed an18-item rating scale that measures children's problem behaviors on a scale of 0 to 2, with a higher score indicating more problems. NC SRA analyses used the standard scores for the social skills and problem behavior scales, which have a mean of 100 and a standard deviation of 15. A composite score was also calculated by averaging the social skills scale score with the problem behavior scale score (reversed). The SSRS

was distributed to teachers of participating children on the day that the child was assessed.

Woodcock-Johnson Psycho-Educational Battery – Revised (Woodcock & Johnson, 1989, 1990). Two subtests from the Woodcock-Johnson Tests of Achievement, Form A were individually administered to children as part of the NC SRA battery: Letter-Word Identification and Applied Problems. The Letter-Word Identification subtest was used to measure children's language skills (*Language Development and Communication*) and the Applied Problems subtest was used to measure children's math skills (*Cognition and General Knowledge*). The Letter-Word Identification subtest consists of 57 items that address children's reading knowledge. For kindergartners, the subtest measures knowledge of letters and very simple words. The Applied Problems subtest consists of 60 items designed to assess children's skill in analyzing and solving practical math problems. The Woodcock-Johnson provides norms for children as young as 24 months to adults over the age of 90 years of age. A norm-referenced Spanish version was administered to the 52 Spanish-speaking kindergartners (Woodcock & Muñoz-Sandoval, 1996). Standard scores with a mean of 100 and a standard deviation of 15 were used in the analysis.

Color Names (Zill & Resnick, 1998). This subtest was adapted and used with permission from the Head Start Family and Child Experiences Survey (FACES; Zill & Resnick, 1998). The Color Names subtest is a simple color naming and identification task that was used to familiarize the child with the research assistant and the assessment conditions. It also provided information about the *Cognition and General Knowledge* domain. This subtest yields a raw score for the number of colors named and for the number of colors named or identified. The percentage correct was used in NC SRA analyses.

Story and Print Concepts (Zill & Resnick, 1998). This subtest was adapted and used with permission from the Head Start Family and Child Experiences Survey (FACES; Zill & Resnick, 1998). It measures children's book knowledge, comprehension, and print awareness (*Language Development and Communication*). For this subtest, the research assistant read to each child a book entitled "Where's My Teddy?" (Alborough, 1992, 1995) and asked 12 questions about the book and its contents. Raw scores were generated for each of the conceptual areas (i.e., book knowledge, comprehension, and print awareness). Raw scores were used in the analysis and can range from 0-5 for book knowledge, 0-2 for comprehension, and 0-7 for print awareness.

Parent Survey (North Carolina School Readiness Assessment, 2000c). Project staff developed a Parent Survey to gather information about both pieces of the school readiness puzzle: children and schools. This survey addresses two domains of the condition of children: *Health and Physical Development* and *Approaches Toward Learning*. It includes questions about children's health, health insurance coverage, motor skills, approaches toward learning, previous child care experiences, kindergarten transition practices, and family demographics. Some questions were adapted from similar questionnaires used by the Early Childhood Longitudinal Study-Kindergarten Cohort (U.S. Department of Education, 1998) and the National Household Education

Survey of School Readiness (U.S. Department of Education, 1993). Parents of participating children received this survey on the day that their child was assessed.

Kindergarten Teacher Survey (North Carolina School Readiness Assessment, 2000b) and **Teacher Questionnaire** (North Carolina School Readiness Assessment, 2000d). The Kindergarten Teacher Survey and Teacher Questionnaire were designed by project staff to gather information about schools' readiness for children. They include questions about teacher education and experience, class size, learning center materials, classroom activities, and kindergarten transition practices. Some questions were adapted from similar questionnaires used by the Early Childhood Longitudinal Study-Kindergarten Cohort (U.S. Department of Education, 1998) and the National Center for Early Development and Learning Kindergarten Transition Project (National Center for Early Development and Learning, 1996). Teachers of participating children received the questionnaire on the day that the child was assessed, and surveys were completed in the late fall.

Elementary School Principal Survey (North Carolina School Readiness Assessment, 2000a). Project staff also developed an Elementary School Principal Survey to gather information about schools' readiness for children. This survey includes questions about principal education and experience, school services, policies, and professional development opportunities. Some questions were adapted from a similar questionnaire used by the Early Childhood Longitudinal Study-Kindergarten Cohort (U.S. Department of Education, 1998). Principals at schools attended by child participants completed this survey in the late fall.

Training and Quality Assurance

Maxwell and Ridley conducted a two-day training session for all research assistants (RA) in mid-August. RAs were trained to administer each measure and to randomly select children using the procedures described in the Sampling Design section. Research assistants then practiced administering the measures over a one-to-two week period. When ready, a supervisor observed each research assistant administering the battery to a young child to ensure competency in terms of both technical and interpersonal skills. If the RA was not judged to be competent, another supervised observation was scheduled. Once the RA passed the supervised assessment, she/he began data collection.

The quality of the data was monitored regularly. RAs mailed data to FPG on a weekly basis. Each assessment form was reviewed immediately for completeness and accuracy. Incomplete data were returned to RAs and errors were corrected, if possible. The project coordinator provided corrective feedback to project staff as needed.

Data Collection

In general, school visits occurred during the seventh week of school. On average, English-speaking children were assessed on the 33rd day of school (range = 17th – 54th

day), and Spanish-speaking children were assessed on the 48th day of school (range = 33rd – 65th day). Spanish-speaking children were assessed later than their English-speaking peers due to the limited availability of bilingual RAs. Most research assistants spoke English only and had to refer Spanish-speaking children to a Spanish-speaking assessor, who then scheduled a later school visit to assess those children. Fifty-two children were identified by their teachers as being more proficient in Spanish than in English, and all were assessed in Spanish. Fifteen children who spoke English as a second language, but were proficient in English (as judged by their kindergarten teachers), were assessed in English.

Children participated in one-on-one assessments with research assistants for, on average, 30 minutes (per child). Assessments were scheduled in consultation with kindergarten teachers to minimize the loss of instructional time. Information packets that included Parent Surveys were given to school personnel to be sent home with participating children on the day of the visit. Each packet also included a postage paid envelope for parents to use in returning the surveys to FPG.

Teachers of participating children were given a SSRS Questionnaire for each participating child in their classroom and a brief Teacher Questionnaire to be completed and returned to FPG using a postage paid envelope. Kindergarten Teacher Surveys and Elementary School Principal Surveys were mailed to participating school personnel in October after all school visits were completed. These surveys were also returned to NC SRA staff via mail using a postage paid envelope.

Response Rates

School personnel and parents were eager to share their thoughts about school readiness. Sixty-six percent of the parents returned surveys; 94% of the teachers returned one or both teacher surveys; 92% of the teachers rated their students' social skills; and 88% of the principals returned surveys. The information provided by these individuals was used to create population estimates that are included in this report.

Defining Risk

For the summary report, risk was determined by family income. Specifically, children whose teachers reported that they were eligible for free or reduced-price school lunch were defined as at risk for school failure. Children from families with an income up to 185% of the poverty level are eligible for free or reduced-price lunch at schools that participate in the National School Lunch Program. For the period July 1, 2000, through June 30, 2001, 185% of the poverty level was determined to be an annual income of $31,543 for a family of four (U.S. Department of Agriculture, 2000). The terms *at risk* and *lower income* are used in this report to refer to North Carolina children who qualify for free or reduced-price lunch.

In this report, we also examined characteristics of schools that served a high proportion of kindergartners at risk for school failure. We used free and reduced-price lunch eligibility as our definition of risk. *High-poverty schools* were defined as those with half

or more of the kindergartners eligible for free or reduced-price lunch. *Low-poverty schools* were defined as those with less than half of the kindergartners eligible for free or reduced-price lunch.

Analysis

For the Fall 2000 NC SRA, data were weighted to compensate for non-response bias. To compute the population estimates presented in *North Carolina's Kindergartners and Schools: Summary Report*, we used analysis methods appropriate for data collected under a complex probability sampling design. First, we computed sets of sampling weights for each type of observational unit in the study (i.e., child, teacher, school/principal). A weight is an estimate of the number of population units represented by each observational unit in the sample. The weight computations are tied to the sample design and to limitations in the sample arising from non-response. For each unit, a raw weight was computed as the inverse of its selection probability. To partially compensate for potential bias, the raw weights were subsequently adjusted to account for differential non-response rates about the strata.

Estimates based on weighted data were computed using the SUDAAN software for survey analysis. This package is designed to account for the stratified two-stage sampling design and to compute precision estimates correctly (a feature often not available in typical statistical analysis packages).

RESULTS

This section of the report presents a brief text summary of the key findings along with several tables of data. Please refer to the Summary Report for more detailed text descriptions of the findings and their implications. Statistical tests, associated p values, and 95% confidence intervals are also presented in this section. P values less than .05 are considered statistically significant. The confidence intervals should be interpreted as providing a range of values for which we are 95% confident that the true population value falls. For example, if the average score on one of our measures was 90 with a confidence interval of 89-91, then we are 95% confident that the average score on this measure for the true population of kindergartners in North Carolina falls somewhere between 89 and 91.

Findings related to the condition of children are presented first. Following the order of the Summary Report, the first section provides basic descriptive information about North Carolina's kindergartners. The next five sections then present data for each of the domains of development and learning. The second major section provides data on the capacity of schools. Information about kindergarten teachers, classrooms, principals, and schools is provided.

Condition of Children

This section begins by describing basic characteristics of kindergartners. Tables of findings from each of the five domains of development and learning are then presented.

Who Are North Carolina's Kindergartners?

The following tables present information about NC kindergartners' sex, race/ethnicity, primary language spoken, receipt of special education services, participation in the free or reduced price school lunch, maternal education level, and child care experiences the year before they started kindergarten.

Table 2. Gender of Kindergartners

Gender	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
Female	50.9% (47.8% - 53.9%)	50% (45.6% - 54.5%)	51.8% (46.8% - 56.9%)
Male	49.1% (46.0% - 52.2%)	49.9% (45.5% - 54.4%)	48.1% (43.1% - 53.2%)

Note: No tests of statistical significance were conducted.

Table 3. Race/Ethnicity of Kindergartners

Race/Ethnicity	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
White/Caucasian	60.2% (56.4% - 64.0%)	78.9% (75.1% - 82.8%)	37.3% (31.6% - 43%)
Black/African American	27.1% (23.6% - 30.6%)	12.6% (9.7% - 15.5%)	44.6% (38% - 51.2%)
Hispanic/Latino	7.9% (5.6% - 10.2%)	3.5% (1.8% - 5.2%)	13.6% (9.1% - 18.11%)
American Indian	.4% (0% - .9%)	.7% (0% - 1.5%)	.3% (0% - .8%)
Asian/Pacific Islander	.7% (.1% - 1.2%)	1% (.2% - 1.9%)	.3% (0% - .9%)
Multiracial	3.4% (2.2% - 4.6%)	3% (1.5% - 4.6%)	3.6% (1.6% - 5.5%)

Note: No tests of statistical significance were conducted.

Table 4. First Language Spoken by Kindergartners

Language	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
English	93.5% (91.1% - 96.0%)	97.4% (95.8% - 99.1%)	88.8% (83.7% - 94.0%)
Spanish	6.7% (3.5% - 7.9%)	1.5% (.3% - 2.8%)	11.2% (6% - 16.3%)
Other/Unknown	.8% (0% - 1.7%)	1.1% (0% - 2.2%)	0%

Note: No tests of statistical significance were conducted.

Table 5. Kindergartners Receiving Special Education or Related Services

Special Education	Percentage (Confidence Interval)
Yes	6.8% (5.7% - 8.0%)

Table 6. Kindergartners from Lower-Income Families

Qualifies for Free or Reduced Price School Lunch	Percentage (Confidence Interval)
Yes	40.1% (36.6% - 43.7%)
No	50.6% (47.0% - 54.1%)
Unknown	9.3% (6.7% - 11.9%)

Table 7. Maternal Education Level of Kindergartners

Level of Education	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
Up to 8th grade	4.3% (2.5% - 6.0%)	.4% (0% -1.1%)	10.7% (6.4% - 15%)
9th – 12th grade, no diploma	10% (7.5% - 12.6%)	5% (2.3% - 7.6%)	17.7% (12.9% - 22.4%)
HS diploma, GED	23.9% (20.3% - 27.5%)	21.4% (17.0% - 25.7%)	28.7% (22.2% - 35.2%)
Some college, no degree	27.6% (23.7% - 31.5%)	26.4% (22.0% - 30.8%)	28.9% (21.6% - 36.1%)
Associate/vocational degree	14.2% (11.3% - 17.2%)	16.6% (12.7% - 20.3%)	10.2% (6.0% - 14.3%)
Bachelor's degree	16.7% (13.3% - 20.1%)	25.2% (19.9% - 30.5%)	3.9% (1.0% - 6.8%)
Graduate/professional degree	3.3% (1.8% - 4.8%)	5.1% (2.7% - 7.6%)	0%

Note: No tests of statistical significance were conducted.

Table 8. Child Care Arrangements for Children the Year Before Kindergarten

Arrangement	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
Relative	8.9% (6.3% - 11.5%)	6.7% (4% - 9.4%)	12.5% (7.1% - 17.9%)
Babysitter	5.4% (3.4% - 7.4%)	5.6% (3% - 8.2%)	5.7% (2.1% - 9.3%)
Head Start	6.1% (3.5% - 8.2%)	2.2% (0% - 4.4%)	12.5% (7.5% - 17.5%)
Public Preschool	6.2% (4.1% - 8.3%)	5.7% (3.3% - 8.0%)	7.3% (3% - 11.7%)
Child Care Center	32.5% (28.6% - 36.4%)	39.1% (34.2% - 44%)	19.7% (12.9% - 26.5%)
Family Daycare	2.5% (1.3% - 3.8%)	2.2% (.6% - 3.7%)	3.4% (.8% - 6.0%)
Half-day Preschool	4.6% (3.0% - 6.2%)	6.3% (3.9% - 8.7%)	1.6% (.4% - 3.5%)
Unknown (not parent)	3% (1.4% - 4.6%)	1.4% (.1% -2.6%)	5.6% (2.1% - 9.0%)
Parent	30.7% (26.7% - 34.7%)	30.9% (25.8% - 35.9%)	31.7% (25.2% - 38.3%)

Note: No tests of statistical significance were conducted.

Health and Physical Development

North Carolina kindergartners varied in their parent-reported health status and motor skills. On average, kindergartners were in very good health and demonstrated age-appropriate motor skills. The health of children from lower-income families was significantly worse than the health of children from higher-income families. Children from lower-income families also had significantly lower motor skills than children from higher-income families.

Table 9. Kindergartners' Health Status

Health Status	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
Poor	.1% (0% - .4%)	0%	.4% (0% - 1.2%)
Fair	1.6% (.6% - 2.5%)	.2% (0% - .5%)	3.9% (1.4% - 6.4%)
Good	13.3% (10.4% - 16.2%)	8.8% (6.0% - 11.7%)	20.0% (13.9% - 26.1%)
Very Good	35.0% (31.0% - 38.9%)	33.8% (28.6% - 39.1%)	35.1% (28.7% - 41.5%)
Excellent	50.0% (45.6% - 54.4%)	57.1% (52.0% - 62.3%)	40.6% (33.0% - 48.1%)

Table 10. Kindergartners in Very Good or Excellent Health

Health Status	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)	Test of Significance
Very Good or Excellent	85.0% (81.8% - 88.2%)	91.0% (88.1% - 93.9%)	75.7% (69.3% - 82.1%)	χ^2 (1, $\underline{N}$ = 627) = 18.3, p < .0001

Table 11. Kindergartners' Health Insurance Coverage

Insurance Coverage	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
Private	57.3% (52.7% - 61.8%)	74.6% (69.7% - 79.5%)	28.6% (22.1% - 35.2%)
NC Health Choice	6.4% (4.5% - 8.3%)	5.9% (3.6% - 8.3%)	7.6% (3.6% - 11.5%)
Medicaid	23.7% (19.8% - 27.6%)	8.5% (5.1%- 11.8%)	47.9% (40.8% - 55%)
CHAMPUS	4.6% (2.4% - 6.9%)	4.5% (2.1% - 6.9%)	5.8% (2% - 9.5%)
Other	1.8% (.8% - 2.9%)	2.0% (.4% - 3.5%)	1.2% (.2% - 2.6%)
No Health Insurance	6.1% (5.0% - 7.2%)	4.5% (2.4% - 6.6%)	8.9% (4.3% - 13.5%)

Note: No tests of statistical significance were conducted.

Table 12. Kindergartners' Motor Skills

Motor Skills	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)	Test of Significance
Buttons own clothes	94.8% (92.9% - 96.7%)	95.3% (93.1% - 97.6%)	94.6% (91.5% - 97.6%)	χ^2 (1, N = 670) =.2, p = .68
Writes and draws rather than scribbles	86.4% (83.4% - 89.4%)	90.0% (86.8% - 93.1%)	80.0% (73.5% - 86.4%)	χ^2 (1, N = 629) = 7.9, p = .006
Walks without tripping, stumbling, falling easily	88.3% (85.4% - 91.2%)	92.6% (90% - 95.2%)	82.8% (77.1% - 88.5%)	χ^2 (1, N = 669) = 9.4, p = .003

Social Development

North Carolina kindergartners demonstrated a wide range of social skills. In general, the social skills of NC kindergartners were about as well developed as those of kindergartners nationally. Children from lower-income families in North Carolina had significantly lower social skills and more problem behaviors than children from higher-income families.

Table 13. Kindergartners' Positive Social Skills

	Total Population			Higher Income			Lower Income			Test of Significance
	Min	Max	Mean (CI)	Min	Max	Mean (CI)	Min	Max	Mean (CI)	
Social Skills	40	142	97.0 (96 - 98.1)	61	130	100.5 (99.1 - 101.9)	40	130	92.8 (91.3 - 94.2)	t (187) = 7.6, $p < .001$

Min = minimum score; Max = maximum score; CI = 95% confidence interval.
The mean of the standard scores for the national standardization sample = 100; standard deviation = 15.

Table 14. Kindergartners' Problem Behaviors[a]

	Total Population			Higher Income			Lower Income			Test of Significance
	Min	Max	Mean (CI)	Min	Max	Mean (CI)	Min	Max	Mean (CI)	
Problem Behaviors	85	142	98.1 (97.2–99)	85	142	95.5 (94.3 - 96.6)	85	138	101.2 (99.7– 102.7)	t (187) = 5.8, $p < .001$

[a]Higher scores indicate more problem behaviors.
Min = minimum score; Max = maximum score; CI = 95% confidence interval.
The mean of the standard scores for the national standardization sample = 100; standard deviation = 15.

Table 15. Percentage of Kindergartners Who Often…

	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
Make friends easily	62.6% (59.2%-66%)	69.6% (65.4%-73.8%)	54.3% (48.7% - 59.8%)
Accept peer ideas	41.5% (38% - 44.9%)	43.2% (38.9% - 47.5%)	39.9% (34.6% - 45.2%)
Fight with others	3.5% (2.2% - 4.8%)	2.4% (.7% - 4.0%)	5% (2.6% - 7.3%)
Get angry easily	5.6% (4.1% - 7.2%)	3.9% (2.2% - 5.6%)	7.7% (4.9% - 10.4%)

Note: No tests of statistical significance were conducted.

Approaches Toward Learning

Overall, North Carolina kindergartners were similar to their peers nationally in demonstrating positive approaches toward learning (e.g., eagerness to learn and creativity). Children from lower-income families were rated by their parents as demonstrating these positive characteristics significantly less often than children from higher-income families. The table below provides more detailed data.

Table 16. Percentage of Kindergartners Who Often or Very Often Demonstrated Positive Approaches Toward Learning

	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)	Test of Significance
Seem eager to learn	89.4% (86.2% - 92.6%)	93.8% (91.1% - 96.6%)	82.4% (75.7% - 89.2%)	χ^2 (1, N = 628) = 9.2, p =.003
Show creativity	90.5% (87.8% - 93.2%)	94.9% (92.6% - 97.3%)	83.5% (77.9% - 89.2%)	χ^2 (1, N = 622) = 13, p = .0004
Try hard	62.5% (57.9% - 67.1%)	68.6% (63.7% - 73.6%)	52.7% (44.6% - 60.8%)	χ^2 (1, N = 623) = 11.5, p = .0009
Take pride	93.4% (90.9% - 95.9%)	98.3% (96.9% - 99.7%)	85.6% (79.7% - 91.5%)	χ^2 (1, N = 627) = 17.4, p = .0001
Ask for help	77.3% (73.1% - 81.5%)	81.8% (77.4% - 86.2%)	70.1% (62.6% - 77.5%)	χ^2 (1, N = 626) = 7.6, p = .006
Like school	88.8% (85.8% - 91.7%)	93.9% (91.1% - 96.6%)	80.8% (75% - 86.5%)	χ^2 (1, N = 625) = 15.8, p = .001

Language Development and Communication

On average, North Carolina kindergartners' language and communication skills were lower than the national average. More NC kindergartners scored very low on language measures than would be expected based on national norms. The language and communication skills of children from lower-income families were significantly lower than those of children from higher-income families.

Table 17. Kindergartners' Language Skills

	Total Population			Higher Income			Lower Income			Test of Significance
	Min	Max	Mean (CI)	Min	Max	Mean (CI)	Min	Max	Mean (CI)	
PPVT-III	40	137	96.5 (95.4 - 97.7)	63	137	103.4 (102.2 - 104.7)	40	123	88.0 (86.3 – 87.9)	t (189) = 15.1, $p < .001$
WJ-R Letter Word ID	47	164	92.9 (91.8 – 94)	53	164	97.0 (95.6 – 98.4)	47	127	87.3 (85.8 – 88.8)	t (189) = 10.8, $p < .001$
CTOPP	6	15	9.4 (9.2-9.5)	6	17	9.6 (9.4-9.7)	6	13	9.0 (8.7-9.3)	t (189) = 3.5, $p < .001$

Min = minimum score; Max = maximum score; CI = 95% confidence interval.
The mean of the PPVT and WJ-R standard scores for the national standardization sample = 100; standard deviation = 15.
The mean of the CTOPP standard scores for the national standardization sample = 10; standard deviation = 3.

Table 18. Percentage of Kindergartners with No Correct Answers on the CTOPP Elision Subtest

	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
No correct answers	39.1% (35.6% - 42.6%)	27.4% (23% - 31.7%)	56.2% (50.6% - 61.9%)

Note: No tests of statistical significance were conducted.

Table 19. Kindergartners' Understanding of Books

	Total Population (Confidence Interval)
Identify front of book	87.2% (85.1% - 89.3%)
Know that one reads from left to right	63.6% (60% - 67.3%)

Note: No tests of statistical significance were conducted.

Table 20. Kindergartners' Understanding of Story and Print Concepts

	Total Population			Higher Income			Lower Income			Test of Significance
	Min	Max	Mean (CI)	Min	Max	Mean (CI)	Min	Max	Mean (CI)	
Book knowledge	0	5	3.6 (3.5 – 3.7)	0	5	3.9 (3.8 – 4.0)	0	5	3.2 (3.0 – 3.3)	t (189) = 8.5, $p < .001$
Story Comprehension	0	2	1.2 (1.1 – 1.3)	0	2	1.4 (1.3 – 1.5)	0	2	1.0 (.9 – 1.1)	t (189) = 8.7, $p < .001$
Book Awareness	0	7	1.6 (1.5 – 1.7)	0	7	1.9 (1.7 – 2.0)	0	5	1.2 (1.1 – 1.3)	t (189) = 7.9, $p < .001$

General Knowledge and Math Development

North Carolina kindergartners generally knew the names of basic colors. Children varied widely in their math skills when they entered school. On average, North Carolina kindergartners' math skills were below the national average. More NC kindergartners scored very low on math measures than would be expected based on national norms. Kindergartners from lower-income families had significantly lower math skills than children from higher-income families.

Table 21. Kindergartners' Math Skills

	Total Population			Higher Income			Lower Income			Test of Significance
	Min	Max	Mean (CI)	Min	Max	Mean (CI)	Min	Max	Mean (CI)	
Math Composite	54	143	95.0 (94 – 96.1)	54	143	100.6 (99.4– 101.9)	41	126	88.5 (87 – 90)	t (189) = 12.6, p <.001
WJ-R Applied Problems	26	152	94.0 (92.7 – 95.2)	46	152	100.5 (99 – 101.9)	26	136	86.3 (84.4 – 88.2)	t (189) = 11.7, p <.001
Bracken Quantity	60	135	97.1 (96.1 – 98.1)	65	135	101.1 (99.9 – 102.3)	60	125	92.1 (90.7 – 93.4)	t (189) = 10.1, p < .001

Table 22. Kindergartners' Knowledge of Colors

	Total Population (Confidence Interval)	Higher Income (Confidence Interval)	Lower Income (Confidence Interval)
Name 10 colors	77.8% (74.9% - 80.7%)	82% (78.1% - 85.8%)	71.3% (66.2% - 76.4%)
Name or find 10 colors	90.5% (88.4% - 92.6%)	93.8% (91.4% - 96.3%)	85.6% (82.2% - 88.9%)

Note: No tests of statistical significance were conducted.

Capacity of Schools

North Carolina recognizes that schools are an important part of school readiness. This section of the report presents brief summaries of key findings and tables of data about kindergarten teachers, classrooms, principals, and schools. Characteristics of schools serving a high proportion of lower-income kindergartners are sometimes compared to characteristics of schools serving a low proportion of lower-income kindergartners. More detailed text descriptions of the findings and their implications are included in the Summary Report.

Teachers

North Carolina kindergarten teachers had about as much teaching experience as their peers nationally. However, far fewer NC teachers had a Master's degree or higher. Whereas almost all kindergarten teachers in North Carolina were teaching within their area of license, only a small percentage had a license that required extensive early childhood development training. Compared to teachers nationally, NC teachers were doing a better job helping children and families make the transition into school. Kindergarten teacher education and licensure did not differ for low-poverty and high-poverty schools.

Table 23. Gender of Kindergarten Teachers

Gender	Total Population (Confidence Interval)
Female	97.2% (95.5% - 98.9%)
Male	2.8% (1.1% - 4.5%)

Table 24. Race/Ethnicity of Kindergarten Teachers

Race/Ethnicity	Total Population (Confidence Interval)
White/Caucasian	88.1% (84.7% - 91.5%)
Black/African American	11.4% (8.0% - 14.8%)
Hispanic/Latino	.2% (.2% - .6%)
American Indian	.3% (.3% - .9%)
Asian/Pacific Islander	0%
Multiracial	0%

Table 25. Highest Education Level of Kindergarten Teachers

Level of Education	Total Population (Confidence Interval)
Bachelor's degree	61.6% (56.9% - 66.3%)
Coursework beyond BA	12.9% (9.9% - 15.8%)
Master's degree	23.9% (19.8% - 27.9%)
Coursework beyond MA	1.1% (.2% - 2.0%)
Doctoral degree	0%
Other	.5% (.3% - 1.3%)

Table 26. Kindergarten Teachers with a Master's Degree or Higher

Level of Education	Total Population (Confidence Interval)	Low Poverty Schools (Confidence Interval)	High Poverty Schools (Confidence Interval)	Test of Significance
Master's degree or higher	25.0% (20.9% - 29.1%)	28.4% (22.0% - 34.9%)	23.4% (16.2% -30.7%)	χ^2 (1, N = 513) =1.1, p = .31

Table 27. Kindergarten Teachers' Licensure

Type of License	Total Population (Confidence Interval)
Birth-K or PreK-K Add-on	11.0% (8.0% - 14.1%)
Early Childhood (K-4)	48.8% (44.0% - 53.7%)
Elementary (K-6)	51.9% (47.3% - 56.5%)
Primary	3.8% (2.1% - 5.5%)
Elementary – Graduate (1-8)	3.0% (1.5% - 4.6%)
Other	18.7% (14.9% - 22.5%)
None	.8% (.1% - 1.7%)

Table 28. Kindergarten Teacher Licensure by Type of School

Type of License	Total Population (Confidence Interval)	Low Poverty (Confidence Interval)	High Poverty (Confidence Interval)	Test of Significance
Birth-K or PreK-K Add-on	11.0% (8% - 14.1%)	8.0% (4.4%- 11.7%)	12.5% (6.8% - 18.3%)	χ^2 (1, $\underline{N}$ = 517) =1.8, p = .19

Table 29. Kindergarten Teachers Licensed to Teach at the Kindergarten Level[a]

Licensed at K level	Total Population (Confidence Interval)
Yes	94.6% (92.6% - 96.7%)

[a]B-K, PreK-K Add-on, K-4, or K-6

Table 30. Kindergarten Teachers' Years of Experience Teaching Preschool or Kindergarten

	Total Population		
	Min	Max	Mean (Confidence Interval)
Preschool or kindergarten	0	36	10.8 (10 – 11.7)

Table 31. Kindergarten Teachers' Years of Experience Teaching Kindergarten

Number of Years	Percentage (Confidence Interval)
0 –5	41.4% (35.6% - 47.2%)
6 - 10	20.5% (16.1% - 24.9%)
11 – 15	12.8% (9.5% - 16.2%)
16 – 20	8.7% (5.7% - 14.4%)
21 – 25	10.9% (7.7% - 14.2%)
26 – 30	5.3% (3% - 7.6%)

Table 32. Kindergarten Transition Practices Used with Some or All Students

Transition Practices	Total (CI)	Low Poverty (CI)	High Poverty (CI)	Test of Significance
Written record of child's past experiences	77.0% (72.5% - 81.4%)	74.5% (68.1% - 81.0%)	77.5% (70.2% - 84.9%)	χ^2 (1, N = 433) = .38, p = .54
K teacher visits child's home	10.4% (6.9% - 13.8%)	9.7% (4.7% - 14.7%)	10.0% (4.1% - 15.9%)	χ^2 (1, N = 445) = .01, p = .94
Materials sent to parents before school starts	81.8% (77.8% - 85.7%)	84.1% (78.9% - 89.4%)	78.6% (70.6% - 86.7%)	χ^2 (1, N = 443) = 1.3, p = .26
Materials sent to parents after school starts	93.0% (90.5% - 95.6%)	92.5% (88.9% - 96.1%)	96.6% (93.6% - 99.6%)	χ^2 (1, N = 446) = 2.8, p = .09
Staggered school entry at beginning of year	83.9% (78.4% - 89.5%)	89.2% (83.1% - 95.4%)	79.1% (67.9% - 90.2%)	χ^2 (1, N = 447) = 2.5, p = .11
Talk to child's parents before school starts K	88.8% (85.2% - 92.4%)	90.1% (85.5% - 94.7%)	85.3% (77.3% - 93.2%)	χ^2 (1, N = 447) =1.2, p = .29
Talk to child's parents after school starts K	98.0% (96.4% - 99.5%)	98.2% (96.1% - 100%)	98.7% (96.8% - 100%)	χ^2 (1, N = 448) = .11, p = .75
Meet child's family before school starts K	78.2% (73.7% - 82.7%)	79.1% (73.7% - 84.4%)	76.0% (66.1% - 85.8%)	χ^2 (1, N = 444) = .31, p = .58
Send letter to child's parents before school starts	74.3% (69.5% - 79.1%)	77.0% (69.9% - 84.2%)	72.2% (63.4% - 81.0%)	χ^2 (1, N = 442) = .74, p = .39
K teacher visits preschool programs	9.6% (6.4% - 12.8%)	4.2% (1.1% - 7.3%)	12.7% (7.1% - 18.3%)	χ^2 (1, N = 411) = 6.9, p = .01
Informal contact with preschool teacher	40.3% (34.4% - 46.1%)	34.2% (26.8% - 41.7%)	45.0% (33.9% - 56.2%)	χ^2 (1, N = 414) = 2.7, p = .11
Preschool teacher brings next year's children to K	33.2% (27.1% - 39.3%)	23.8% (16.0% - 31.6%)	41.3% (30.1% - 52.5%)	χ^2 (1, N = 408) = 6.6, p = .01
Open house for parents & children before school starts	84.0% (79.7% - 88.2%)	83.5% (76.4% - 90.5%)	84.6% (77.9% - 91.2%)	χ^2 (1, N = 446) = .05, p = .82
Open house for parents & children after school starts	84.2% (79.8% - 88.5%)	82.0% (75.1% - 89.0%)	88.3% (81.4% - 95.2%)	χ^2 (1, N = 445) = 1.6, p = .20
Kindergarten registration	96.2% (94.1% - 98.4%)	98.6% (96.9% - 100%)	98.7% (96.9% - 100%)	χ^2 (1, N = 450) = .01, p = .92
Regular meetings among school & early childhood community	35.4% (30.8% - 40.1%)	31.6% (24.7% - 38.5%)	39.2% (31.1% - 47.4%)	χ^2 (1, N = 434) = 2.0, p = .16
Facilitate contacts between parents of children	77.5% (73.1% - 81.9%)	82.5% (77.1% - 87.8%)	77.1% (68.7% - 85.5%)	χ^2 (1, N = 446) = 1.2, p = .29

CI = confidence interval

Table 33. Parent-Reported Kindergarten Transition Activities

Activity	Total Population (Confidence interval)
Met child's teacher	96.4% (94.5% - 98.3%)
Received information about how to prepare for K	93.0% (90.6% - 95.3%)
Received information about K topics/skills	96.2% (94.5% - 98%)
Received information about how to contact teacher or school	96.0% (94.0% - 97.9%)

Classrooms

North Carolina's average kindergarten class size of 21 was similar to classrooms nationwide, with classrooms in high-poverty schools significantly smaller than those in low-poverty schools (20 vs. 22). However, the average NC kindergarten class size was larger than the class size of 18 set as a goal by the U.S. Department of Education (U.S. Department of Education, Office of Elementary and Secondary Education, 2000). Kindergartners engaged in a variety of learning activities each week and, in general, had access to adequate materials in their classroom learning centers. The quantity and quality of learning center materials was the same or worse in high-poverty schools compared to low-poverty schools.

Table 34. Kindergarten Class Size

	Total Population			Low Poverty Schools			High Poverty Schools			Test of Significance
	Min	Max	Mean (CI)	Min	Max	Mean (CI)	Min	Max	Mean (CI)	
Number of Students	13	28	21.2 (20.8 - 21.6)	13	28	21.7 (21.1 - 22.2)	13	28	20.4 (19.7 - 21.2)	t (165) = 2.6, p = .009

Table 35. Percentage of Kindergarten Classrooms with Teacher Assistants

	Total Population (Confidence Interval)
Teacher Assistants	99.0% (97.9% - 100%)

Table 36. Time Assistant Teachers Spent in Kindergarten Classrooms

Time Spent in Class	Total Population (Confidence Interval)
Full-time	95.0% (91.8% - 98.1%)
Part-time	4.8% (1.8% - 7.7%)
Quarter-time	.2% (.2% - .7%)

Table 37. Mean Adult-to-Child Ratio in Kindergarten Classrooms

	Total Population (Confidence Interval)
Adult: Child Ratio	1: 10.8 (1: 10.6 - 1: 11.1)

Table 38. Frequency of Kindergarten Classroom Activities

Activity	Mean number of days per week (Confidence Interval)
Math	4.9 (4.9 – 5.1)
Social Skills	4.7 (4.6 – 4.8)
Reading or Library	4.6 (4.4 – 4.7)
Recess	4.5 (4.3 – 4.7)
Computers	4.0 (3.8 – 4.2)
Social Studies	4.0 (3.8 – 4.1)
Art	3.9 (3.7 – 4.1)
Music	3.9 (3.8 – 4.1)
Science	3.6 (3.4 – 3.8)
Dramatic Play	3.4 (3.2 – 3.6)
Physical Education	2.9 (2.7 – 3.1)
Foreign Language (not ESL)	.4 (.3 – .5)

Table 39. Percentage of Kindergarten Classrooms with Excellent Learning Center Materials[a]

Center	Total Population (Confidence Interval)	Low Poverty Schools (Confidence Interval)	High Poverty Schools (Confidence Interval)	Test of Significance
Math	48.1% (42.3% - 53.9%)	50.4% (42.5% - 58.4%)	44.7% (36.3% - 53.0%)	χ^2 (1, N = 336) = 1.0, p = .32
Reading	41.8% (35.4% - 48.2%)	47.8% (40.3% - 55.2%)	32.7% (21.5% - 43.8%)	χ^2 (1, N = 321) = 5.0, p = .03
Fine motor	40.5% (34.6% - 46.5%)	42.6% (34.6% - 50.4%)	37.4% (28.2% - 46.5%)	χ^2 (1, N = 324) = .7, p = .39
Blocks	39.5% (33.6% - 45.4%)	46.5% (38.6% - 54.5%)	29.5% (21.3% - 37.6%)	χ^2 (1, N = 332) = 8.4, p = .004
Computer	32.3% (25.6% - 39.0%)	32.7% (24.2% - 41.2%)	31.7% (20.7% - 42.7%)	χ^2 (1, N = 267) = .02, p = .89
Art	25.9% (20.4% - 31.4%)	31.5% (24.0% - 39.0%)	17.3% (10.1% - 24.6%)	χ^2 (1, N = 323) = 7.0, p = .009
Dramatic play	26.2% (20.2% - 32.2%)	29.8% (21.5% - 38.0%)	21.0% (12.7% - 29.3%)	χ^2 (1, N = 316) = 2.2, p = .14
Sand/Water	26.2% (20.6% - 31.7%)	29.1% (21.4% - 36.8%)	22.0% (13.9% - 30.1%)	χ^2 (1, N = 318) = 1.5, p = .22
Writing	21.5% (16.4% - 26.7%)	28.4% (20.9% - 35.9%)	11.7% (5.9% - 17.6%)	χ^2 (1, N = 335) = 11.5, p = .001
Listening	20.6% (15.5% - 25.7%)	26.1% (19% - 33.2%)	12.6% (6.1% - 19.0%)	χ^2 (1, N = 303) = 7.5, p = .007
Music	10.9% (6.8% - 15.0%)	10.8% (5.2% - 16.4%)	11.1% (5.3% - 17.0%)	χ^2 (1, N = 295) = .008, p = .93
Science	9.4% (5.4% - 13.4%)	12.2% (6.2% - 18.2%)	5.3% (.7% - 10.0%)	χ^2 (1, N = 268) = 3.2, p = .08
Pocket chart	21.6% (16.8% - 26.4%)	23.3% (16.6% - 30.0%)	19.1% (12.5% - 25.8%)	χ^2 (1, N = 323) = .8, p = .38

[a]Kindergarten teachers were asked to rate the quantity and quality of learning center materials as *inadequate, adequate,* or *excellent*.

Principals

North Carolina principals had at least a Master's degree, and many had taken additional coursework. More NC principals had education beyond a Master's degree than their peers nationally. Principals also had spent some time teaching. However, few principals had actually taught kindergarten, and about half had not received much early childhood education training recently. Principal education and early childhood training did not differ for high-poverty and low-poverty schools.

Table 40. Gender of Principals of Kindergarten Programs

Gender	Total Population (Confidence Interval)
Male	43.6% (34.5% - 52.7%)
Female	56.4% (47.3% - 65.5%)

Table 41. Race/Ethnicity of Principals

Race/Ethnicity	Total Population (Confidence Interval)
White/Caucasian	79.7% (72.5% - 86.9%)
Black/African American	18.7% (11.6% - 25.8%)
Hispanic/Latino	1.0% (.5% - 2.5%)
American Indian	.6% (.6% - 1.8%)
Asian/Pacific Islander	0%
Multiracial	0%

Table 42. Principals' Highest Level of Education

Education	Total Population (Confidence Interval)
Bachelor's degree	0%
Course work beyond BA	0%
Master's degree	48.7% (39.6% - 57.8%)
Course work beyond MA	42.8% (33.7% - 51.9%)
Doctorate degree	7% (2.6% - 11.3%)
Other	1.5% (.4% - 3.5%)

Table 43. Percentage of Principals with More than a Master's Degree

	Total Population (Confidence Interval)	Low Poverty Schools (Confidence Interval)	High Poverty Schools (Confidence Interval)	Test of Significance
More than a Master's degree	49.8% (40.8% - 58.8%)	60.5% (48.6% - 72.5%)	40.3% (26% - 54.6%)	χ^2 (2, $\underline{N}$ = 159) = 4.9 p = .09

Table 44. Principals' Years of Experience

Experience	Number of years (Confidence Interval)
Years as principal	10.9 (9.7 – 12.1)
Years of teaching	13.0 (11.7 – 14.3)

Table 45. Percentage of Principals with Teaching Licensure that Includes Kindergarten

Area of Licensure	Total Population (Confidence Interval)
Birth – Kindergarten	1.7% (.3% - 3.7%)
Birth – Early Childhood	16.5% (9.9% - 23.1%)
Birth – Elementary	46.8% (37.9% - 55.6%)

Table 46. Principals' Preschool or Kindergarten Teaching Experience

	Total Population (Confidence Interval)
Taught preschool or K	17.4% (11% - 23.8%)

Table 47. Principals' Early Childhood Education Training in the Last 5 Years

Hours of Training	Total Population (Confidence Interval)
0 hours	20.1% (12.5% - 27.7%)
1-4 hours	15.4% (8.5% - 22.3%)
5-9 hours	14.2% (8.4% - 20.1%)
10-14 hours	16.5% (10.1% - 22.9%)
15-19 hours	8.3% (3.1% - 13.6%)
20+ hours	25.4% (18.1% - 32.7%)

Table 48. Principals' with at Least 1 Hour of Early Childhood Education Training in the Last 5 Years

Hours of Training	Total Population (Confidence Interval)	Low Poverty Schools (Confidence Interval)	High Poverty Schools (Confidence Interval)	Test of Significance
>1 hour training	79.9% (72.3% - 87.5%)	84.9% (77.2% - 92.6%)	75.2% (61.5% - 88.8%)	χ^2 (1, $\underline{N}$ = 158) = 1.5, p = .23

Schools

Schools varied in the types of services they provided to kindergartners. In general, kindergartners from both high- and low-poverty schools had the same type of professional services available to them. High-poverty schools were more likely to provide on-site prekindergarten programs for four-year-olds at risk for later school difficulties, possibly because they had access to federal Title I funds to support these services.

Table 49. Age of School Buildings Housing Kindergarten Programs

Age	Total Schools (Confidence Interval)
<10 years	28.6% (21% - 36.3%)
10-39 years	38.9% (30.1% - 47.8%)
40+ years	38.6% (29.5% - 47.7%)

Table 50. Availability of Before/After School Care

	Total Schools (Confidence Interval)
School operates before/after school program	17.1% (10.4% - 23.7%)
Provided in school but school does not operate	14.2% (7.9% - 20.4%)
No before/after school care	68.8% (60.5% - 77.1%)

Table 51. Availability of Pre-K and Transitional Programs in Schools

Program	Total Schools (Confidence Interval)
Pre-K for typically developing 3 year olds	3.4% (1.2% - 6.7%)
Pre-K for typically developing 4 year olds	28% (20.3% - 35.7%)
Pre-K for "at risk" 3 year olds	7.7% (2.9% - 12.6%)
Pre-K for "at risk" 4 year olds	30.0% (21.8% - 38.1%)
Head Start program	4.8% (1.4% - 8.2%)
Pre-K for children with disabilities	18.5% (11.9% - 25.0%)
Junior/Developmental Kindergarten	1.6% (.4% - 3.5%)
Transition K-1 classroom	2.2% (.2% - 4.1%)

Table 52. School-Based Pre-K Programs for At-Risk Children[a]

	Total Population (Confidence Interval)	Low Poverty Schools (Confidence Interval)	High Poverty Schools (Confidence Interval)	Test of Significance
Pre-K programs for at-risk children	36.4% (27.9% - 44.9%)	23.7% (12.5% - 34.9%)	47.1% (32.6% - 61.6%)	χ^2 (2, N = 161)=7.2, p = .03

[a]Includes pre-K programs for at-risk 3 year olds, pre-K programs for at-risk 4 year olds, and Head Start programs located in schools.

Table 53. Professional School Services Available to Kindergartners

Service	Total Population (Confidence Interval)	Low Poverty Schools (Confidence Interval)	High Poverty Schools (Confidence Interval)	Test of Significance
Speech and language therapist	98.3% (95.7% - 100%)	100%	98.7% (91.2% - 100%)	χ^2 (2, N = 161) = 2.0, p = .37
Counselor	94.8% (91.2% - 98.5%)	95.6% (89.7%- 100%)	96.3% (92.5% - 100%)	χ^2 (2, N = 161) = 1.0, p = .61
Music teacher	91.5% (85.9% - 97.0%)	94.3% (88.2% - 100%)	89.8% (80.2% - 99.4%)	χ^2 (2, N = 161) = 1.0, p = .61
School psychologist	91.9% (87% - 96.8%)	91.5% (83.8% - 99.1%)	94.2% (88.2% - 100%)	χ^2 (2, N = 160) = .9, p = .63
Special education teacher	90.8% (84.9% - 96.7%)	90.0% (80.9% - 99.1%)	91.7% (83.3% - 100%)	χ^2 (2, N = 161) = .08, p = .96
PE teacher	91.1% (85.2% - 97%)	98.8% (96.3% - 100%)	84.7% (73.2% - 96.2%)	χ^2 (2, N = 161) = 6.8, p = .04
School nurse	85.8% (78.9% - 92.6%)	93.9% (87.4% - 100%)	80.0% (67.5% - 92.4%)	χ^2 (2, N = 161) = 5.0, p = .09
Art teacher	82.4% (75.1% - 89.7%)	83.1% (73.6% - 92.6%)	80.4% (68.0% - 92.8%)	χ^2 (2, N = 161) = .4, p = .83
Social worker	78.4% (71.0% - 85.9%)	79.7% (69.0% - 90.5%)	82.4% (71.6% - 93.3%)	χ^2 (2, N = 160) = 2.7, p = .27
Occupational therapist	78.0% (70.1% - 85.9%)	91.2% (84.9% - 97.5%)	73.7% (60.2% - 87.2%)	χ^2 (2, N = 161) = 11.2, p = .005
Physical therapist	71.2% (62.8% - 79.5%)	81.3% (71.9% - 90.7%)	68.0% (54.1% - 82.0%)	χ^2 (2, N = 161) = 6.4, p = .04
ESL teacher	60.0% (51.5% - 68.5%)	68.0% (56.5% - 79.4%)	57.7% (44.7% - 70.8%)	χ^2 (2, N = 161) = 4.0, p = .14
Curriculum specialist	49.8% (40.8% - 58.9%)	56.6% (44.5% - 68.7%)	46.5% (32.9% - 60.1%)	χ^2 (2, N = 161) = 2.3, p = .32
Reading specialist	42.5% (34.0% - 51.0%)	47.4% (34.8% - 60.1%)	36.5% (24.0% - 49.0%)	χ^2 (2, N = 161) = 1.7, p = .44
Drama teacher	6.6% (2.2% - 11.0%)	5.9% (.5% - 11.3%)	7.8% (0% - 15.7%)	χ^2 (2, N = 160) = .3, p = .86

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