

Full-Day Preschool Improves 3rd Grade School Achievement

Summary:

Three- and four-year-olds participating in full-day preschool in the Child-Parent Center Education Program performed significantly better than their part-day counterparts in 3rd grade reading and math achievement. They also had significantly lower rates of grade repetition. Although short-term gains of full-day programs are well-documented, evidence on long-term gains are mixed. This study of a renowned program addresses the benefits of high-quality early learning experiences.

Children who attended a full-day preschool program in the Chicago Public School District had higher scores in 3rd grade reading and math achievement as well as reduced grade retention compared to children who attended part-day preschool, according to a study in the November 20 issue of *JAMA*.

Participation in high-quality preschool programs by age 4 has a long history of enhancing school readiness skills and promoting later school success and economic well-being. While full-day programs have been found to strengthen short-term learning gains, evidence on longer-term effects is mixed, and few evidence-based programs have been assessed for effectiveness in implementing full-day programs. Nationally, over half of 4-year-olds enroll in full-day preschool, and this proportion has increased steadily over the past decade. Given the increased learning time offered in full-day versus part-day programs, full-day preschool can redress not only pandemic-related learning losses many children have experienced, but also prevent the “fade out” of achievement gains found in a variety of early education programs.

A leading evidence-based program that has shown positive long-term effects on children’s school success is the Child-Parent Center Education Program (CPC), which has been implemented in the Chicago Public Schools since the 1960s. Within a collaborative leadership structure, CPC provides small classes, a child-centered curriculum model, and a strong emphasis on parental involvement. In fall 2012, CPCs offered full-day preschool in 11 schools, which was found in a previous *JAMA* study to improve school readiness skills at the end of school year by 37% (<https://z.umn.edu/93ox>). Whether gains are sustained has not been assessed, leading to this follow up of outcomes in reading and math achievement, grade retention, and special education placement.

Arthur J. Reynolds, Ph.D., of the University of Minnesota-Twin Cities, and colleagues compared the 3rd grade performance of 361 CPC full-day (7-hour classes per day) and 513 part-day (3-hour classes) graduates, representing 89% of the original sample from the preschool year (2012-2013). At the start of preschool, the two groups had equivalent school readiness skills. The sample was part of a U. S. Department of Education-funded scale up of the CPC PreK-3rd grade reform model, which initiated

expansion of full-day preschool in the district. Chicago schools currently have more than 15,000 full-day slots, with thousands more in community-based programs.

Major findings at the end of 3rd grade were as follows:

- 38.3% of the full-day group was proficient in reading (English/Language Arts) on the district-administered national test, Partnership for Assessment of Readiness for College and Careers (PARCC), compared to 26.8% for the part-day group, a **43% increase**.
- 25% of the full-day group was proficient on the math portion of the assessment compared to 17.4% for part-day, a **44% increase**.
- Compared to 9.5% of the part-day group, only 3.2% of the full-day preschoolers repeated a grade by the start of 4th grade. This is a **reduction of 66%**.
- Gains in reading proficiency were nearly **50% larger** for full-day preschoolers who attended schools with high implementation quality versus lesser quality (40% vs. 27%).

“The findings show that full-day programs, especially when implemented with high quality, can strengthen learning gains over time, thereby avoiding a drop-off in impacts found for programs that don’t provide sufficient quality or optimal school supports”, Reynolds says. “The substantial reduction in rates of grade repetition, the strongest predictor of school dropout, suggests that gains will continue to be sustained and generate cost savings as found in prior CPC studies.” Study co-authors were Nicole E. Smerillo, Suh-Ruu Ou, Marley Loveman-Brown, and Nishank Varshney.

The authors credit the CPCs innovative collaborative leadership structure, small classes, family engagement, and alignment strategies as the key ingredients of success. Preschool classes, for example, are limited to 17 children.

The study also reported that the findings may be conservative given that during the year of implementation the district closed 50 schools, many affiliated with the CPCs. The added impact of the K-3rd component also was not a focus, and based on prior studies, is likely to strengthen gains.

In support of the potential for long-term benefits and cost savings, another study of the CPCs published recently in JAMA Pediatrics (<https://z.umn.edu/93pf>), found that preschool participation was associated with significantly better cardiovascular health at age 35.

The authors recommended further investigation of CPC and similar programs in other settings to determine the generalizability of results and scalability for optimal benefits for children and families.

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For further information, including on-line supplemental material, see the Human Capital Research Collaborative site <http://hcr.umn.edu>, or contact hcr@umn.edu

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HCRC is an interdisciplinary center at the University of Minnesota that studies the effects of social programs and policies on well-being.