

Kindergarten Entry Age and Assessments

Questions:

1. What is the research consensus regarding early entry for kindergarten (earlier than district set cut-off dates)?
 2. Are there any standardized early entrance tests for kindergarten that have statistical confidence levels for predicting school success and or readiness?
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Report:

Following an established REL-NEI Reference Desk research protocol, we conducted a search for research reports as well as descriptive and policy-oriented briefs and articles in this area. The sources included federally funded organizations, additional research institutions, several educational research databases, and a general Internet search using Google and other search engines. We also searched for appropriate organizations that may act as resources on this issue. We have not done an evaluation of these organizations or the resources themselves, but offer these resources to you for your information only.

Our researchers have found a large number of resources that address the age of kindergarten entry, but limited resources that specifically address early kindergarten entry. The research found on appropriate school entry age show mixed results. One study found that “being a year younger at entry raises the probability of repeating kindergarten, first, or second grade by 13.1 percentage points...Similarly, being a year younger at entry raises the probability of being diagnosed with Attention Deficit/Hyperactivity disorder by 2.9 percentage points” (Elder, 2009; see resource below). Another study found that “children who entered kindergarten at younger ages had higher (estimated) scores in kindergarten on the Woodcock-Johnson (W-J) Letter-Word Recognition subtest but received lower ratings from kindergarten teachers on Language and Literacy and Mathematical Thinking scales” (NICHD, 2007; see resource below). The authors also concluded that research “has indicated that relatively older children have a modest academic advantage over younger ones in the first few grades of school, but that this advantage typically disappears. The results of studies following [a different] strategy have also indicated a modest but temporary advantage for older children. Moreover, there is no evidence that children who enter school at younger ages gain less from early school experience than children who begin at an older age” (NICHD, 2007; see resource below).

In response to question two, our researchers have found that “[sixty-one] percent of schools administer entrance or placement tests to children prior to entering kindergarten” and that “schools use tests prior to kindergarten to inform admission decisions (Rafoth, 1997). ... Thirteen percent of all schools with kindergarten programs use entrance or placement tests prior to kindergarten to inform entry decisions when a child is below the cut-off age” (Prakash, 2003; see resource below). Our researchers also found resources that caution the use of standardized assessments for young children in general. A position statement by the National Association of Early Childhood Specialists in State Departments of Education cautions that, “a major problem with kindergarten tests is that relatively few meet acceptable standards of reliability and validity. Based on several widely used tests, the probability of a child being misplaced is fifty percent—the same odds as flipping a coin. The burden of proof is on educational and testing professions

to justify the decisions they make in the selection or creation of screening instruments. Otherwise, educators are left speculating about what the results mean. Flawed results lead to flawed decisions, wasted tax dollars, and misdiagnosed children” (2000; see resource below).

We did not find resources that specifically mention assessments for early entrance to kindergarten but have provided two resources that list early childhood assessments that can be used as school readiness assessments in general. A report by the University of Pittsburgh describes the use of school readiness assessments and provides a list of assessments suggested by a “national panel of experts recommended to the Ewing Marion Kauffman Foundation (2001)” by category (Mehaffie, 2002; see resource below). A slightly older list compiled by the Cuyahoga Special Education Service Center provides “an annotated list of early childhood screening and assessment instruments in common use by early childhood assessment specialists or listed in current catalogs of major test publishers” (1995; see resource below).

In addition to the resources provided above, we have also included a list of related organizations on kindergarten entry and school readiness assessments.

Questions:

1. What is the research consensus regarding early entry for kindergarten (earlier than district set cut-off dates)?

1.1. Age of Entry to Kindergarten and Children’s Academic Achievement and Socioemotional Development. 2007; NICHD Early Child Care Research Network; *Early Education Development; Volume 18, Number 2; pp.337–368 (25 pages); ERIC Document #EJ772209.*

Source: ERIC

<http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=2140009&blobtype=pdf>

This paper analyzed data on more than 900 children participating in the National Institute of Child Health and Human Development Study of Early Child Care to examine the effect of age of entry to kindergarten on children’s academic achievement and socioemotional development. The authors found that “children who entered kindergarten at younger ages had higher (estimated) scores in kindergarten on the Woodcock-Johnson (W-J) Letter-Word Recognition subtest but received lower ratings from kindergarten teachers on Language and Literacy and Mathematical Thinking scales. Furthermore, children who entered kindergarten at older ages evinced greater increases over time on 4 W-J subtests (i.e., Letter-Word Recognition, Applied Problems, Memory for Sentences, Picture Vocabulary) and outperformed children who started kindergarten at younger ages on 2 W-J subtests in 3rd grade (i.e., Applied Problems, Picture Vocabulary). Age of entry proved unrelated to socioemotional functioning” (p.1). “Research...has indicated that relatively older children have a modest academic advantage over younger ones in the first few grades of school, but that this advantage typically disappears. The results of studies following [a different] strategy have also indicated a modest but temporary advantage for older children. Moreover, there is no evidence that children who enter school at younger ages gain less from early school experience than children who begin at an older age” (p. 4).

1.2. Kindergarten Entrance Age and Children's Achievement: Impacts of State Policies, Family Background, and Peers. 2009; Elder, T. E. & Lubotsky, D. H; *The Journal of Human Resources; Volume 44, Issue 3; pp. 641-683 (57 pages); ERIC Document #EJ846140.*

Source: ERIC

<http://www.econ.wisc.edu/workshop/ELApril4.pdf>

According to the abstract: “We present evidence that the positive relationship between kindergarten entrance age and school achievement primarily reflects skill accumulation prior to kindergarten, rather than a heightened ability to learn in school among older children. The association between achievement test scores and entrance age appears during the first months of kindergarten, declines sharply in subsequent years, and is especially pronounced among children from upper-income families, a group likely to have accumulated the most skills prior to school entry. Finally, having older classmates boosts a child’s test scores but increases the probability of grade repetition and diagnoses of learning disabilities such as ADHD” (p.2). The authors also found that “being a year younger at entry raises the probability of repeating kindergarten, first, or second grade by 13.1 percentage points, a sizeable effect relative to the 8.8 percent baseline retention rate. Similarly, being a year younger at entry raises the probability of

being diagnosed with Attention Deficit/Hyperactivity disorder by 2.9 percentage points, which is also large relative to the 4.3 percent baseline diagnosis rate” (p.6). The authors caution that their “research design estimates the relationship between entrance age and outcomes based only on the first two sources of variation, since these sources produce variation in entrance age that is arguably unrelated to other factors that influence children’s outcomes (this identification assumption is discussed in more detail below). By contrast, parental decisions to delay or expedite their child’s kindergarten entry are almost certainly related to other characteristics of parents and children. For example, children who begin kindergarten early are likely to be particularly skilled or gifted, while parents of children with developmental problems are likely to delay their children’s enrollment” (p.13).

1.3. At What Age Should Children Enter Kindergarten? A Question for Policy Makers and Parents. 2002; *Stipek D.; Society for Research on Child Development; Vol. XCI, No. 2; 20 pages.*
Source: Education Commission of the States

(http://www.srcd.org/index.php?option=com_search&Itemid=99999999&searchword=what+age+should&submit=Search&searchphrase=all&ordering=newest)

From the Summary Section: “Research that bears on the issue of school entry policies is summarized in this report. The focus is on the age children should be to enter kindergarten and the potential benefits of delaying school entry for all or some children. The research reviewed uses three methodologies: (1) comparing outcomes for children who have delayed entry by a year with children who entered school when they were eligible; (2) comparing children in the same grade who have different birth dates; and (3) comparing children who are the same age but in different grades, as well as children who are a year apart in age but in the same grade. Findings suggest that studies using the first method are inconclusive because accommodations are not made for the selection factors associated with the decision to hold a child out of school. Findings from the other two methods suggest that relatively older children have a modest academic advantage over younger children in the first few grades of school, but that advantage typically disappears. There was no evidence suggesting that younger children gained less than older children from early school experience, and some evidence suggested that school experience produced greater gains on most cognitive dimensions. Generally, the findings reviewed provide more support for early educational experience to promote academic competencies than for waiting for children to be older when they enter school. The author suggests that the focus should be more on making schools ready for children than on making children ready for school” (p.1).

1.4. The Persistence of Early Childhood Maturity: International Evidence of Long-Run Age Effects. 2006; *Bedard, K. & Elizabeth D.; The Quarterly Journal of Economics; Volume 121, Number 4; pp. 43–472 (43 pages).*

Source: General Internet search using Google

(http://www.econ.ucsb.edu/~kelly/maturity_feb06.pdf)

From the Abstract: “A continuum of ages exists at school entry due to the use of a single school cut-off date – making the ‘oldest’ children approximately twenty percent older than the ‘youngest’ children. We provide substantial evidence that these initial maturity differences have long lasting effects on student performance across OECD countries. In particular, the youngest members of each cohort score 4–12 percentiles lower than the oldest members in grade four and 2–9 percentiles lower in grade eight. In fact, data from Canada and the United States shows that the youngest members of each cohort are even less likely to attend university.”

2. Are there any standardized early entrance tests for kindergarten that have statistical confidence levels for predicting school success or readiness?

2.1. School’s Use of Assessments for Kindergarten Entrance and Placement: 1998–1999. 2003; *Prakash, N., West, J., and Denton, K.; NCES Statistics in Brief; 11 pages.*

Source: Institute of Education Sciences

(<http://nces.ed.gov/pubs2003/2003004.pdf>)

From the Introduction Section: “Many schools across the nation administer entrance and placement tests to young children as they enter or are about to enter kindergarten, and schools use this information for several different purposes. They use this information from tests, along with the child’s age, to decide whether a child is ready to begin kindergarten. The information

from tests may also be used to support a decision on whether to admit a child who is old enough, or who is too young, according to the age cut-off set by the state, school district, or school. Test information is also used to help structure instruction to meet the needs of individual children or groups of children and to identify children who may need additional evaluation and testing. ... According to the findings from this survey, 18 states have statewide screening or assessment of children when they begin kindergarten, 26 states responded that though there was no statewide assessment effort, some local districts were assessing children before or as they entered kindergarten, 16 states said they were working toward a statewide assessment program and 6 states responded there was no assessment effort at either the state or local levels" (p.1). "[Sixty-one] percent of schools administer entrance or placement tests to children prior to entering kindergarten" (p6 .2). "Schools use tests prior to kindergarten to inform admission decisions (Rafoth, 1997). For example, if a child is age-ineligible for kindergarten (i.e., younger than the district's kindergarten cut-off age) but the parent wishes the child to attend, a test may be administered to inform the decision regarding whether to admit the child. Thirteen percent of all schools with kindergarten programs use entrance or placement tests prior to kindergarten to inform entry decisions when a child is below the cut-off age" (p. 3).

2.2. STILL Unacceptable Trends in Kindergarten Entry and Placement: A position statement by the National Association of Early Childhood Specialists in State Departments of Education. 2000; Endorsed by the National Association for the Education of Young Children, March 2001; 17 pages.

Source: National Association for the Education of Young Children

(<http://www.naeyc.org/files/naeyc/file/positions/Psunacc.pdf>)

"Kindergarten testing is a common practice in today's public schools. Unfortunately, screening and readiness tests are being used interchangeably to determine the educational fate of many young children before they enter kindergarten. Developmental screening tests broadly and briefly tap developmental domains and are designed primarily to predict future school success—screening to find children who, after further assessment, appear to be good candidates for selective programs. As such, they must contain predictive validity as well as the accepted standards for all tests of reliability, validity, sensitivity, and specificity. Screening procedures should include vision, hearing, and health assessments. Readiness tests, by definition and statistical design, do not predict outcomes and therefore cannot be substituted for such purposes. These tests assist teachers in making instructional decisions about individual children. Children who do poorly on readiness tests are likely to benefit the most from the kindergarten. The paradox is that if readiness tests are substituted for developmental screening measures, certain children are being channeled away from the regular classroom." (p. 11).

"Even when credible, appropriate tests are selected, kindergarten screening and developmental assessment are still uncertain undertakings because:

- ◆ Normal behavior of young children is highly variable.
- ◆ Young children are unsophisticated in generalizing from one situation to another and are novices in testing behaviors.
- ◆ Young children may not be able to demonstrate what they know and can do clearly because of difficulties in reading, writing, responding, and in using pencils or other markers, or certain abstract symbols.
- ◆ Young children may not be able to demonstrate what they know and can do clearly because of differences in language and culture.
- ◆ Separation anxiety, the time of day the test is administered, and rapport with the examiner can all distort results, especially with young children" (p.12).

2.3. Readiness for Kindergarten: A Brief Report. 2002; Mehaffie, K.E., McCall, R.B.; Office of Child Development, University of Pittsburgh, 10 pages.

Source: General Internet Search Using Google Scholar

(http://www.gettingready.org/matriarch/DisplayLinksPage.asp_Q_PageID_E_280_A_PageName_E_natmeet1102pres_A_LinksPageID_E_301)

"Readiness tests come in four types: skill oriented tests, developmental assessments, quick samplings, and performance-based assessments (Voices for Children, 1998). *Skills oriented tests* are usually paper and pencil tests which are given to the class as a group test at the beginning or the end of the kindergarten year (e.g., Metropolitan Readiness Test).

Developmental assessments rely on evaluating children in terms of set expectations for development at a particular age (e.g., Gesell School Readiness Screening Test). *Quick samplings* are used to assess children's language skills, motor ability, number skills, body awareness, and auditory and visual discrimination (e.g., Brigance K & 1 Screen for Kindergarten and First Grade). *Performance-based assessments* use learning portfolios including teacher records and samples of a child's work that provide a description of a child's progress over time (e.g., Work Sampling System)" (p. 3).

From the "Which Specific Assessments Are Used Most Frequently?" Section: "Some assessment instruments are used because they have been recommended by national experts, and some are more likely to be used because they were included in national evaluations or studies. A national panel of experts recommended to the Ewing Marion Kauffman Foundation (2001) the following assessments of school readiness by category:

- **Language and Literacy:** Social Skills Rating System (SSRS), Early Screening Inventory (ESI), Project Construct Literacy Assessment, and Reynell Language Development Scales.
- **Social-Emotional Development:** Social Behavior Ratings, Social Skills Rating System (SSRS), Howes Peer Interaction, and Personal Maturity Scale.
- **Numeracy:** Woodcock-Johnson Revised (WJ-R) and Project Construct "Flip" Math Assessment.
- **Overall Child Development:** Child Assessment Profile (Chicago Longitudinal Study), Kindergarten Assessment (Chicago Longitudinal Study), Bracken School Readiness, IRT Assessment, and Project Construct "Pretend Party" Conventional.
- **General Teacher/Classroom:** Arnett Caregiver Interaction Scale, School Readiness Rating Scale, Head Start Teacher Survey, Kindergarten Teacher Survey, Early Childhood Environment Rating Scale (ECERS), Home Observation for Measurement of the Environment (HOME), and Observational Record of Caregiving Environment (ORCE).

Some assessment tools have become more commonly used because they have been included in national evaluations or in batteries of large-scale projects (e.g., FACES Battery for evaluation of the national Head Start program). Others are more popular because of greater use in the fields of psychology, education, and early childhood education (e.g., Social Skills Rating System, Work Sampling System). Included in the Appendix are some of the tools that are used often and with greater reliability and validity. This is a sample of what is being used in the field and is not an exhaustive list" (pp. 3–4).

2.4. Early Childhood Screening and Assessment: Annotated Lists of Screening and Assessment Instruments. 1995; *Cuyahoga Special Education Service Center*; 71 pages; ERIC Document #ED397936.

Source: ERIC

(http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/14/a2/4c.pdf)

From the ERIC Abstract: "This document provides an annotated list of early childhood screening and assessment instruments in common use by early childhood assessment specialists or listed in current catalogs of major test publishers. No evaluation of instruments on technical or practical merit is included; inclusion or exclusion of a particular instrument should not be viewed as a judgment about the instrument's value. Instruments are listed alphabetically by title and by type of assessment. For each instrument, the publisher's name, inclusive age ranges, and a brief description are included. Described in this document are 60 screening instruments; 32 intellectual or cognitive instruments; 70 speech and language instruments; 16 pre-academic or academic instruments; 12 motor, sensorimotor, or sensory instruments; 38 adaptive behavior, social competency, or social-emotional instruments; and 20 multi-skill batteries or developmental inventories. The document concludes with a list of the test publishers' addresses."

Additional Organizations to Consult

- **Education Commission of the States (ECS): Kindergarten Issue Page**

(www.ecs.org)

From the 'About ECS' section of the website: "The Education Commission of the States (ECS) is an interstate compact created in 1965 to improve public education by facilitating the exchange of information, ideas and experiences among state policymakers and education leaders. As a nonprofit, nonpartisan organization involving key leaders from all levels of the education system, ECS creates unique opportunities to build partnerships, share information and promote the development of policy based on available research and strategies." ECS provides an issue page devoted to "Kindergarten" that includes information on school readiness assessments as well as research on entry age. For a direct link to the Kindergarten issue page, click here:

(<http://www.ecs.org/html/IssueSection.asp?issueid=77&sublssueid=0&ssID=0&s=Selected+Research+%26+Readings&archive=1>).

- **Council of Chief State School Officers: Readiness Test Page**

(www.ccsso.org)

From the 'About the Council' section of the website: "The Council of Chief State School Officers (CCSSO) is a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, and five U.S. extra-state jurisdictions. CCSSO provides leadership, advocacy, and technical assistance on major educational issues." CCSSO's webpage that defines 'readiness tests', provides a definition and additional resources on early childhood assessments. For a direct link, click here:

(http://www.ccsso.org/Projects/scass/projects/early_childhood_education_assessment_consortium/publications_and_products/2915.cfm).

Key words and search strings used in the search:

kindergarten; kindergarten AND age; kindergarten AND entry age; kindergarten AND readiness AND assessment; kindergarten AND early entry; kindergarten AND age differences; kindergarten AND cutoff AND date; kindergarten AND school entrance age; early AND kindergarten AND entrance; school AND readiness AND test AND kindergarten; kindergarten AND assessment; school readiness AND assessment; kindergarten AND screening test; school readiness test.

Search databases and websites:

Institute of Education Science Resources (IES): Regional Educational Laboratory Program (REL); IES Practice Guides; What Works Clearinghouse (WWC); Doing What Works (DWW); Institute of Education Sciences (IES); National Center for Education Research (NCER); National Center for Education Evaluation and Regional Assistance (NCEE); National Center for Special Education (NCSE); National Center for Education Statistics (NCES).

IES-NCES Resources: Early Childhood Longitudinal Study (ECLS); National Household Education Survey (NHES).

Other Federally Funded Resources: The Assessment and Accountability Comprehensive Center; The Center on Innovation and Improvement; Education Commission of the States; National Center for Research on Early Childhood Education.

Additional Resources: Center on Education Policy (CEP); Council of Chief State School Officers (CCSSO); National Association of State Boards of Education (NASBE); National Association for the Education of Young Children (NAEYC); National Institute for Early Education Research (NIEER).

Search Engines and Databases: ERIC; Google, Google Scholar; General Internet Search.

Criteria for inclusion:

When Reference Desk Researchers review resources, they consider, among other things, four factors:

1. **Date of the publication:** The most current information is included unless in the case of nationally known seminal resources
2. **Source and funder of the report/study/brief/article:** Priority is given to IES, nationally funded, and certain other vetted sources known for strict attention to research protocols);
3. **Methodology:** i.e. Random control trial studies, surveys, self-assessments, literature reviews, policy briefs, etc. Priority for inclusion is given generally to random control trial study findings; however, the reader should note at least the following factors when basing decisions on these resources: Numbers of participants (just a few? Thousands?); Selection (did the participants volunteer in the study, or were they chosen?); Representation (were findings generalized from a homogeneous or a diverse pool of participants? Was the study sample representative of the population as a whole?)
4. **Existing knowledge base:** Although we strive to include vetted resources, there are times when the research base is slim or non-existent. In these cases we have included the best resources we could find, which may include newspaper articles, interviews with content specialists, organization websites, etc.

REL Northeast and Islands

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