Poverty and K–12 schooling

Four panelists spoke on the topic of poverty and K–12 schooling. George Farkas gave an overview of K–12 interventions and their effect on achievement gaps, finding the most promise in the "no excuses" school model and in one-to-one tutoring during the school day. Rucker Johnson looked at the interactive effects of Head Start and K–12 spending, arguing that for children from low-income families, additional Head Start spending has a much greater effect on outcomes such as high school graduation when K–12 spending is high, compared to when it is low. Chloe Gibbs discussed the effects of full-day compared to half-day kindergarten, and finds that the longer day does have a large, positive effect on literacy skills. Finally, Jennifer Jennings described a study examining high school choice for eighth graders in New York City, concluding that a policy ostensibly intended to inform students and ensure that they choose the school that is the best fit for them actually acts as a barrier to students from disadvantaged families. This set of articles summarizes their presentations.

K–12 programs to reduce the intergenerational transmission of poverty

George Farkas

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Children from the lowest income quintile begin kindergarten more than one standard deviation lower in both reading and math skills than children in the top quintile.[1] They are also below children in the top quintile in academic work habits, and above them in antisocial behavior. These gaps persist, and may increase, as students move through their schooling careers. This article reviews past and present programs intended to reduce these achievement gaps, and identifies promising avenues to be explored in the future.

Preschool and kindergarten programs

Children who begin kindergarten behind their peers face a difficult battle trying to catch up and ongoing efforts aimed at closing these gaps prior to the start of schooling have had mixed results.

The Head Start program began in 1965 using a "whole child" model to provide comprehensive services to children and families, including preschool education, health care, and parental support. An evaluation of the program in 2002 found small positive effects that did not continue after children entered kindergarten.[2] One explanation for the small differences detected between those in the Head Start treatment group and those in the control group is that there were more opportunities for quality preschool education for the target Head Start population than there were when the program began, so many in the control group also obtained early education during the study period. There have also been criticisms of the Head Start curricula.

Some state pre-kindergarten programs have shown promise, while others have not.[3] The Boston Pre-K program, which used very high-quality curricula, showed significant positive effects at the beginning of kindergarten, but the long-term effects of the intervention are unknown.

Full-day kindergarten programs have been shown to be effective, but about 70 percent of children are already participating in such programs, so there is limited room for expansion.[4] Transitional kindergarten, an extra year of kindergarten before beginning first grade, has been found to be effective for certain students and should be part of the solution for children who appear likely to benefit from it. This, too, already exists widely.[5]

There appears to be an issue with alignment between pre-kindergarten and subsequent year curricula, which suggests that teachers need to be able to provide instruction that complements the pre-kindergarten boost for those who received it. For this reason, pre-kindergarten programs should either be universal so that instruction in kindergarten and beyond can take advantage of pre-kindergarten gains, or elementary school teachers should receive additional training to provide differential instruction depending on a child's starting point.

Narrowing achievement gaps at school entry is important, and there are existing curricula that can do this, but they are not widely used. In particular, curricula for the largest preschool program, Head Start, need to be significantly improved or replaced. Because even programs that achieve large positive effects prior to school entry are likely to have those effects fade out in later years, it is likely that effective interventions need to be multi-year, and include a mechanism to help students who fall behind in later years to catch up.

Interventions beyond kindergarten

I reviewed results for a number of different approaches to narrowing achievement gaps in first grade and beyond that appear unlikely to be a large part of the solution. These

include instructional innovations, social and emotional learning programs, summer instruction, No Child Left Behind accountability, after-school tutoring, and whole-school reform. However, I did identify several interventions that appear to hold promise for closing achievement gaps, including tutoring during the school day, small schools, and "no excuses" schools. These approaches are discussed below.

Intensive tutoring during the school day

Several studies have shown positive results from intensive and extensive, structured, very small group tutoring during the school day. These results have been found for both reading and math interventions.[6] Evaluations of one company that provides tutoring services, SAGA, have shown positive results in Houston and Chicago.[7] The cost of this intervention is $3,800 per participant, but could be brought down to $2,500 if delivered at scale. Tutoring is provided by paraprofessionals (rather than teachers), using a 2-to-1 student-tutor ratio. Such tutoring during the school day, every day, for a total of around 150 hours per school year, could play a significant role in narrowing achievement gaps among students at all grade levels. If this intervention is provided continuously through all grade levels for those who need it, it could eliminate the fade-out problem that one-time interventions have had.

Small schools

One study found that small high schools of choice increased graduation rates for disadvantaged students in New York City by 9.5 percentage points, which closes half of the black-white graduation gap, without increasing annual school operating costs.[8] These gains in graduation rates were achieved without significantly raising test scores, which suggests that more work needs to be done in examining how interim measures of academic achievement relate to long-term outcomes.

"No excuses" schools

"No excuses" charter schools follow a model of high expectations, with all students following a college preparatory curriculum. They have strict behavioral and disciplinary codes, and spend more time on academics, with longer school days and extended school years. These schools enroll a very high percentage of low-income and minority students, and have an intense focus on reducing achievement gaps, with tutoring during the school day provided to students who fall behind their peers.

A review of experimental studies of "no excuses" schools found that among students who applied, those who were randomly chosen to attend gain 0.25 of a standard deviation on math scores and 0.16 of a standard deviation on literacy scores as a result of attending for one year.[9] If such gains continued each year as students moved up the grades, these schools could be very effective at closing achievement gaps.

One example of a "no excuses" charter school is the Knowledge is Power Program (KIPP), a nonprofit network of 200 public charter schools. Evaluations of KIPP have shown significant positive effects. Although the sustainability and scalability of this strategy is yet to be determined, the intervention appears to me to be the most promising of all available options, and I suggest that the attributes of KIPP schools be implemented as widely as possible in schools serving low-income students.

Other than program evaluation, what research would be most useful?

Beyond evaluating particular interventions, it is essential that research be done on program effect fade-out and how to prevent it. This means understanding achievement growth trajectories (examining course grades as well as test scores) and how they are related to details of instruction at each grade level. It also means understanding how and why later important outcomes such as high school graduation or college entrance are related to trajectories of test scores, course grades, and other variables.■

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[1]G. J. Duncan and K. Magnuson, "Investing in Preschool Programs," *The Journal of Economic Perspectives* 27, No. 2 (Spring 2013): 109–132.

[2]M. Puma, S. Bell, R. Cook, C. Heid, P. Broene, F. Jenkins, A. Mashburn, and J. Downer, "Third Grade Follow-Up to the Head Start Impact Study: Final Report," OPRE Report 2012–45, Office of Planning, Research and Evaluation, U.S. Department of Health and Human Services, October 2012. https://www.acf.hhs.gov/sites/default/files/opre/head_start_report.pdf

[3]See, for example, W. T. Gormley, Jr., T. Gayer, D. Phillips, and B. Dawson, "The Effects of Universal Pre-K on Cognitive Development," *Developmental Psychology* 41, No. 6 (2005): 872–884; and M. W. Lipsey, D. C. Farran, and K. G. Hofer, *A Randomized Control Trial of a Statewide Voluntary Prekindergarten Program on Children's Skills and Behaviors through Third Grade*, Peabody Research Institute, September 2015.

[4]For full-day kindergarten outcomes, see C. R. Gibbs, "Experimental Evidence on Early Intervention: The Impact of Full-day Kindergarten," Working Paper, Batten School of Leadership and Public Policy, University of Virginia, No. 34, 2014; For proportion of children enrolled in full-day kindergarten, see *Early Childhood Longitudinal Study, Kindergarten Class of 2010–2011*, National Center for Education Statistics. https://nces.ed.gov/ecls/kindergarten2011.asp

[5]H. Quick, K. Manship, A. Holod, N. Mills, B. Ogut, J. J. Chernoff, J. Anthony, A. Hauser, S. Keuter, J. Blum, and R. González, *Impact of California's Transitional Kindergarten Program, 2013–14*, American Institutes for Research, December 1, 2015.

[6]For reading, see B. A. Wasik and R. E. Slavin, "Preventing Early Reading Failure with One-To-One Tutoring: A Review of Five Programs," *Reading Research Quarterly* 28, No. 2 (1993): 178–200; for Math, see P. J. Cook, "Not Too Late: Improving Academic Outcomes for Disadvantaged Youth," Working Paper WP-15-01, Institute for Policy Research, Northwestern University, February 2015.

[7]For Houston, see R. G. Fryer, Jr., "Injecting Charter School Best Practices into Traditional Public Schools: Evidence from Field Experiments," *Quarterly Journal of Economics* 129, No. 3 (2014): 1355–1407; for Chicago, see R. Ander, J. Guryan, and J. Ludwig, "Improving Academic Outcomes for Disadvantaged Students: Scaling Up Individualized Tutorials," Policy Proposal 2016-12, The Brookings Institution, March 2016. https://www.brookings.edu/research/improving-academic-outcomes-for-disadvantaged-students-scaling-up-individualized-tutorials/

[8]H. S. Bloom and R. Unterman, "Can Small High Schools of Choice Improve Educational Prospects for Disadvantaged Students?" *Journal of Policy Analysis and Management* 33, No. 2 (2014): 290–319.

[9]A. Cheng, C. Hitt, B. Kisida, and J. N. Mills, "'No Excuses' Charter Schools: A Meta-Analysis of the Experimental Evidence on Student Achievement," *Journal of School Choice* 11, No. 2 (2017): 209–238.

Interactive effects of Head Start and K–12 spending

Rucker C. Johnson

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Breaking the cycle of poverty may require early investment in disadvantaged children's skills, followed by sustained investments over time. Without these subsequent investments, the effects of early interventions may disappear. In turn, early skills development may make later interventions more successful. The study discussed in this article, conducted by myself and C. Kirabo Jackson, explored whether such complementarity between early and later childhood investment exists.[1] We looked at whether early childhood investments for disadvantaged children that were followed by increases in public school expenditures were particularly effective at improving children's long-term educational and economic outcomes.

Changes in Head Start and public education funding

In order to evaluate complementarity between early and later investment, we use two policy changes that affected investment in children. The first policy change concerned the Head Start program, which was established in 1965 to increase access to early childhood education and pediatric care for low-income children. Head Start was rolled out incrementally, so there was significant variation over time and location in the amount of spending per pupil, and in what services were available to participants. This variation makes it possible to isolate the effects of Head Start spending. Spending increases can affect: (1) who and how many children enroll in these programs; (2) the quality of pre-kindergarten instruction; and (3) spillover effects on non-Head Start participants in the community.

The second policy change is court-ordered school finance reforms. Until the early 1970s, the majority of public school spending was funded through local property taxes, which meant less affluent neighborhoods tended to have lower per-pupil K–12 spending than more affluent neighborhoods. School finance reforms changed how public school spending levels are determined, reducing inequality in school spending. Again, variation in time and location in these finance reforms makes it possible to isolate the effects of public school spending levels.

Both of these policies had a dramatic effect on funding for education in the United States. We explore the combined effects of the two policies, making use of variation over time and location in spending levels in order to isolate their effects.

We used data from the Panel Study of Income Dynamics on those born between 1950 and 1976 and followed the sample through 2013. Although test scores are often used as outcome measures in evaluating child interventions, evidence suggests that such measures may miss effects on long-run outcomes.[2] Therefore, we looked at a variety of adult outcomes including educational attainment, earnings, poverty, and incarceration.

Evidence of complementarity between early and later childhood investment

An example of our analysis can be seen in Figure 1. The left panel of this figure shows the estimated interaction effects of Head Start spending by the percentile of K–12 spending on the likelihood of graduating from high school. If there is indeed complementarity between the two types of spending, then the plots will be upward sloping. We do see such a pattern. The nearly flat line for nonpoor children indicates that additional spending on Head Start has negligible direct or indirect effects on that population, at any level of K–12 spending. For children from low-income families in public school districts below the 30th percentile of K–12 spending, additional Head Start spending has only small and statistically insignificant effects. In contrast, at the 90th percentile of K–12 spending, an additional $1,000 of Head Start spending per poor four-year-old increases the likelihood of high school graduation by about 6.5 percentage points.

The right panel of Figure 1 shows the marginal effects of increases in K–12 spending across the range of Head Start spending. As expected, for nonpoor children, increased K–12 spending increases graduation rates with no additional effect from increased Head Start spending. For poor children, however, a 10 percent increase in K–12 spending increases high school graduation rates by about 2 percentage points at the 5th percentile of the Head Start spending distribution, and by about 12 percentage points at the 90th percentile.

Similarly, we found evidence of complementarity between Head Start and public K–12 spending for adult outcomes, including years of completed education, adult wages, adult poverty, and the likelihood of incarceration. These findings suggest that increases in per-pupil spending as a result of school finance reform led to improved adult outcomes for those who were exposed to Head Start as preschoolers. These effects are restricted to children from low-income families, and are found only for changes in spending experienced during children's school-age years. Larger spending increases led to larger effects, as did more school-age years of exposure. We find that the effects of a 20 percent increase in school spending are large enough to

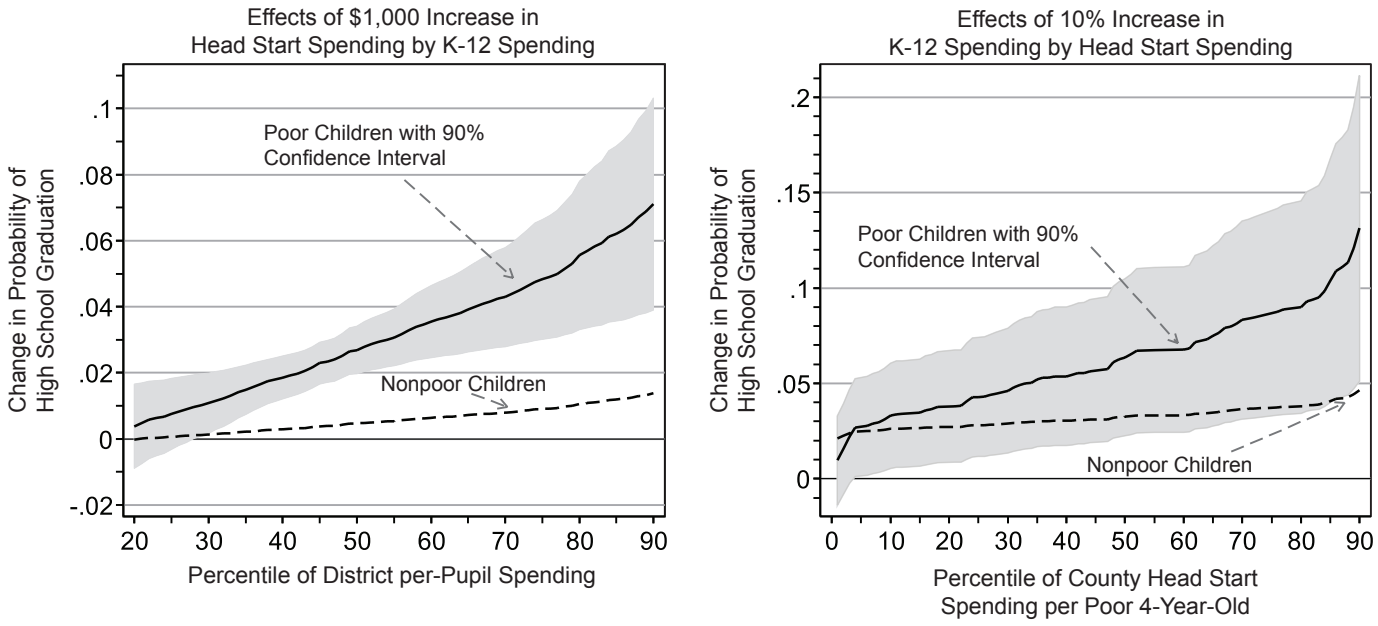

Figure 1. Interaction effects of Head Start and K–12 spending on high school graduation.

reduce outcome gaps between children from poor and non-poor families by at least two-thirds. A 1 percent increase in per-pupil spending increases adult wages for children from poor families by 1 percent. These findings suggest that sustained investment throughout disadvantaged children's development is necessary to narrow long-term disparities in well-being.■

[1]Our study is discussed in more detail at R. C. Johnson and C. K. Jackson, "Reducing Inequality Through Dynamic Complementarity: Evidence from Head Start and Public School Spending," NBER working paper No. 23489, National Bureau of Economic Research, June 2017.

[2]See, for example, J. Heckman, R. Pinto, and P. Savelyev, "Understanding the Mechanisms Through Which an Influential Early Childhood Program Boosted Adult Outcomes," *The American Economic Review* 103, No. 6 (October 2013): 2052–2086.

Does full-day kindergarten reduce achievement gaps?

Chloe Gibbs

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As discussed earlier in this issue, academic achievement gaps by family income emerge early and persist. One approach to remediating these gaps is to expand kindergarten instruction from half-day to full-day. This article presents findings from a study that explored whether students in full-day kindergarten programs outperformed their half-day kindergarten peers in literacy skills by the end of the kindergarten year. I consider whether recent expansions in full-day kindergarten were wise or whether resources currently spent on those programs could be better used on other early investments.

How could full-day kindergarten help close gaps?

Past work has noted the importance of early skill development for future outcomes.[1] Other research has identified long-term effects of interventions in early childhood and primary grades.[2] This evidence suggests that kindergarten, as the gateway to formal schooling, could be an appropriate place for interventions aimed at closing the achievement gap. However, work on brain development, and emerging evidence that the brain's adaptability declines as a child ages, suggests that kindergarten interventions might be less effective than those applied at an earlier age.

As Figure 1 shows, while provision of full-day kindergarten has expanded dramatically—about three-quarters of kindergarten students in the United States have access to a full-day program—policymakers are considering further expansion. Importantly, this rise of full-day kindergarten has occurred largely in the absence of rigorous evidence about its effectiveness.

There are a number of possible mechanisms through which full-day kindergarten could help close achievement gaps, though I will not be able to disentangle them in the study discussed here. The first is increased instructional time, which we expect might directly improve educational outcomes. There are also other features of the increased time in school provided by full-day, as opposed to half-day, kindergarten that might be important, including crowding out what children might otherwise do during that time (which may or may not include educationally enriching activities). It is also effectively a childcare subsidy, which increases family resources and could allow parents to obtain employment or expand their working hours. Finally,

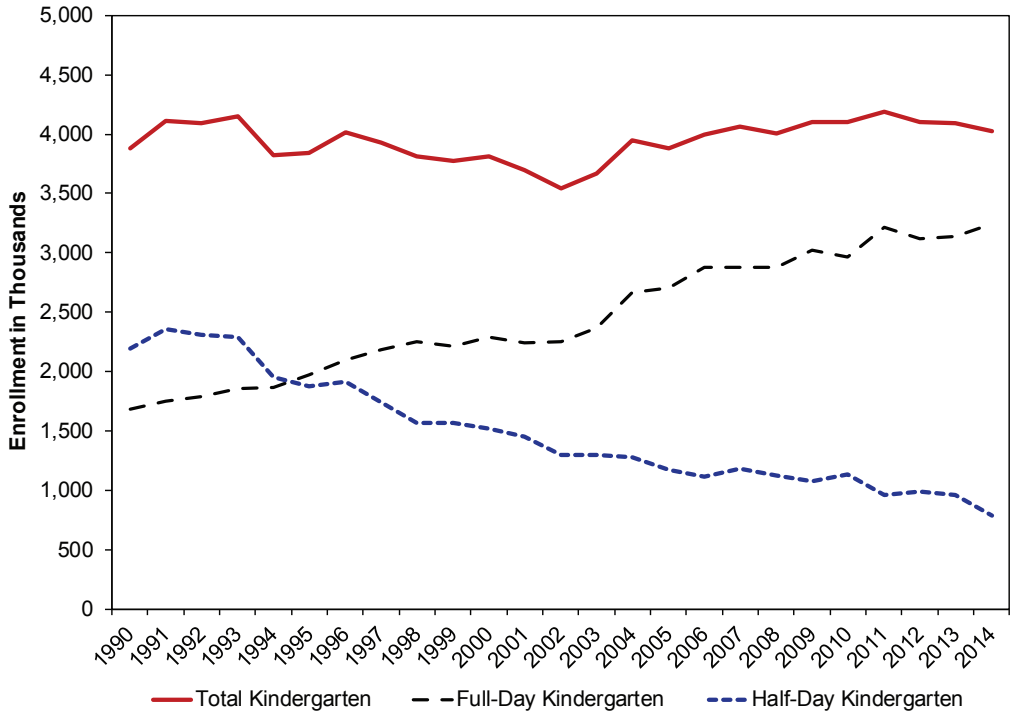

Figure 1. Kindergarten enrollment in thousands, 1990–2014.
Source: U.S. Department of Commerce, Bureau of the Census, CPS October school enrollment supplement.

children who attend full-day kindergarten may benefit from other aspects of the longer school day that are important for cognitive development, including additional snacks or meals at school and nap time.

Policy landscape

Much of the action around full-day kindergarten is occurring at the state and local levels. Currently, 10 states and the District of Columbia provide full-day kindergarten at no charge to all children per state statute.[3] Kindergarten attendance is mandatory in only 16 states; seven of the 10 states requiring full-day kindergarten provision also mandate kindergarten attendance. Only 24 states specify a funding formula that funds full-day kindergarten at or above the level of first grade; in the remaining states, there is a financial disincentive to provide full-day kindergarten.[4]

The kindergarten experience

In work with Daphna Bassok and Scott Latham, we illustrate how the kindergarten experience changed between 1998 and 2010. Over that time period, the proportion of kindergarten students attending a full-day program rose dramatically, from about 55 percent to around 80 percent. The proportion attending kindergarten in a building that also housed a pre-kindergarten program also increased, from below 40 percent to over 50 percent. Over the same time period, there was little change in class size or in whether a student's peers had attended preschool. Black children have been consistently more likely than white or Hispanic children across this time period to be attending a full-day program, and nearly all black kindergarten students are now in full-day kindergarten. In general, entire school districts decide whether to provide full-day kindergarten to all students, and those in low-income areas or with lower-performing schools are more likely to do so.

Effect of full-day kindergarten expansions on academic achievement

In 2007, the Indiana General Assembly passed legislation to increase funding for greater access to and availability of full-day kindergarten in the state. Beginning in the 2007–2008 school year, school districts and charter schools were eligible to receive a full-day kindergarten grant from the state that provided a per-pupil allocation for kindergarten students in the district. My study makes use of this policy change to explore the causal effect of full-day kindergarten on early literacy skills, as measured by standardized assessment scores.

Figure 2 shows the impact of full-day kindergarten on end-of-kindergarten literacy skills. The effect size for all children was approximately 0.3 standard deviations, with Hispanic children experiencing particularly large gains. It is probable that the pronounced effects on Hispanic students are at least in part due to English language learning, though I cannot confirm this with the data I have. Figure 3 shows that there were also dramatic differences in achievement gaps at the end of the year for those attending full-day programs

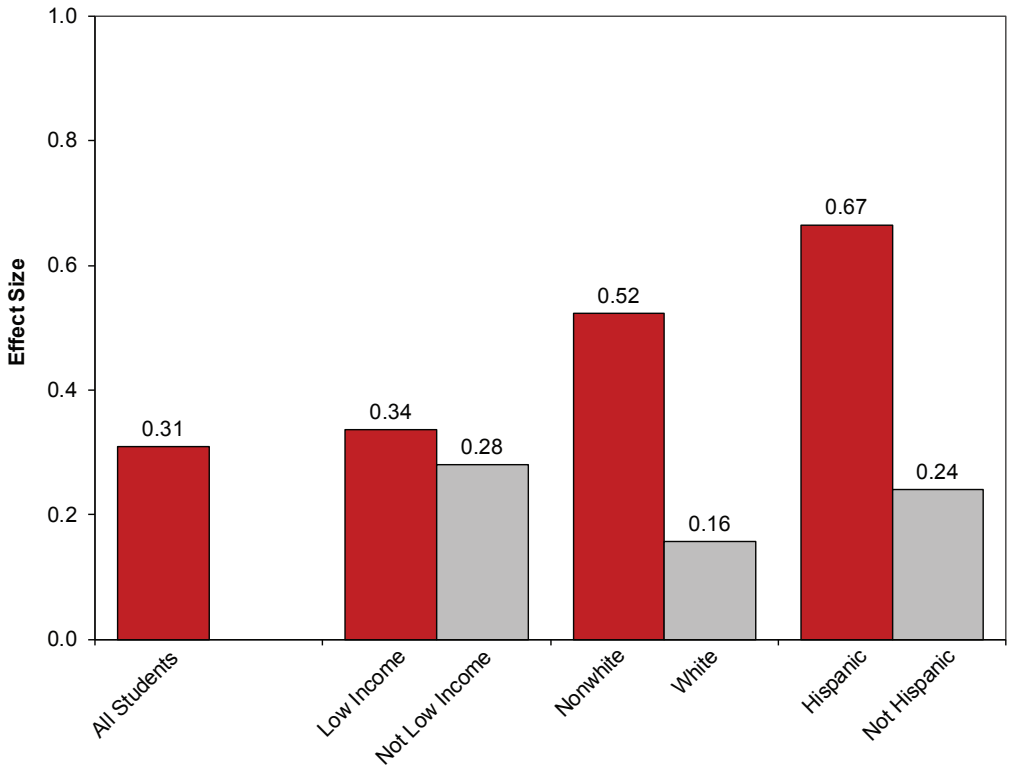

Figure 2. Literacy gains attributable to full-day kindergarten.

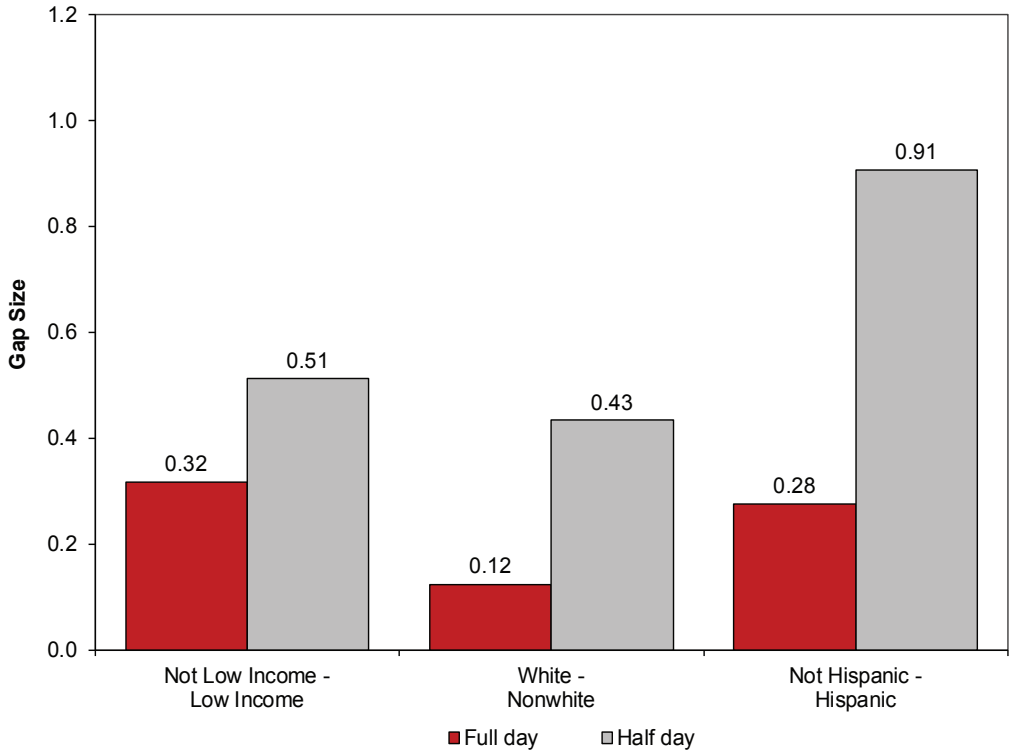

Figure 3. End-of-kindergarten achievement gaps in literacy skills.

compared to half-day programs; in particular, full-day kindergarten largely closes the gap in literacy skills between Hispanic and non-Hispanic students.

Rough estimates of cost-effectiveness suggest that full-day kindergarten generates an effect on early literacy skills of between 0.07 and 0.21 standard deviations per thousand dollars of spending. Notably, this is a higher return on investment for this particular outcome than has been found for either class-size reduction or Head Start.

Overall, I found that full-day kindergarten has a large, positive effect on literacy skills assessed at the end of kindergarten, skills that are associated with subsequent educational and labor market success. I also found differential effects for subgroups that may have implications for closing achievement gaps early in formal schooling; Hispanic students in full-day kindergarten had particularly large gains relative to their half-day kindergarten peers. This finding might also suggest that it would be effective to target full-day kindergarten to particular areas or students rather than use it universally; however, in other work I have found a strong peer effect, with the presence of above average students in the class resulting in larger gains for lower-performing students. In this setting, students received full-day kindergarten with a mixed ability peer group. Thus, I suggest caution in interpreting these findings as an endorsement of targeted programming. Finally, although full-day kindergarten has increased dramatically over time, it remains a discretionary item that states and school districts are often considering in the context of the many ways to spend limited funds on early childhood education. Evidence about the effects of various early investments should be an important part of those deliberations.■

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[1]See, for example, G. J. Duncan, C. J. Dowsett, A. Claessens, K. Magnuson, A. C. Huston, P. Klebanov, L. Pagani, L. Feinstein, M. Engel, J. Brooks-Gunn, H. Sexton, K. Duckworth, and C. Japel, "School Readiness and Later Achievement," *Developmental Psychology* 43, No. 6 (November, 2007): 1428–1446.

[2]R. Chetty, J. N. Friedman, N. Hilger, E. Saez, D. W. Schanzenbach, and D. Yagan, "How Does Your Kindergarten Classroom Affect Your Earnings? Evidence from Project STAR," *The Quarterly Journal of Economics* 126, No. 4 (2011): 1593–1660.

[3]These are: Alabama, Arkansas, Delaware, Louisiana, Maryland, Mississippi, New Mexico, North Carolina, South Carolina, Washington DC, and West Virginia.

[4]Education Commission of the States (ECS), "50-State Comparison: State Kindergarten Policies," March 1, 2014, accessed June 10, 2016, at https://www.ecs.org/kindergarten-policies/.

Administrative complexity as a barrier to school choice

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Many school districts are now offering public school choice programs, where students rank schools in their district, and placement is determined by lottery. Multiple studies have found large positive effects of winning public school choice lotteries on longer-run outcomes, indicating that this strategy could potentially improve the outcomes of low-income students. However, my colleagues and I have found that disadvantaged students in New York City choose schools that are lower-performing than other schools that require comparable travel times from their home. This is partly because they are less likely to apply to higher-performing schools, and partly because even when they do apply, they often have limited access to crucial information and their strategies for navigating the process are less effective than those of their higher-income peers. In this article, I look at how administrative features of the New York City school choice system may constrain choices for lower-income students, and suggest some policy changes that may ameliorate this.

School effects, school choice, and inequality

For a long time, the conventional wisdom has been that schools play a very limited role in transmitting inequality across generations, accounting for only 8 to 17 percent of the variation in achievement by socioeconomic status.[1] However, more recent evidence has found large school effects on long-term outcomes, even where there were no short-term effects on test scores.[2] In this context, school choice becomes quite important.

School choice has expanded greatly in recent years, particularly in urban school districts. With colleagues Sean Corcoran, Sam Dinger, Carolyn Sattin-Bajaj, Sarah Cohodes, and Christy Baker-Smith, I am exploring whether family background limits access to higher-quality schools in New York City, and if so, how that could be changed.[3] In particular, we are looking at how administrative system complexity affects access for disadvantaged students.

High school choice and disadvantage in New York City

New York City has the largest district choice program in the country, with 769 programs available at over 437 schools. Every eighth grader is required to rank up to 12 programs, and a computer algorithm assigns each student to a school. The high school programs from which New York City eighth graders can choose vary in their admissions methods and priorities. In this study, we looked specifically at "limited unscreened" schools, which accounted for more than one-third of all New York City high school slots in the 2015–2016 school year. These schools are not academically selective, but many of them are high-performing; over one-quarter of them have graduation rates that exceed 80 percent. Over half of all schools in the Bronx with graduation rates above 80 percent are limited unscreened schools. (This group of schools also includes almost all the new small schools to which George Farkas refers in his article.)

While limited unscreened schools do not take academic achievement into account, they do give admission priority to students who attend an open house, information session, or school fair. In order to obtain priority status, students are required to sign in at these events, and each school is required to track and enter the names of these students into the application system.

New York City public high school students come from a diverse set of backgrounds, with about half of all families speaking a language other than English at home, and about 80 percent of students qualifying for free or reduced price lunch. There is also considerable diversity by ethnicity and race, with 40 percent of students Hispanic, 27 percent black, 16 percent Asian, and 15 percent white.[4] For our study, we used student-level administrative data, combined with data collected directly from individual schools on their open house dates, and interviews with school representatives at open houses on their admission process.

As expected, we found that information session priority increased the probability that a student was admitted to one of their preferred schools. Overall, there was a 77 percent chance of being admitted to a school with priority status, and a 29 percent chance without. Unsurprisingly, the extent to which information session priority affected admission varied greatly across schools; for schools in the top quartile by high school graduation rate, it was highly unlikely to be admitted without priority status. We found that students qualifying for free lunch, English language learners, and black and Hispanic students were much less likely than their peers to get session priority.[5]

Since higher graduation rate schools are in higher demand, and since session priority is particularly crucial to admission to these schools, one might reasonably expect that students would be more likely to get priority at schools with higher

graduation rates.[6] What we found, however, was that students are actually less likely to get priority status at high-performing schools. Again, disadvantaged students are even less likely than average to get priority status at these schools.

Barriers to access

There are a number of possible barriers to obtaining priority status, including lack of information or misleading information about open houses, and income and language-related barriers. As part of our study, we spoke to school representatives (often current students) at school fairs, and found that provided information on how to gain priority status did not always match up with published information, and different representatives from the same school often gave different information. For example, only 43 percent of school representatives reported that sign-in at a school fair was sufficient for priority without also attending an open house, although this should have been true in every case. Some representatives also cited other admission criteria, such as minimum grades, that were not in fact required.

We also found that information about open houses is very difficult to obtain. The dates and times of open houses are not widely publicized. In the year we studied, only about 20 percent of open houses were listed in a school directory, and nearly 20 percent of those changed after they were posted. Just over one-quarter of open houses were identified on the central Department of Education calendar. Many schools provided no open house details on their website beyond an instruction (in English only) directing people to contact the school for more information; this may represent a particular hurdle for non-English speaking families.

Reducing income and racial disparities in school access

While our study does not address the question of whether the information session policy improves student outcomes by placing students at their "best fit" schools, it is clear the policy acts as a barrier to some students, with consequences for access to higher-quality schools. The second phase of this study is a randomized controlled trial that, in part, aims to increase attendance at open houses and fairs. This intervention (1) gave students a 40-minute lesson about the process; (2) provided each participating student with a list of 30 schools with graduation rates above 70 percent that were within reasonable travel time of their home; and (3) gave parents and students the opportunity to opt-in to receive text message reminders about upcoming open houses. Results of this trial are still forthcoming, but we are hopeful that it will help reduce income and racial disparities in access to high-performing schools.■

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[1]J. S. Coleman, Equality of Educational Opportunity. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 1966.

[2]See, for example, A. Abdulkadiroğlu, W. Hu, and P. A. Pathak, "Small High Schools and Student Achievement: Lottery-Based Evidence from New York City," NBER Working Paper No. 19576, National Bureau of Economic Research, October 2013.

[3]Our study is part of a larger project, a 170-school randomized control trial in New York City testing three informational interventions intended to help disadvantaged students to access high-performing high schools.

[4]New York City Department of Education, http://schools.nyc.gov/Accountability/data/default.htm.

[5]These income and racial disparities in information session priority did persist after controlling for multiple student characteristics.

[6]Since there is no limit on the number of students who can sign in, there should be no capacity constraint.