

Part II: What outcomes matter most for very young children?

Understanding a child's early development.

There is increasing consensus about the critical areas of development and the outcomes that matter most in the early years. Healthy development is commonly understood to include five dimensions:²⁰ (1) physical well-being and motor development; (2) social and emotional development (positive social behaviors when interacting with peers);²¹ (3) cognitive skills (including numbers, patterns, and shapes); (4) language and emergent literacy; and (5) approaches to learning (the ability to concentrate and follow directions). These domains are, of course, interconnected: for example, children's ability to regulate emotions, thoughts, and behaviors can help them manage stress and control their impulses so that they learn more easily in school.²²

These five domains simultaneously define healthy development of infants and toddlers and also comprise the key elements of "kindergarten readiness." Said another way, preparing a child for kindergarten—and, in turn, for success later in life—requires focusing on five areas of development that begin at birth. We have come to use kindergarten readiness as the single whole-child outcome towards which we direct our investments and attention. It is important to note that kindergarten readiness is not a simple yes/no switch. Rather, children may be more developed in some domains than in others. And their level of development can and does change over time, especially with the right kind of support.²³

Kindergarten readiness could be a unifying goal for the early childhood field.

Today, multiple adults—parents, grandparents, physicians, child-care providers, and teachers—work to ensure that a young child has the supports he or she needs for healthy development. And multiple systems (health care, social services, education, child care) touch children and their families, and could potentially deliver those needed supports. However, without a shared focus on the same outcomes and developmental milestones, the efforts of these individuals and systems will remain disconnected and limited in effectiveness. We believe that kindergarten readiness

20 *Getting Ready: Findings from the National School Readiness Indicators Initiative* (Rhode Island KIDS COUNT, February 2005), 13.

21 The social and emotional development component of kindergarten readiness is a similar to but separate concept from social and emotional learning, which is defined by the Collaborative for Academic, Social, and Emotional Learning as "the process through which children and adults acquire the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions."

22 Collaborative for Academic, Social, and Emotional Learning, 2014.

23 Susan H. Landry, *Effective Early Childhood Programs: Turning Knowledge into Action*, Houston, TX: University of Texas Health Science Center (2005).

could be the unifying goal toward which all those who work to promote whole-child development of young children could align their efforts.

The Maryland Model for School Readiness is a case study in the power of unified focus on a set of common outcomes. While limited to pre-K and kindergarten, Maryland's universal assessment approach, the Work Sampling System, allows teachers to track children's knowledge and skills in seven areas of development at school entry and exit, as well as over the course of the year. This approach enables teachers to target resources to children in a way that could help them the most.²⁴ Maryland's experience demonstrates that implementing a unified and universal approach to assessing child outcomes is not without its challenges. For example, teachers were unable to assess children's progress and target resources earlier than school entry, and many expressed caution about using the results to evaluate children, rather than for the intended purpose of measuring progress.²⁵ However, this example illustrates the potential benefits of a shared focus on outcomes. In the 2013–2014 school year, 83 percent of the state's children entered kindergarten ready to learn, up from 49 percent in 2001.²⁶

To what extent are children from low-income families reaching positive outcomes today?

As discussed above, there are limited data measuring how children are doing nationwide against developmental milestones. However, an analysis conducted by Julia Isaacs and Katherine Magnuson on a nationally representative, longitudinal data set collected by the National Center for Education Statistics (the Early Childhood Longitudinal Study–Birth Cohort, or ECLS-B) provides the basis for us to make some informed estimates.²⁷ The ECLS-B data set and the methods we used to analyze it have important limitations.²⁸ Because it is an observational data set, it cannot be used to establish causality between any childhood characteristics (e.g., demographic status, place of care, etc.) and outcomes. However, ECLS-B is the most comprehensive data set that allows us to understand the nature and magnitude of children's developmental needs. This data therefore is a useful complement to the observations and experience of practitioners and experts.

24 National Conference of State Legislatures, "A Look at Maryland's Early Childhood Data System," Washington, DC, 2010.

25 Catherine Gewertz, "Kindergarten-Readiness Tests Gain Ground," *Education Week*, October 7, 2014.

26 Maryland State Department of Education, "Children Entering School Ready to Learn," http://www.marylandpublicschools.org/MSDE/divisions/child_care/early_learning/docs/2014MMSRTechnicalReport.pdf.

27 Responsibility for this analysis lies solely with The Bridgespan Group and the Foundation, and any conclusions drawn or errors made are entirely our own.

28 While it is the most recent study that tracks children from birth to kindergarten, ECLS-B tracks children born in 2001 who entered kindergarten in 2006 or 2007. See [Appendix C](#) for methods used to calibrate this data to reflect the 2012 population profile using the American Community Survey. Further limitations are discussed in [Appendix C](#).

The ECLS-B data provides a picture of how a representative sample of American children performed in five areas relative to their peers. These areas roughly align with the kindergarten-readiness domains: math (cognitive skills), reading (language development), learning behaviors (approaches to learning), externalizing behaviors (social and emotional development), and health (physical well-being). ECLS-B measures age-appropriate development indicators in each of these five areas at ages nine months, two years, and four years, and at kindergarten entry.

Like most other national school-readiness assessments, the measure of school readiness we developed from ECLS-B does not measure children’s performance against an absolute standard.²⁹ However, it does help us make a directional estimate that a significant number of children may not reach positive outcomes. We estimate that about half of the approximately 12 million low-income³⁰ children from birth to age five—5.8 million in all—are at risk of not being fully ready for kindergarten when they enter.³¹ While there are children at all income levels who are also not ready, our analyses—and the opportunities in this paper—focus on low-income children.

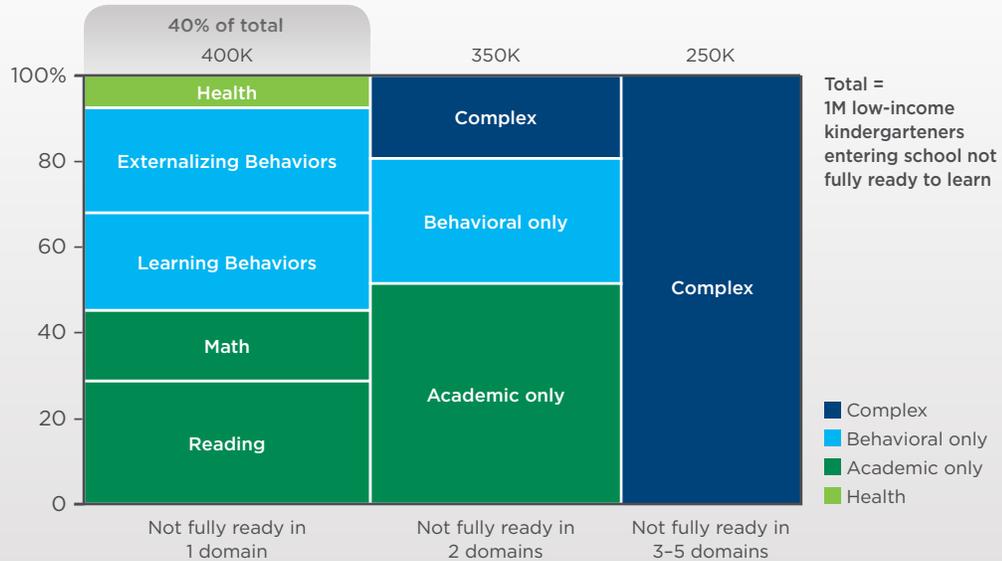
ECLS-B also tells us that children have a wide variety of needs and no one profile of need dominates. Some children are at risk of not keeping pace in cognitive and language domains, while others may not be developing positive social and emotional behaviors. As Figure 3 on the next page shows, a significant number of low-income children will likely struggle primarily in a single domain (e.g., learning behaviors). Almost the same number of children will likely need support in two related domains (e.g., both behavioral domains). And roughly a third of children will need support with both academic and behavioral development—labeled as “complex” gaps in Figure 3.

29 See [Appendix C, Figure A-3](#) for comparison of ECLS-B to other national school-readiness assessments.

30 Throughout this paper, “low-income” refers to children living under 200 percent of the federal poverty line.

31 “Ready for kindergarten” is measured relative to peer performance and is not an absolute measure. The number of low-income children in 2012 is based on the American Community Survey (2012). According to ECLS-B data, The Bridgespan Group has estimated that close to half (49 percent) of low-income children are at risk of not being fully ready for kindergarten when they enter.

Figure 3: Low-income kindergarteners entering school not fully ready to learn, by domain of need³²



Source: Analysis of ECLS-B (2006-7), American Community Survey (2012).

Why does it matter that there are diverse needs among this very large group of low-income children at risk for not being fully ready for kindergarten? We see four important implications. First, these data underscore the importance of equipping parents and caregivers with information about each child’s specific developmental strengths and needs. Second, this diversity suggests that some of the most effective interventions may be those that identify and address specific needs and assets, rather than a one-size-fits-all approach.³³ Third, it illustrates that preparing all children for kindergarten will require developing and scaling solutions for each profile of need and ensuring that the right mix of solutions is available in every community. Finally, it reinforces the need for tools especially suited for infants and toddlers, population-level screenings of children at multiple points prior to kindergarten entry, and data management systems that enable communities to assess and act on data about child outcomes and needs in real time.

Our research on “how we are doing” also surfaced the importance of understanding—and ultimately addressing—a child’s needs in the context of family

³² This chart is based on The Bridgespan Group’s estimate of the percent of low-income children not ready for kindergarten in ECLS-B (2006-7), following methods used in Julia B. Isaacs and Katherine Magnuson, *Income and Education as Predictors of Children’s School Readiness*, Washington, DC: Center on Children and Families at the Brookings Institution (December 14, 2011). The number of low-income children in 2012 is based on Bridgespan’s estimates from the American Community Survey (2012).

³³ National Association for the Education of Young Children, “Principles of child development and learning that inform developmentally appropriate practice,” July 1996, <https://oldweb.naeyc.org/about/positions/dap3.asp>.

circumstances. For example, experts and data surfaced the particular needs of Dual Language Learners (DLLs).³⁴ These children often struggle with language and then are misdiagnosed as having learning disabilities.³⁵ The ECLS-B data add to this picture, suggesting that Hispanic children who are DLLs (or live in families where English is rarely spoken) are particularly likely to need primarily academic support.³⁶ Hispanic parents are less likely to enroll their children in public pre-K, instead making use of informal care arrangements.³⁷ Yet, when provided with high-quality early care and education, Hispanic children make significant gains and often surpass peers from other backgrounds.³⁸ For example, Hispanic children who experienced high-quality early education in Oklahoma’s universal pre-K program increased their test scores by 54 percent.³⁹ These children and others, including immigrants from non-Hispanic countries, African Americans, and Native Americans, might benefit from culturally and linguistically tailored interventions.

Another group of children and families with unique circumstances are those facing multiple stressors, such as exposure to violence or maternal depression. Research has demonstrated that the negative effects of maternal depression on children’s health and development can start before birth⁴⁰ and can impair the early parent-child relationship that forms the foundation of a high-quality early learning environment.⁴¹ Research has also shown that long-lasting stress, which results from physical and emotional assault and exposure to violence, can disrupt healthy brain development and increase the risk of disease and cognitive impairment into the adult years.⁴² The evidence of violence against children

34 “Dual Language Learner” is used in this context to refer to students who are learning English as they continue to develop proficiency in their home language and who are generally eight years old or younger. Separately, “English Language Learner” refers to older students who have developed proficiency in another language and are learning English in school. Source: Conor P. Williams, *Better Policies for Dual Language Learners*, Washington, DC, New America Foundation (February 2015).

35 *Dual Language Learning: What Does It Take? Head Start Dual Language Report*, Washington, DC, Office of Head Start, Administration of Children and Families, US Department of Health and Human Services (February 2008), 22.

36 Please see [Appendix C, Figure A-1](#) for domains of need for Hispanic children.

37 Sean Chalk and Holly Yettick, “Hispanic Preschool Participation Varies by State,” *Education Week*, January 15, 2015.

38 Luis M. Laosa and Pat Ainsworth, *Is Public Pre-K Preparing Hispanic Children to Succeed in School?* New Brunswick, New Jersey, National Institute for Early Education Research (March 2007), 6-7.

39 William Gormley, Jr., Ted Gayer, Deborah Phillips, and Brittany Dawson, *The Effects of Oklahoma’s Universal Pre-K Program on School Readiness*, Washington, DC, Center for Research on Children in the US, Georgetown University (2004), 4.

40 L. Bonari, N. Pinto, E. Ahn, A. Einarson, M. Steiner, and G. Koren, “Perinatal Risks of Untreated Depression During Pregnancy,” *Canadian Journal of Psychiatry*, vol. 49 no. 11 (November 2004), 726-35.

41 Through ECLS-B and consistent with previous studies, Isaacs (2012) found that low-income mothers had a depression rate nearly twice that of more affluent mothers. Her analysis showed that depression has a significant impact on child development, as the likelihood of being school ready is 10 percentage points lower for children whose mothers score low in supportiveness during parent-child interactions.

42 Center on the Developing Child at Harvard University, “Key Concepts: Toxic Stress,” http://developingchild.harvard.edu/key_concepts/toxic_stress_response/.

is sobering: a recent national survey of 4,500 children indicated that close to 10 percent of two- to five-year-olds were victims of maltreatment by a caregiver in the last year, and 15 percent have been indirect witnesses to violence.⁴³ Recent national statistics show that 75.7 percent of children who died as a result of abuse were younger than four years old.⁴⁴ Children can also be profoundly affected by witnessing violence against others: exposure to violence, particularly within the family, can alter a child's sense of trust and inhibit his or her autonomy and curiosity as he or she grows older.⁴⁵ This paper is focused primarily on opportunities that can improve outcomes for at-risk children, regardless of these risk factors. However, to ensure that children from the highest-risk families realize the full benefit of these programs, these solutions may also need to be coupled with targeted interventions addressing maternal depression, domestic violence, homelessness, and transience, the environmental factors that can so strongly influence children's development.

43 David Finkelhor, Heather A. Turner, Anne Shattuck, and Sherry Hamby, "Violence, Crime, and Abuse Exposure in a National Sample of Children and Youth," *JAMA Pediatrics* vol. 167, no. 7 (July 2013), 614-21, Tables 3 and 5.

44 Ann T. Chu and Alicia F. Lieberman, "Clinical Implications of Traumatic Stress from Birth to Age Five," *Annual Review of Clinical Psychology*, vol. 6 (2010), 469-94.

45 Joy D. Osofsky, "The Impact of Violence on Children," *The Future of Children*, vol. 9, no. 3 (Winter 1999).